GROUNDWATER RISK ASSESSMENT

ALDEBY SOLAR PARK

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Prepared By:

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TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background Information

Infinis Solar Developments Ltd (the Applicant) have submitted a planning application to Norfolk County Council (the Council) for the installation of a solar park with associated infrastructure (the 'Development') on the closed and capped section of the Aldeby Landfill site ('the Site') planning reference FUL/20121/0015. The Council advised that the following information was required for the Environmental Impact Assessment:

"*In accordance with Regulation 18(3)(b) and (c) and our adopted Local List, a Hydrological/Hydrogeological Risk Assessment to assess the impact of the proposal on groundwater and surface water quality and resources. This is particularly important given both the site's location adjacent to the Broads and the siting of PV panels on what is understood the dilute and disperse unlined part of the landfill site.*"

Arcus Consultancy Services Ltd (Arcus) has been commissioned to identify baseline conditions, outline of Development and provide a conceptual site model to inform a groundwater risk assessment for the Site which considers the potential effects associated with the Development.

The Site ground levels are higher in the north and lower in the south. The Site is situated approximately 1.2 kilometres (km) southeast of the village of Aldeby. The Site boundary and location are shown in Figures 3575-REP-024 and 3575-REP-025 in Appendix A.

This hydrogeology assessment is based on review of desk study information and ground investigation reports relevant to the Development, as well as the consideration of the solar site design.

1.2 Assessment Approach

As the Development is located on a closed landfill site adjacent to the Broads, an assessment has been undertaken on the potential contaminative impact the Development could have on the existing site and surrounding area. The assessment is carried out in line with the Environment Agency guidance 'Groundwater risk assessment for your environmental permit' (EA, 2018).

1.3 Site Reports and Reviews

The following reports, information and data sources have been reviewed to inform this hydrogeology assessment:

- Norfolk County Council. Letter titled 'Aldeby: Aldeby landfill site, Common Road, Aldeby, Beccles, NR34 0BL: Installation of a solar photovoltaic array/solar park with associated infrastructure at Aldeby Landfill Site' dated 21 April 2021 (ref FUL/2021/0015)';
- Norfolk County Council. Letter titled 'Aldeby: Landfill site at Common Road, Aldeby, Beccles, NR34 0BL: Pre-application advice: Proposal for Solar PV Development at Aldeby Landfill'. January 2021 (ref ENQ/2020/0028);
- Arcus. Solar Array Foundation Design Planning Drawing 10 (ref 3546_FIG_REP_0008);
- DEFRA Magic Map (n.d.)[1];
- British Geological Survey, GeoIndex Onshore (2020)[2];

[1] DEFRA Magic Map [Online]. Available at: https://magic.defra.gov.uk/ (Accessed 27/05/2021).

[2] [Online]. Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.256551694.46037445.1622052202-1501197580.1579020610 (Accessed 27/05/2021)

- Coal Authority, Interactive Map Viewer (2020)[3]; and
- National Library of Scotland (n.d.) Map Finder[4] (used to access UK wide historical maps).

The following reports have also been reviewed and are referred to throughout this assessment. These are also included for reference in Appendices B and C.

- PDE Consulting Limited. Planning Application and Supporting Statement – Aldeby Landfill, Aldeby, Nr Beccles, Norfolk. March 2012 (planning permission reference (C/7/2007/7004), March 2012;
- Aldeby Gas Utilisation Plant – PPC Permit No. BP3032SG – Environment Agency (EA), August 2005; and
- Aldeby Landfill and Aldeby Gas Utilisation Plant – PPC Permit No. EPR/BP3032SG/V008 –Environment Agency (EA), July 2018.

[3] [Online]. Available at: https://mapapps2.bgs.ac.uk/coalauthority/home.html (Accessed 27/05/2021)

[4] [online] Available at: https://maps.nls.uk/geo/find/#zoom=5&lat=56.00000&lon=-4.00000&layers=102&b=1&z=0&point=0,0 (Accessed on 27/05/2021)

2 THE SITE

2.1 Site Information

The Site is located 1.2 km southeast of Aldeby at approximate National Grid Reference (NGR) 646676, 292499. The Site is approximately 11.6 hectares (ha) in area. The Site boundary and location are shown in Figures 3575-REP-024 and 3575-REP-025 in Appendix A.

