



## **Contaminated Land Inspection Report**

Crimplesham Pit,  
Crimplesham,  
King's Lynn

**April 2017**

**Reference no. CL51**

Written by

Alex Grimmer  
Senior Environmental Quality Officer

Reviewed by

Fabia Pollard  
Scientific Officer

Approved by

Dave Robson  
Environmental Health Manager

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Borough Council of King's Lynn and West Norfolk  
King's Court  
Chapel Street  
King's Lynn  
Norfolk  
NR30 1EX

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## **Executive Summary**

The Borough Council of King's Lynn and West Norfolk (BCKLWN) has a statutory duty to inspect its district for potentially contaminated land under Part 2A of the Environmental Protection Act 1990. The Contaminated Land inspection strategy has identified a landfill at Main Road, Crimplesham, Norfolk as a site which requires detailed inspection.

Given the former site usage as quarry and landfill an initial assessment of the site has been undertaken to assess the potential for harm to human health, property, ground/surface water and the environment under Part 2A.

To gather information of the site's history and potential risks a desk study, site visit and preliminary risk assessment has been carried out by the Environmental Quality Team. From the evidence gathered the following can be stated.

- The area occupied by the former quarry is still being used as a quarry and was also a licensed landfill (licence No. 71067).
- The Environment Agency website indicates that the landfill is operated by Wereham Gravel Company Limited.
- From information provided during the site visit the landfill was being backfilled with inert material in accord with the environmental permit number EPR/BB3434AY

Following the desk study it was concluded that the site does not represent a potential risk to human health, the environment or property under Part 2A of the Environmental Protection Act 1990. The land does not meet the definition of contaminated land and has been classified into category 4 for human health. No evidence was found of significant pollution or significant possibility of such pollution of controlled waters. Therefore the site is not considered to be contaminated land under Part 2a of the Environmental Protection Act 1990.

However, should any additional information associated with the site come to the attention of the council in due course then the site may need to be reassessed in light of this additional information.

## **Introduction**

This report details a review of information about a landfill at Crimplesham, King's Lynn and provides a conclusion on the risk to human health, property, groundwater and the wider environment.

The Contaminated Land Statutory Guidance (DEFRA, 2012) suggests that where the authority has ceased its inspection and assessment of land as there is little or no evidence to suggest that it is contaminated land the authority should issue a written statement to that effect. This document provides that written statement.

## **Desk Study Information**

### **Location**

The site's location is shown in Appendix B. The grid reference for the centre of the site is 566324, 303771 and the nearest postcode is PE33 9EB.

### **Initial Prioritisation Score**

The site was initially assessed as having a 'Very High' Potential Hazard Rating, due to the risk to surface water and groundwater.

### **Previous Site Usage**

The site (drawing CL51/101) was a gravel pit, which has been used as a landfill.

### **Present Site Usage**

Its present use comprises a landfill/closed landfill and materials recycling centre. Open fields are to the north, east and west. To the south beyond the road is an area which is being utilised as a mineral extraction site. This is depicted on the plan in Appendix B.

### **Ownership**

Enquiries have been made to establish land ownership. This report will be made available to the site owners.

## **Environmental Setting**

### **Geology**

The Solid and Drift Geology Sheet 160, 1:50,000, 1999 and Regional Hydrological Characteristics Sheet 1 1:125 000 shows the site elevation varies approximately between 30 and 35 meters above ordnance datum (maOD).

The bedrock geology is the West Melbury Marly Chalk Formation and Zig Zag Chalk Formation (undifferentiated) - Chalk. The superficial geology is the Lowestoft Formation – Diamicton(sands and gravels).<sup>1</sup>

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<sup>1</sup> BGS website: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>.

### ***Hydrogeology***

The bedrock is classified as a Principal Aquifer with High Vulnerability. The Superficial Deposits are classified as Secondary Aquifers (undifferentiated). Both the superficial deposits and the bedrock are highly permeable and would allow rapid transmission of potential contaminants.

The site is not within a Source Protection Zone (SPZ)<sup>2</sup>.

### ***Hydrology***

Various ditches and ponds lie within 1km of the centre of the site, but no main water courses are present.

No private water abstraction points exist within 1000m. Three Environment Agency (EA) licenced abstractions exists on site or within 500m, all three are boreholes, operated by Frimstone Ltd for mineral washing.

- Licence Number – 6/33/56/\*G/0266, Licence expiry date – 31/03/2018, Source – GROUND WATER SOURCE OF SUPPLY, Name of current licence holder FRIMSTONE LTD.
- Licence Number – AN/033/0056/008, Licence expiry date – 31/03/2027, Source – GROUND WATER SOURCE OF SUPPLY, Name of current licence holder – FRIMSTONE LTD.
- Licence Number – 6/33/56/\*G/0262, Licence expiry date – 31/03/2018, Source – GROUND WATER SOURCE OF SUPPLY, Name of current licence holder – FRIMSTONE LTD.

### ***Local Authority Pollution Prevention and Control Regulations***

No LAPPC processes exist on site or within 500m.

### ***The Environment Agency Web site records***

The Environment Agency Web site records the following:

- The site is a Priority Water under the Farmers Assessment Tool.
- The site is part of a Nitrate Vulnerable Zone.
- The site is a Priority Water under the Rivers at risk from agricultural phosphates.
- To the north are 2 No. Historic landfills.
  - Crimplesham Gravel Pit, Wereham Gravel Company Limited. Receiving Inert Waste.
  - Wereham Gravel Co Ltd - Crimplesham Gravel Pit, Licence no. 71067. Receiving Inert and Industrial Waste.
- The site has a very good compliance rating for pollution.
- The site has a very good compliance rating for air pollution.

### ***MAGIC website records***

MAGIC website records the following

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<sup>2</sup> Environment Agency Website <https://www.gov.uk/check-local-environmental-data>

- The site is covered by the MMO Marine Areas (England)
- Part of the site is covered by the Woodland Priority Habitat Network (Lower Spatial Priority).
- The site is part of a Farm Wildlife Package Area (England).
- The site is covered by the Phosphate Issues Priority (England) but is split northwest to southeast with High Priority to the northeast and Medium Priority to the southwest.
- The site is covered by Woodland – Water Quality (England) of the Lower Spatial Priority.
- The site is designated as a Nitrate Vulnerable Zone for Surface and Groundwater.
- The site forms habitat for:
  - Stone Curlew
  - Redshank
  - Lapwing
  - Curlew
- The site is part of the Higher Level Stewardship Theme.
- Part of the site is a Grade 3b Post 1988 Agricultural Land Classification (England).

## **Historic Maps**

### ***E-map Explorer***

Enclosure Map 1800 – 1850 – Not available

Tithe map circa 1840 – The site is three fields numbered 17 (west), 18 (south) and 19 (east).

Ordnance Survey 1st Ed. 1879-1886 – Field number 18 has been excavated and was named Gravel Pit Plantation. The rest of the site remains the same. A gravel pit is located on the western boundary of the site.

### ***Historic Maps on file at the Borough Council of King's Lynn and West Norfolk***

Historic maps are presented in Appendix B and summarised below.

1843 – 1893: The site was shown as part of two fields (Nos. 4 and 114), three gravel pits (Nos. 6, 115 and 116). One of the gravel pits (No. 6) is named as Gravel Pit Plantation. Drawing CL51/102

1891 – 1912: The site was as depicted above, with the exception that one of the gravel pits (No. 116) has expanded onto field 4. Drawing CL51/103

1904 – 1939: The site was as depicted above with the exception that gravel pit (No. 116) has expanded further into field No. 4. Drawing CL51/104

1919 – 1943: Not available.

1945 – 1970: The entire site was shown as being a gravel pit with a small rectangular structure within its boundary. Drawing CL51/105



1970 – 1996: Not available.

### **Aerial Photographs**

Aerial photographs are presented in Appendix B and summarised below.

1945 – 1946 MOD Aerial Photograph - The majority of the site remains as fields. Gravel Pit Plantation is visible and overgrown with vegetation. A new excavation has commenced to the northwest of Gravel Pit Plantation. Drawing CL51/106

1988 Aerial Photograph – The new pit has been excavated further and two areas (including Gravel Pit Plantation) appear to be filled with water. Field 19 in the east has not been excavated at this time.

1999 Aerial Photograph – The pit has been excavated further to the north and west. Drawing CL51/107

2006-09 Aerial Photograph – The pit has been excavated to the east of the site and the workings in the north appear to have stopped. Drawing CL51/108

### **Planning History**

Nine planning applications exist on or adjacent to the site on the borough councils planning system. These were responses to planning applications received by Norfolk county Council as they are the planning authority for landfills. These are discussed further below in the Norfolk County Council records section. A list of the borough councils planning records for this site is presented within appendix D.

### **Environment Agency Records**

There are two site registered landfills at the same location on the Environment Agency website. They are:

- Crimplesham Gravel Pit which has no licence number associated with it or finished date. This was licence to accept Inert wastes.
- Wereham Gravel Co Ltd - Crimplesham Gravel Pit, which operates under licence number 71067 and can accept Inert and Non-Hazardous Industrial wastes.

### **Norfolk County Council Records**

Thirty six planning applications exist on or adjacent to the site on the County councils planning system. These comprised initially the operation of the site as a mineral extraction facility and then as a landfill with subsequent variations of the planning permission and the discharge of some of the conditions. A list of the County Councils planning records for this site is presented within appendix D.

### **Site Walkover**

A site visit was carried out by an Environmental Quality Officer of the Borough Council of King's Lynn and West Norfolk on 08/03/2017 in the presence of the site owner and the following was noted. Photographs are presented in the Appendix A.

The site was entered from the south via a gated entrance, to the west of which was a bunded area which contained three large above ground fuel tanks. To the north was a weighbridge and a storage area used for sands, gravels and other

aggregates. Beyond this to the west was a grassed slope while to the north was an un-vegetated slope which rose slowly upwards to the north. To the northeast was a depression in which had a pond in the base, which is a wildlife pond. The grassed, vegetated and pond area were part of the landfill which had now been capped which was a part of the restoration plan for the site. This area comprised the zone which is highlighted on the ARCGIS system as being part of the landfill.

Mineral extraction had continued further to the east and this site area is now in the process of being landfilled with inert material under a variation of the original permit. In the northern end of this new area a materials recycling area has been set up, where concrete is stored and crushed and soils stored.

### **Assessment of Site Use**

From the assessment of the site using County Council data, historic maps, aerial photography and a site walk over it has been possible to conclude that the site has been used for mineral extraction and as a landfill under permit. The landfill only accepted inert waste and non-hazardous industrial wastes and as such no contaminative materials should have been placed in the landfill.

### **Assessment of probability of a contamination event**

The site was a quarry which has ceased being used for mineral extraction and has been used to landfill inert and non-hazardous industrial wastes and is the process of being restored for agricultural use. Given the non-contaminative nature of the material used to landfill the quarry the probability of a contamination event effecting human health (via direct contact or inhalation), property or groundwater is considered UNLIKELY.

### **Assessment of Hazard**

The risks posed by the site have been assessed under the Contaminated Land Statutory Guidance. This is discussed further below:

#### ***Human Health***

The site has been used as a landfill, for inert and non-hazardous industrial waste and is in the process of being restored for agricultural use. Therefore no hazardous material should have been present to affect human health (via direct contact or inhalation) and therefore the hazard is considered LOW.

#### ***Property***

The site is a landfill, landfilling inert material waste, therefore the hazard is considered to be LOW.

#### ***Environment***

The site and area does not contain any of the receptors stipulated in Table 1, Ecological system effects of the Statutory Guidance, presented in Appendix E and was an inert landfill. Therefore the hazard is considered to be LOW.

### **Controlled Water**

#### *Groundwater*

The landfill is in the West Melbury Marly Chalk Formation and Zig Zag Chalk Formation which is a Secondary A Aquifer with a High Vulnerability but is not within a Source Protection Zone (SPZ). As no contamination is considered to be present due to the nature of the materials permitted to be landfilled, the hazard to groundwater is considered to be LOW.

#### *Surface waters*

No surface waters are present on the site. As such the potential impact on the surface water is considered to be LOW.

### **Conceptual site model**

The conceptual site model (Table 1) shows the sources, pathways and receptors identified and the subsequent risk classification.

Table 1: Preliminary conceptual site model

Source	Pathway	Receptor	Probability	Hazard	Risk
Metals and metalloids within waste material	Direct contact	Humans	Unlikely	Low	Low
	Inhalation				
Metals and metalloids within waste material	Direct Contact	Property	Unlikely	Low	Low
	Inhalation				
Metals and metalloids within waste material	Direct contact	Environment	Unlikely	Low	Low
Metals and metalloids within waste material	Direct contact	Controlled water	Unlikely	Low	Low

### **Outcome of Preliminary Risk Assessment**

No plausible source pathway receptor linkage was identified as no receptors sources of contamination have been identified. Therefore further investigation is not considered necessary.

## Conclusion

From the information gathered and the site walkover it is apparent that the site was excavated for sand and gravel and is the process of being backfilled with inert waste material under an environmental permit.

## Updated Conceptual site model

The CSM (table 4 below) has been updated based on the site investigation findings.

Table 2: Updated conceptual site model

Source	Pathway	Receptor	Probability	Hazard	Risk
Metals and metalloids within waste material	Direct contact Inhalation	Humans	Low Likelihood	Low	Low
Metals and metalloids within waste material	Direct Contact Inhalation	Property	Low likelihood	Low	Low
Metals and metalloids within waste material	Direct contact	Environment	Low likelihood	Low	Low
Metals and metalloids within waste material	Direct contact	Controlled water	Low likelihood	Low	Low

No evidence was noted of significant harm and there is not a strong case to consider that the risks from the land are of sufficient concern that the land poses a significant possibility of significant harm to Humans (via direct contact or inhalation), Property, Environmental Receptors or Controlled Water as defined in the statutory guidance. CIRIA C552 states that on a site with a low risk classification 'It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

## Human Health

Following the above assessment the site is assessed as Category 4: Human Health<sup>3</sup> as set out in the Statutory Guidance, therefore no further assessment is considered necessary with regards to the risk to human health.

<sup>3</sup> (Contaminated Land Statutory Guidance April 2016) Category 4: Human Health.

4.20 The local authority should not assume that land poses a significant possibility of significant harm if it considers that there is no risk or that the level of risk posed is low. For the purposes of this Guidance, such land is referred to as a "Category 4: Human Health" case. The authority may decide that the land is a Category 4: Human Health case as soon as it considers it has evidence to this effect, and this may happen at any stage during risk assessment including the early stages.

4.21 The local authority should consider that the following types of land should be placed into Category 4: Human Health:

- (a) Land where no relevant contaminant linkage has been established.
- (b) Land where there are only normal levels of contaminants in soil, as explained in Section 3 of this Guidance.
- (c) Land that has been excluded from the need for further inspection and assessment because contaminant levels do not exceed relevant generic assessment criteria in accordance with Section 3 of this Guidance, or relevant technical tools or advice that may be developed in accordance with paragraph 3.30 of this Guidance.

### ***Controlled Waters***

No further inspection is considered to be required with regards to controlled waters as it is considered that there is no reasonable possibility that a significant contaminant linkage exists as set out in the Statutory Guidance<sup>4</sup>. This assessment applies to the site's current use.

### **Part 2A status of the site**

The site is not considered to be contaminated land under part 2A of the Environmental Protection Act 1990 and no further assessment of the site is considered necessary unless additional information is discovered or if the site is considered for redevelopment.

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(d) Land where estimated levels of exposure to contaminants in soil are likely to form only a small proportion of what a receptor might be exposed to anyway through other sources of environmental exposure (e.g. in relation to average estimated national levels of exposure to substances commonly found in the environment, to which receptors are likely to be exposed in the normal course of their lives).

<sup>4</sup> (Contaminated Land Statutory Guidance April 2016)

2.13. If at any stage the local authority considers, on the basis of information obtained from inspection activities, that there is no longer a reasonable possibility that a significant contaminant linkage exists on the land, the authority should not carry out any further inspection in relation to that linkage.

## **Appendices**



***Appendix A Site Photographs***



Photograph 1.



Photograph 2.





Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8





Photograph 9



Photograph 10

## ***Appendix B Drawings***



Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax. 01553 691663

Title  
**Site Plan**

Project / Details

**Crimplesham Quarry, Main Road,  
Crimplesham, Norfolk.**



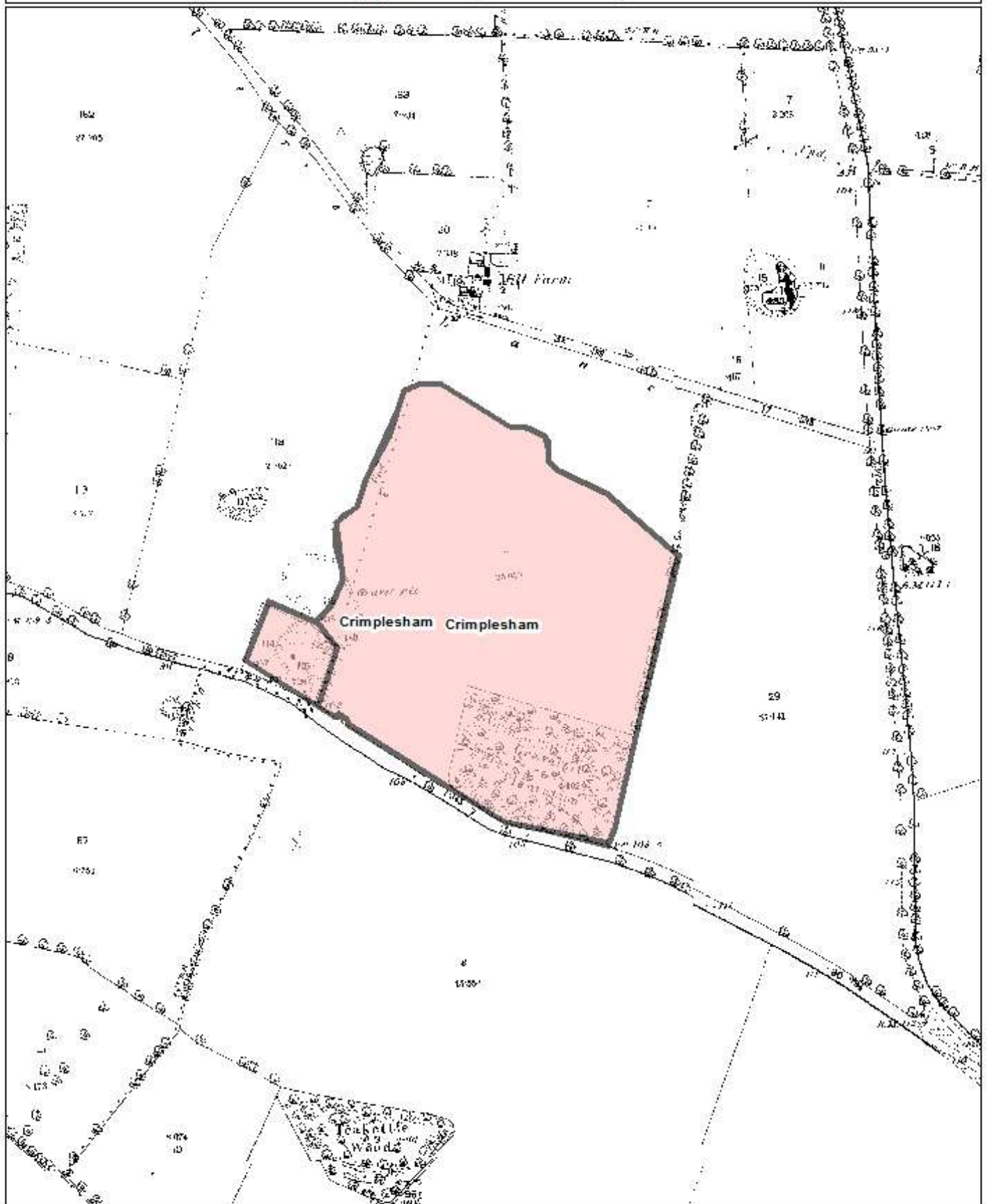
Scale  
**1:5,000**

Date  
**March 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/101**





Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax 01553 691663

Title  
**Historic Map 1843 - 1893**

Project / Details  
**Crimplesham Land fill**

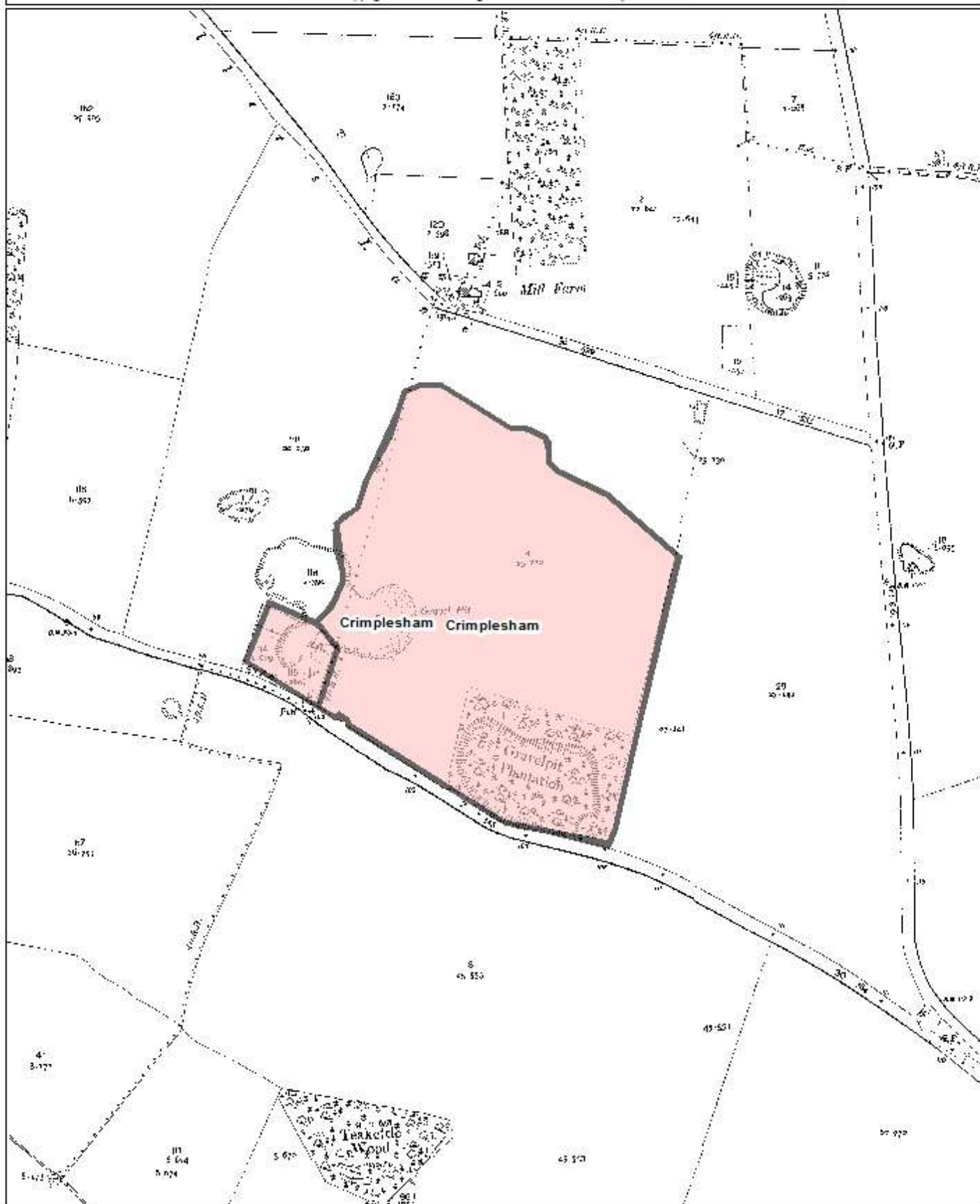


Scale  
**1:5,000**

Date  
**April 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/102**



Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax. 01553 691663

Title  
**Historic Map 1891 - 1912**

Project / Details  
**Crimplesham Land fill**



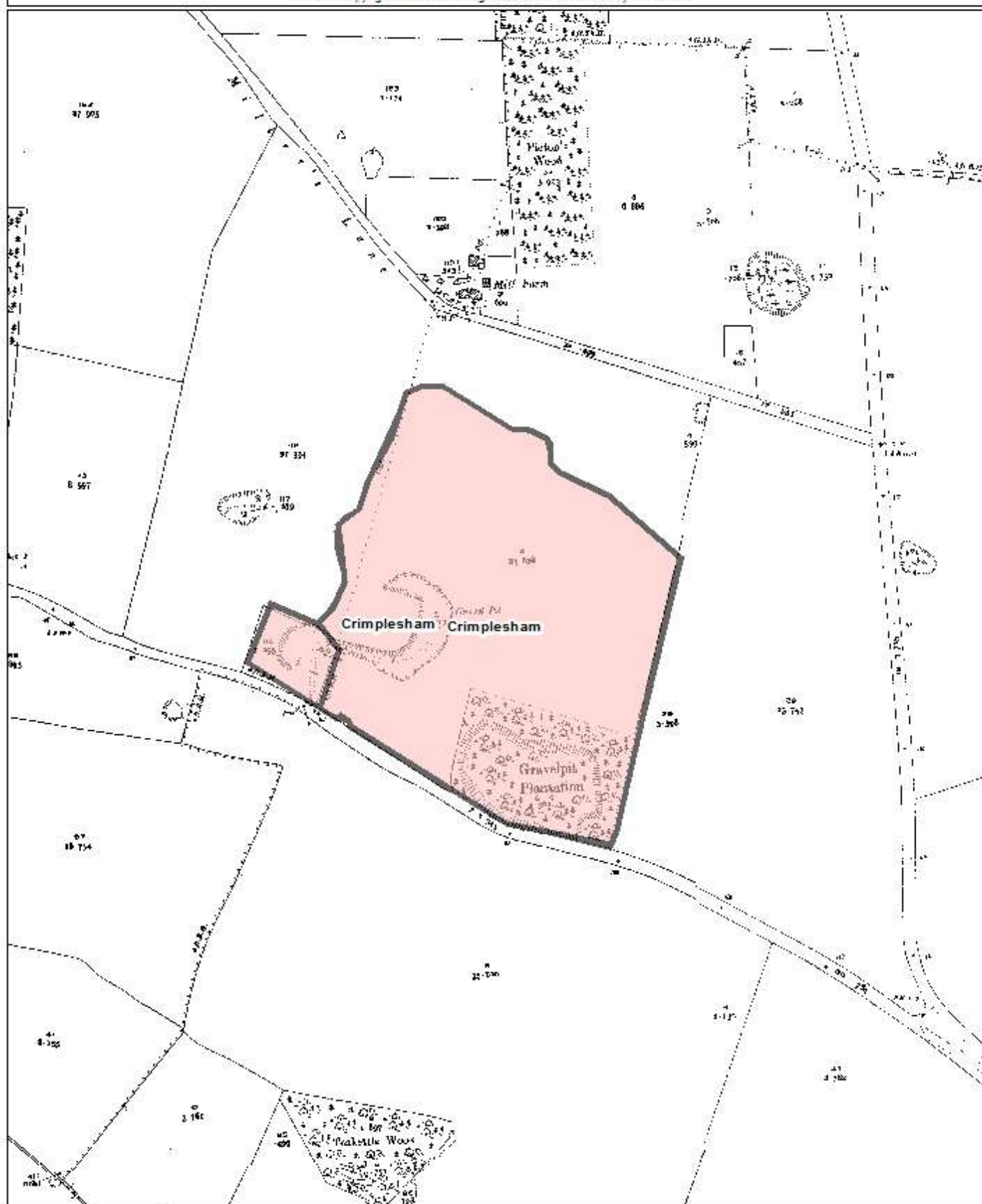
Scale  
**1:5,000**

Date  
**April 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/103**





Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax. 01553 691663

Title  
**Historic Map 1904 - 1939**

Project / Details  
**Crimplesham Landfill**



Scale  
**1:5,000**

Date  
**April 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/104**







Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax 01553 691663

Title  
**Aerial Photograph 1940s**

Project / Details  
**Crimplesham Land fill**



Scale  
**1:5,000**

Date  
**April 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/106**





Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax 01553 691663

Title  
**Aerial Photograph 1999**

Project / Details  
**Crimplesham Landfill**



Scale  
**1:5,000**

Date  
**April 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/107**





Borough Council of  
**King's Lynn &  
West Norfolk**



Tel. 01553 616200 - Fax. 01553 691663

Title  
**Aerial Photograph 2007**

Project / Details  
**Crimplesham Landfill**



Scale  
**1:5,000**

Date  
**April 2017**

Drawn by  
**EH&H**

Drawing / Reference Number  
**CL51/108**





## Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

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Frimstone Limited

Crimplesham Quarry  
Main Road  
Crimplesham  
Downham Market  
Norfolk  
PE33 9EB

Permit number  
EPR/BB3434AY

## Crimplesham Quarry

### Permit Number EPR/BB3434AY

#### Introductory note

##### **This introductory note does not form a part of the permit**

The main features of the permit are as follows.

The operators of Crimplesham Quarry are required to restore the ground levels at the site to make it suitable for agriculture use with ecological benefit. They will carry out this operation utilising overburden material taken from the quarry during the course of the sand and gravel extraction works. However, this does not provide the amount of material required to fully restore the site to the levels required in the planning permission. Therefore, additional material will be needed to restore the site of approximately 67,000 tonnes.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status Log of the permit		
Detail	Date	Comments
Application EPR/BB3434AY/A001	Duly made 19/09/2011	Application for tier 2 bespoke permit based on standard rules SR2010No10 (Use of waste for reclamation, restoration or improvement of land)
Permit determined	14/03/13	Permit issued to Frimstone Limited

End of Introductory Note

Permit Number: EPR/BB3434AY

Crimplesham Quarry



**Permit**

The Environmental Permitting (England and Wales) Regulations 2010

## Permit

Permit number  
**EPR/BB3434AY**

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

**Frimstone Limited** ("the operator"),

whose registered office is

**Ashcraft Farm  
Main Road  
Crimplesham  
Downham Market  
King's Lynn  
Norfolk  
PE33 9EB**

company registration number **01232146**

to operate waste operations at

**Crimplesham Quarry  
Main Road  
Crimplesham  
Downham Market  
Norfolk  
PE33 9EB**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
<b>Ian Sinclair</b>	<b>14/03/13</b>

Authorised on behalf of the Environment Agency

## Conditions

### 1 Management

#### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

### 2 Operations

#### 2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

#### 2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

#### 2.3 Operating techniques

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- (b) If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.1, and

- (b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.3 No waste shall be accepted for disposal at the site.

### **3 Emissions and monitoring**

#### **3.1 Emissions of substances not controlled by emission limits**

3.1.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.1.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

#### **3.2 Odour**

3.2.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

#### **3.3 Noise and vibration**

3.3.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## 4 Information

### 4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
  - (i) off-site environmental effects; and
  - (ii) matters which affect the condition of the land and groundwater;

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

### 4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

### 4.3 Notifications

4.3.1 The Environment Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in the permit; or
- (c) any significant adverse environmental effects.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
  - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
  - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
  - (b) any change in the operator's name(s) or address(es); and
  - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.

#### **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

## Schedule 1 - Operations

Table S1.1 activities

Description of activities	Limits of activities
<b>R13:</b> Storage of wastes pending any of the operations numbered R3 and R5.	Secure storage and use of wastes listed in table S2.1 for the purposes of: reclamation restoration or improvement of land as detailed in the approved waste recovery plan.
<b>R3:</b> Recycling/reclamation of organic substances which are not used as solvents;	
<b>R5:</b> Recycling or reclamation of other inorganic materials	The activities shall not be carried out other than in accordance with the approved waste recovery plan.

Table S1.2 Operating techniques

Description	Parts	Date Received
Application form	A, B2, B4, and part F1	19/09/2011
Waste recovery plan	In response to section 1c of Part B4 of the application form – operating techniques.	19/09/2011
Waste acceptance procedures	Waste Acceptance Procedures included with applicants submission	19/09/2011
Noise management plan	Noise management plan document in response to section 3 part B4 of the application form – operating techniques	17/10/2011
Environmental Management plan	In response to section 3d – technical standards, Part B2 of the application form.	26/10/2011
Management of Complaints, Corrective Preventative Action Procedure	In response to section 3 part B4 of the application form – operating techniques	05/12/2011
Additional Information	Email clarification on waste utilisation and how the movement of waste within the site will be recorded. Received from Gareth Cunliffe.	05/12/2011

## Schedule 2 - List of permitted wastes

Table S2.1 Permitted waste types and quantities for deposit for recovery activities

Maximum quantity The total quantity of waste accepted at the site shall be less than 67,000 tonnes

### Exclusions

Wastes consisting solely or mainly of dusts, powders or loose fibres

Wastes in liquid form

Waste code	Description
<b>01</b>	<b>WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS</b>
<b>01 04</b>	<b>wastes from physical and chemical processing of non-metallic minerals</b>
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	Waste sand and clays
<b>02</b>	<b>WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING</b>
<b>02 04</b>	<b>wastes from sugar processing</b>
02 04 01	Soil from cleaning and washing beet
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 01</b>	<b>wastes from power stations and other combustion plants (except 19)</b>
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
<b>10 12</b>	<b>wastes from manufacture of ceramic goods, bricks, tiles and construction products</b>
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 14	waste concrete and concrete sludges
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
<b>17 05</b>	<b>soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 04	soil and stones including chalk other than those mentioned in 17 05 03 (excluding topsoil and peat)
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	rack ballast other than those mentioned in 17 05 07
<b>19</b>	<b>WASTES 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>
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	waste from desanding

Table S2.1 Permitted waste types and quantities for deposit for recovery activities	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 67 000 tonnes
Exclusions	
Wastes consisting solely or mainly of dusts, powders or loose fibres	
Wastes in liquid form	
Waste code	Description
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones (excluding topsoil and peat)



### **Schedule 3 – Emissions and monitoring**

There are no emission limits or associated monitoring requirements

## Schedule 4 - Reporting

There is no reporting under this schedule

## Schedule 5 - Notification

This page outlines the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

### Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substance(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substance(s) detected	
Concentrations of substance detected	
Date of monitoring/sampling	

Part B to be supplied as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	
Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 - Interpretation

*"accident"* means an accident that may result in pollution.

*"Annex I"* means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*"Annex II"* means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*"application"* means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

*"authorised officer"* means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

*"emissions to land"* includes emissions to groundwater.

*"EP Regulations"* means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

*"emissions of substances not controlled by emission limits"* means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

*"groundwater"* means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

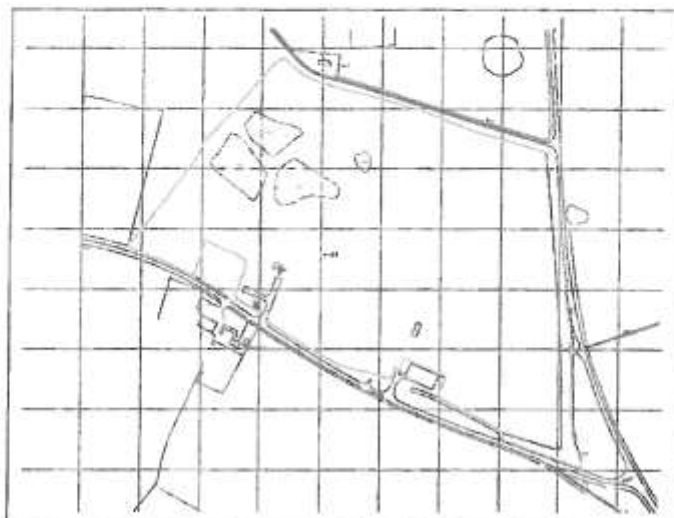
*"quarter"* means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

*"R"* means a recovery operation provided for in Annex IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

*"Waste code"* means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

*"year"* means calendar year ending 31 December.

## Schedule 7 - Site plan



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END OF PERMIT



## Notice of variation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

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Frimstone Limited  
Crimplesham Quarry  
Main Road  
Crimplesham  
Downham Market  
Norfolk  
PE33 9EB

Variation application number  
EPR/BB3434AY/V002

Permit number  
EPR/BB3434AY

Variation application number  
EPR/BB3434AY/V002

## Crimpleham Quarry

### Permit number EPR/BB3434AY

#### Introductory note

##### This introductory note does not form a part of the notice

The following notice gives notice of the variation of an environmental permit.

This variation is to increase the total tonnage of waste to be deposited at the site for restoration purposes to 298,000 tonnes. This is because part of the silts that was due to be used for mineral extraction is now no longer to be excavated. The result is a loss of overburden and cut volume from the existing landform, requiring a change in the restoration profile and an increase in the amount waste needed to complete the restoration.

As part of the variation we have also amended the descriptions of some of the EWC waste codes to bring them in line with the descriptions in current use.

The permit has now changed from a tier 2 bespoke to a tier 3 bespoke permit.

The schedules specify the changes made to the original permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application received EPR/BB3434AY/A001	Duly made 19/09/11	Application for tier 2 bespoke permit based on standard rules SR2010No10 (Use of waste for reclamation, restoration or improvement of land
Permit determined EPR/BB3434AY	14/03/13	Permit issued to Frimstone Limited
Application EPR/BB3434AY/V002	Duly made 20/07/15	Application to vary overall tonnage and waste recovery/restoration plan
Variation determined EPR/BB3434AY	02/09/15	Varied permit issued

End of introductory note

Variation application number  
EPR/BB3434AY/V002

2



## Notice of variation

### The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies

**Permit number**

EPR/BB3434AY

**Issued to**

Frimstone Limited ("the operator")

whose registered office is

Ashcraft Farm

Main Road

Crimplesham

King's Lynn

Norfolk

PE33 9EB

company registration number 01232146

to operate a regulated facility at

Crimplesham Quarry

Main Road

Crimplesham

Downham Market

Norfolk

PE33 9EB

to the extent set out in the schedules.

The notice shall take effect from 2 September 2015

Name	Date
Alan Whitley	02/09/15

Authorised on behalf of the Environment Agency

Variation application number  
EPR/BB3434AY/V002

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**Schedule 1 – conditions to be deleted**

None

**Schedule 2 – conditions to be amended**

The following conditions are amended as a result of the application made by the operator

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Documents provided in response to section 3a – technical standards, Part C4 of the application form.	09/06/15
Application	Approved waste recovery plan document (K82 0-21-016 Cringlesham WRP, issue 2 dated 27/02/15) in response to section 1c of Part C4 of the application form	09/06/15
Waste acceptance criteria	Waste acceptance procedures – included with original permit application	19/09/11
Noise management plan	Noise management plan document in response to section 3 part B4 of the application form – operating techniques – in original permit application	17/10/11
Environmental Management plan	In response to section 3d – technical standards, Part B2 of the application form – in original permit application	26/10/11
Management of Complaints, Corrective Preventative Action Procedure	In response to section 3 part B4 of the application form – operating techniques – in original permit application	05/12/11
Additional information	Email clarification on waste utilisation and how the movement of waste within the site will be recorded, received from Gareth Cuatrecasas	05/12/11

Table S2.1 Permitted waste types and quantities for use of waste in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 298,980 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: <ul style="list-style-type: none"> <li>• consisting solely or mainly of dusts, powders or loose fibres</li> <li>• hazardous wastes</li> <li>• wastes in liquid form</li> </ul>
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 04	wastes from physical and chemical processing of non-metaliferous minerals
01 04 08	waste gravel and crushed rocks other than those containing dangerous substances
01 04 09	waste sand and clays
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 04	wastes from sugar processing

Variation application number  
EPR/052434AY/V002

4

Table 52.1 Permitted waste types and quantities for use of waste in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 296,990 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: <ul style="list-style-type: none"> <li>• consisting solely or mainly of dusts, powders or loose fibres</li> <li>• hazardous wastes</li> <li>• wastes in liquid form</li> </ul>
Waste code	Description
02 04 01	soil from cleaning and washing beet
10	<b>WASTES FROM THERMAL PROCESSES</b>
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash and slag from power stations ( Furnace Bottom Ash)
10 01 02	PFA from Power Stations
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 14 -	waste concrete and concrete sludge
17	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones (excluding topsoil and peat)
17 05 06	dredging spoil other than those containing dangerous substances
17 05 08	track ballast, soil and stones other than those containing dangerous substances
19	<b>WASTES 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>
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	washed sewage grit (waste from desanding) only
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones) from the treatment of waste aggregates that are otherwise naturally occurring minerals - excludes fines from treatment of any non-hazardous waste or gypsum from recovered plasterboard.
19 12 12	soil substitutes other than that containing dangerous substances only
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those containing dangerous substances
20	<b>MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL)</b>

Version application number  
EPREB34344YV002

5

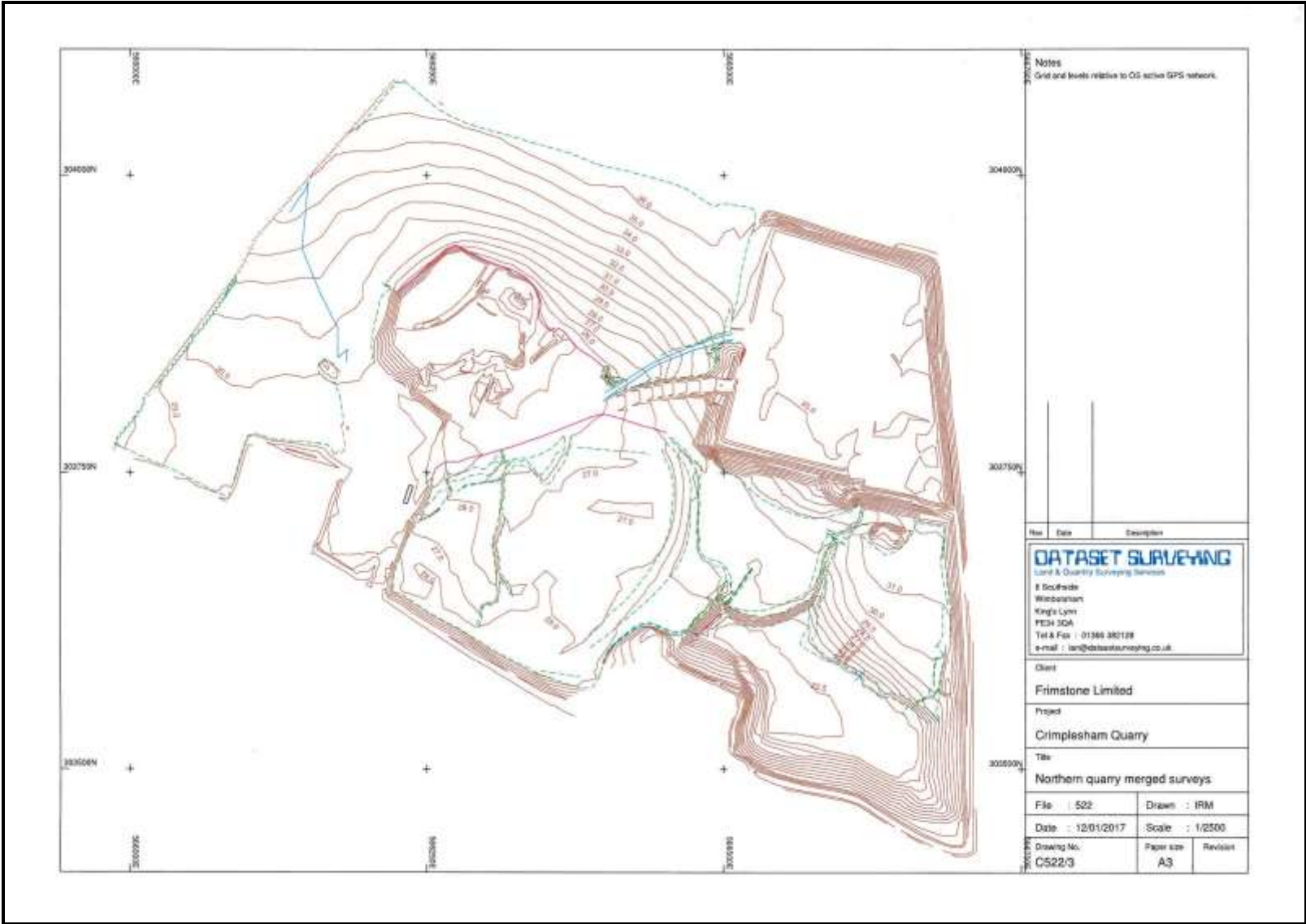
Table S2.1 Permitted waste types and quantities for use of waste in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 298,980 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted; <ul style="list-style-type: none"> <li>• consisting solely or mainly of dusts, powders or loose fibres</li> <li>• hazardous wastes</li> <li>• wastes in liquid form</li> </ul>
Waste code	Description
	INDUSTRIAL AND INSTITUTIONAL WASTES; INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones (excluding topsoil and peat)

### Schedule 3 – conditions to be added

None







## **Appendix D - Planning permissions**

### **Borough Council Planning History**

- 11/00738/CM – County Matters Application: Variation of condition 1 of planning permission C/2/1997/2002 relating to determination of conditions to which minerals permission DM3049 is subject to, to enable approved operations to continue until 31 December 2014.
- 11/00737/CM – County Matters Application: Variation of Condition 1 of planning permission C/2/1996/2029 to enable mineral extraction and import of building materials to continue until 31 December 2014.
- 11/00736/CM – County Matters Application: Variation of condition 1 of planning permission C/2/2001/2019 to allow engineering operation to reclaim the site for agricultural use with the aid of imported inert materials to continue until 31 December 2014.
- 05/02484/SU – Rebuild of overhead 33kv overhead line (Revised Route).
- 2/01/1237/CM – Engineering operation to reclaim the site for agricultural use with the aid of imported inert materials.
- 2/97/0108/CM – Determination of conditions for mineral site.
- 2/97/0061/CM – Mineral extraction importation of other building materials and processing and restoration with inert waste.
- 2/96/0801/CM – Retail sale of recycled soil conditioner.
- 2/93/1505/CM – Amended hours of operation.

### **Norfolk County Council Planning History**

- C/2/2015/2038 – Variation of conditions 2 & 30 of permission ref C/2/2014/2018 to accommodate aggregate sales, inert recycling, site office and weighbridge with amended phase boundary arrangements, and relaxation of linkage between extraction, infilling and restoration (of northern site)
- C/2/2015/2037 – Variation of condition 1 of permission ref. C/2/2014/2021 to enable operations to continue until 31 December 2017 in accordance with an amended staged restoration scheme
- C/2/2015/2036 – Variation of conditions 1 and 10 and deletion of condition 3 of permission ref. C/2/2014/2023 to enable operations to continue until 31 December 2018 in accordance with an amended staged restoration scheme
- C/2/2015/2035 – Variation of conditions 1 and 8 and deletion of condition 3 of permission ref. C/2/2014/2020 to enable operations to continue until 31 December 2018 in



- accordance with an amended staged restoration scheme
- C/2/2015/2034 – Variation of conditions 1 and 14 and deletion of condition 4 of permission ref. C/2/2014/2022 to enable operations to continue until 31 December 2018 in accordance with an amended staged restoration scheme
  - C/2/2015/2001 – Discharge of condition 20 of planning permission ref C/2/2014/2018 (revised wheel cleaning facility)
  - C/2/2014/2023 – Variation of condition 1 of planning permission ref. C/2/2011/2012 to enable operations to continue until 31 December 2015 pending submission of further operational & restoration proposals
  - C/2/2014/2022 – Variation of condition 1 of planning permission ref. C/2/2011/2014 to allow operations to continue until 31 December 2015 pending preparation and submission of amended operational restoration proposals
  - C/2/2014/2021 – Variation condition 1 of planning permission ref. C/2/2011/2010 to enable continued use of storage bays until 31 December 2015
  - C/2/2014/2020 – Variation of condition 1 of planning permission ref. C/2/2011/2013 to enable operations to continue until 31 December 2015 pending submission of amended operational and restoration proposals
  - C/2/2014/2018 – Variation of conditions 3 & 7 of planning permission ref. C/2/2008/2006 to regularise existing plant site layout arrangements and proposed alterations to phase boundary arrangements
  - C/2/2011/2013 – Variation of condition 1 of planning permission C/2/1996/2029 to enable mineral extraction and import of building materials to continue until 31 December 2014.
  - C/2/2011/2012 - Variation of condition 1 of planning permission C/2/2001/2019 to allow engineering operation to reclaim the site for agricultural use with the aid of imported inert materials to continue until 31 December 2014.
  - C/2/2011/2010 – Variation of Condition 1 of Planning Permission C/2/2002/2023 to enable continued use of storage bays until 31 December 2014
  - C/2/2011/2004 – Discharge of Condition 9 bunding maintenance of Planning Permission C/2/1997/2002
  - C/2/2010/2035 – Discharge of Condition 6 & 10 of Planning Permission C/2/1996/2029
  - C/2/2010/2034 – Discharge of Condition 15 of Planning Permission C/2/2008/2006
  - C/2/2010/2033 – Discharge of Condition No 12 of Planning Permission C/2/2001/2019
  - C/2/2010/2032 – Discharge of Condition 8 and 22 of Planning Permission C/2/1997/2002

- C/2/2009/2012 – Discharge of Conditions 7,18,22,23,24 and 30 on PP C/2/2008/2006
- C/2/2008/2026 – Extraction of sand & gravel and restoration to nature conservation after uses at low level. Relocation and retention of processing plant & recycled aggregate production.
- C/2/2008/2018 – Erection of Welfare Facilities Building
- C/2/2008/2006 – Replacement quarry with processing of aggregates, recycling and landfilling of inert waste materials back to near original ground levels
- C/2/2007/2003 – Screening/Scoping Opinion: Proposed replacement quarry
- L/2/2006/2036 – Consultation on application for Waste Management Licence 70543
- C/2/2004/2005 – Excavation of gault clay for use in engineering landfill sites and to form an enlarged irrigation reservoir
- C/2/2002/2023 – Provision of mineral storage bays
- C/2/2001/2019 – Engineering operation to reclaim the site for agricultural use with the aid of imported inert materials
- B/2/1997/2027 – Schedule 1: Change of use
- C/2/1997/2002 – Determination of conditions for mineral site.
- C/2/1996/2029 – Mineral extraction and importation of other building materials & processing.
- C/2/1996/2008 – Sale of 100% recycled soil conditioner (bagged) to members of the public
- C/2/1992/2006 – Household Waste Site
- C/2/1987/2105 – Infilling of Old Mineral Working with Soil
- D/2/1965/3049 – Extension of present gravel pit.
- D/2/1948/0010 – Mineral Extraction.

## **Appendix E. Risk Assessment Methodology.**

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. Under CLR11 three stages of risk assessment exist: Preliminary, Generic Quantitative and Detailed Quantitative. As the list of potential Part 2a sites have been constructed as a mapping exercise, a Preliminary Risk Assessment has been conducted to ascertain its correct risk rating. Dependent upon the results of the Preliminary Risk Assessment a detailed assessment will be undertaken (Desk Study, Site investigation) which will collate all the existing information pertaining to the site and construct a Conceptual Site Model. Both the Preliminary Risk Assessment and the outline conceptual model will identify potentially complete pollutant linkages (source-pathway-receptor) and is used as the basis for design of the site investigation. The outline Conceptual Site Model (CSM) is updated as further information becomes available, for example as a result of the site investigation. Production of a CSM requires an assessment of risk to be made. Risk is a combination of the probability of an event occurring and the magnitude of its hazard.

Therefore, in order to assess risk both the probability and the hazard of an event must be taken into account. The Council has adopted guidance provided in CIRIA C552 for use in the production of Conceptual Models. The probability of an event can be classified on a four point system using the following terms and definitions based on CIRIA C552:

- Highly likely: The event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;
- Likely: It is probable that an event will occur, or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- Low probability: Circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term;
- Unlikely: Circumstances are such that it is improbably the event would occur even in the long term.

The severity of the hazard can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- High: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Contaminated Land Statutory Guidance, April 2012');
- Medium: Chronic damage to human health ('significant harm' as defined in 'Contaminated Land Statutory Guidance, April 2012'), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Contaminated Land Statutory Guidance, April 2012');
- Low: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in

'Contaminated Land Statutory Guidance, April 2012'). Damage to sensitive buildings, structures or the environment.

As this report is to assess contaminated land under Part 2a of the Environmental protection Act 1990 the fourth category has been removed as the consequences do not fit with the test for 'significant' harm as designated within Contaminated Land Statutory Guidance, April 2012.

Once the probability of an event occurring and its severity have been classified, a risk category can be assigned from the table below.

		Hazard		
		High	Medium	Low
Probability	High Probability	Very High Risk	High Risk	Moderate Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk
	Low Probability	Moderate risk	Moderate/Low Risk	Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk
Very High Risk	<p>There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening</p> <p>This risk, if realised, is likely to result in a substantial liability.</p> <p>Urgent investigation (if not undertaken already) and remediation are likely to be required.</p>			
High Risk	<p>Harm is likely to arise to a designated receptor from an identified hazard.</p> <p>Realisation of the risk is likely to present a substantial liability.</p> <p>Urgent investigation (if not undertaken already) if required to clarify the risk and to determine the potential liability. Some remedial work may be required in the longer term.</p>			
Moderate risk	<p>It's possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that harm would be relatively mild.</p>			
Moderate/Low risk	<p>It is possible that harm could arise to a designated receptor from an identified hazard. However, if any harm were to occur it is more likely that harm would be relatively mild.</p>			
Low Risk	<p>It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.</p>			
Very Low Risk	<p>There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is unlikely to be severe.</p>			

## Appendix F. Determination of contaminated land – Contaminated Land Statutory Guidance, April 2012.

### Human Health

Category	
<p><b>1</b></p> <p>The local authority should assume that a significant possibility of significant harm exists in any case where it considers there is an unacceptably high probability, supported by robust science-based evidence that significant harm would occur if no action is taken to stop it. For the purposes of this Guidance, these are referred to as “Category 1: Human Health” cases.</p> <p>Land should be deemed to be a Category 1: Human Health case where:</p> <ul style="list-style-type: none"> <li>(a) The authority is aware that similar land or situations are known, or are strongly suspected on the basis of robust evidence, to have caused such harm before in the United Kingdom or elsewhere; or</li> <li>(b) The authority is aware that similar degrees of exposure (via any medium) to the contaminant(s) in question are known, or strongly suspected on the basis of robust evidence, to have caused such harm before in the United Kingdom or elsewhere;</li> <li>(c) The authority considers that significant harm may already have been caused by contaminants in, on or under the land, and that there is an unacceptable risk that it might continue or occur again if no action is taken. Among other things, the authority may decide to determine the land on these grounds if it considers that it is likely that significant harm is being caused, but it considers either: (i) that there is insufficient evidence to be sure of meeting the “balance of probability” test for demonstrating that significant harm is being caused; or (ii) that the time needed to demonstrate such a level of probability would cause unreasonable delay, cost, or disruption and stress to affected people particularly in cases involving residential properties.</li> </ul>	
<p><b>2</b></p> <p>Land should be placed into Category 2 if the authority concludes, on the basis that there is a strong case for considering that the risks from the land are of sufficient concern, that the land poses a significant possibility of significant harm, with all that this might involve and having regard to Section 1. Category 2 may include land where there is little or no direct evidence that similar land, situations or levels of exposure have caused harm before, but nonetheless the authority considers on the basis of the available evidence, including expert opinion, that there is a strong case for taking action under Part 2A on a precautionary basis.</p>	
<p><b>3</b></p> <p>Land should be placed into Category 3 if the authority concludes that the strong case described in 4.25(a) does not exist, and therefore the legal test for significant possibility of significant harm is not met. Category 3 may include land where the risks are not low, but nonetheless the authority considers that regulatory intervention under Part 2A is not warranted. This recognises that placing land in Category 3 would not stop others, such as the owner or occupier of the land, from taking action to reduce risks outside of the Part 2A regime if they choose. The authority should consider making available the results of its inspection and risk assessment to the owners/occupiers of Category 3 land.</p>	

Category	
4	<p>The local authority should consider that the following types of land should be placed into Category 4: Human Health:</p> <ul style="list-style-type: none"> <li>(a) Land where no relevant contaminant linkage has been established.</li> <li>(b) Land where there are only normal levels of contaminants in soil, as explained in Section 3 of this Guidance.</li> <li>(c) Land that has been excluded from the need for further inspection and assessment because contaminant levels do not exceed relevant generic assessment criteria in accordance with Section 3 of this Guidance, or relevant technical tools or advice that may be developed in accordance with paragraph 3.30 of this Guidance.</li> <li>(d) Land where estimated levels of exposure to contaminants in soil are likely to form only a small proportion of what a receptor might be exposed to anyway through other sources of environmental exposure (e.g. in relation to average estimated national levels of exposure to substances commonly found in the environment, to which receptors are likely to be exposed in the normal course of their lives).</li> </ul>

## Ecological system effects

Relevant types of receptor	Significant harm	Significant possibility of significant harm
<p>Any ecological system, or living organism forming part of such a system, within a location which is:</p> <ul style="list-style-type: none"> <li>• A site of special scientific interest (under section 28 of the Wildlife and Countryside Act 1981)</li> <li>• A national nature reserve (under s.35 of the 1981 Act)</li> <li>• A marine nature reserve (under s.36 of the 1981 Act)</li> <li>• An area of special protection for birds (under s.3 of the 1981 Act)</li> <li>• A "European site" within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2010</li> <li>• Any habitat or site afforded policy protection under paragraph 6 of Planning Policy Statement (PPS 9) on nature conservation (i.e. candidate Special Areas of Conservation, potential Special Protection Areas and listed Ramsar sites); or</li> <li>• Any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949.</li> </ul>	<p>The following types of harm should be considered to be significant harm:</p> <ul style="list-style-type: none"> <li>• Harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or</li> <li>• Harm which significantly affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location.</li> </ul> <p>In the case of European sites, harm should also be considered to be significant harm if it endangers the favourable conservation status of natural habitats at such locations or species typically found there. In deciding what constitutes such harm, the local authority should have regard to the advice of Natural England and to the requirements of the Conservation of Habitats and Species Regulations 2010.</p>	<p>Conditions would exist for considering that a significant possibility of significant harm exists to a relevant ecological receptor where the local authority considers that:</p> <ul style="list-style-type: none"> <li>• Significant harm of that description is more likely than not to result from the contaminant linkage in question; or</li> <li>• There is a reasonable possibility of significant harm of that description being caused, and if that harm were to occur, it would result in such a degree of damage to features of special interest at the location in question that they would be beyond any practicable possibility of restoration.</li> </ul> <p>Any assessment made for these purposes should take into account relevant information for that type of contaminant linkage, particularly in relation to the ecotoxicological effects of the contaminant.</p>



## Property effects

Relevant types of receptor	Significant harm	Significant possibility of significant harm
<p>Property in the form of:</p> <ul style="list-style-type: none"> <li>• Crops, including timber;</li> <li>• Produce grown domestically, or on allotments, for consumption;</li> <li>• Livestock;</li> <li>• Other owned or domesticated animals;</li> <li>• Wild animals which are the subject of shooting or fishing rights.</li> </ul>	<p>For crops, a substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage.</p> <p>The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a contaminant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss.</p> <p>In this section, this description of significant harm is referred to as an “animal or crop effect”.</p>	<p>Conditions would exist for considering that a significant possibility of significant harm exists to the relevant types of receptor where the local authority considers that significant harm is more likely than not to result from the contaminant linkage in question, taking into account relevant information for that type of contaminant linkage, particularly in relation to the ecotoxicological effects of the contaminant.</p>
<p>Property in the form of buildings. For this purpose, “building” means any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building, or buried services such as sewers, water pipes or electricity cables.</p>	<p>Structural failure, substantial damage or substantial interference with any right of occupation. The local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended.</p> <p>In the case of a scheduled Ancient Monument, substantial damage should also be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled.</p> <p>In this Section, this description of significant harm is referred to as a “building effect”.</p>	<p>Conditions would exist for considering that a significant possibility of significant harm exists to the relevant types of receptor where the local authority considers that significant harm is more likely than not to result from the contaminant linkage in question during the expected economic life of the building (or in the case of a scheduled Ancient Monument the foreseeable future), taking into account relevant information for that type of contaminant linkage.</p>

## Controlled waters

### Significant pollution of controlled waters

The following types of pollution should be considered to constitute significant pollution of controlled waters:

- (a) Pollution equivalent to “environmental damage” to surface water or groundwater as defined by The Environmental Damage (Prevention and Remediation) Regulations 2009, but which cannot be dealt with under those Regulations.
- (b) Inputs resulting in deterioration of the quality of water abstracted, or intended to be used in the future, for human consumption such that additional treatment would be required to enable that use.
- (c) A breach of a statutory surface water Environment Quality Standard, either directly or via a groundwater pathway.
- (d) Input of a substance into groundwater resulting in a significant and sustained upward trend in concentration of contaminants (as defined in Article 2(3) of the Groundwater Daughter Directive (2006/118/EC)5 ).

### Significant possibility of significant pollution of controlled waters

#### Category

<b>1</b>	This covers land where the authority considers that there is a strong and compelling case for considering that a significant possibility of significant pollution of controlled waters exists. In particular this would include cases where there is robust science-based evidence for considering that it is likely that high impact pollution (such as the pollution described in paragraph 4.38) would occur if nothing were done to stop it.
<b>2</b>	This covers land where: (i) the authority considers that the strength of evidence to put the land into Category 1 does not exist; but (ii) nonetheless, on the basis of the available scientific evidence and expert opinion, the authority considers that the risks posed by the land are of sufficient concern that the land should be considered to pose a significant possibility of significant pollution of controlled waters on a precautionary basis, with all that this might involve (e.g. likely remediation requirements, and the benefits, costs and other impacts of regulatory intervention). Among other things, this category might include land where there is a relatively low likelihood that the most serious types of significant pollution might occur
<b>3</b>	This covers land where the authority concludes that the risks are such that (whilst the authority and others might prefer they did not exist) the tests set out in Categories 1 and 2 above are not met, and therefore regulatory intervention under Part 2A is not warranted. This category should include land where the authority considers that it is very unlikely that serious pollution would occur; or where there is a low likelihood that less serious types of significant pollution might occur.
<b>4</b>	This covers land where the authority concludes that there is no risk, or that the level of risk posed is low. In particular, the authority should consider that this is the case where: <ul style="list-style-type: none"> <li>(a) No contaminant linkage has been established in which controlled waters are the receptor in the linkage; or</li> <li>(b) The possibility only relates to types of pollution described in paragraph 4.40 above (i.e. types of pollution that should not be considered to be significant pollution); or</li> <li>(c) The possibility of water pollution similar to that which might be caused by “background” contamination as explained in Section 3.</li> </ul>