Based on the information provided in the supporting statement, the Site is rectangular in shape and comprises part of the existing Aldeby landfill site. The landfill is also present immediately to the north and west of the Site. Aldeby landfill is bound by mature woodland to the north and west, hedges and trees to the south and east, St Mary's Road to the south and east and Common Road to the west.

The Site is situated within an area of rural agricultural land and is generally flat and low-lying. The village of Burgh St. Peter is present approximately 1 km to the north. The Broads is located beyond the road to the south and the River Waverley is located approximately 685 m to the south of the Site.

No site walkover was carried out as part of this assessment, with the Site assessment carried out using desktop sources of information.

2.2 Existing Landfill Site

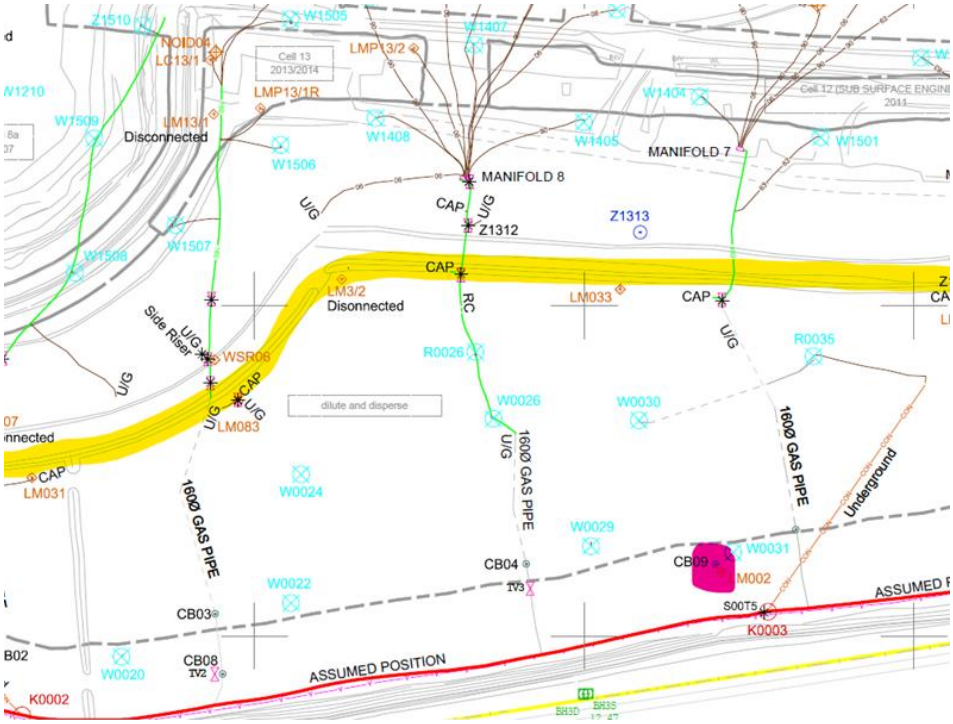
Aldeby Landfill is currently operated by FCC Environment (FCC). FCC operates a range of waste management sites including material recycling facilities (MRF), energy from waste (EfW) plants and landfill sites. The site is permitted by the Environment Agency (permit number EPR/BP3032SG) and holds non-hazardous waste.

As summarised in Section 3, extraction of sand and gravel began at the Site in the 1950s, with a gravel pit shown in the historical OS Map published 1969. Permission for restoration of the quarry through landfilling was approved in July 1996 (named Aldeby Landfill site). The landfill comprises 15 cells (shown on Figure 601A368A in Appendix A), where a varied permit was authorised in 2010 to allow the lining over of parts of Cells 1 to 3 for the deposition of Cells 11 to 14 above. Cells have been infilled from north to south, with a dilute and dispersal area located in the south and lined cells (cells 6, 7, 8, 12, 13 and 14) located in the north. The completion dates for the cells within the Site or immediately north of the Site vary from 2002 to 2014.

Further details regarding the dilute and disperse area of the landfill were provided during the consultation process, as described in Section 4. Via email communication from the Applicant on the 18th May 2021, it was confirmed by FCC surveyors that the plastic liner was in place at Cells 12 and 13 in the north and that the 'Dilute and Disperse' area in the south features a clay cap. The tie-in for the plastic liner is shown with a yellow line in Plate 1. FCC site staff witnessed plastic capping present during excavation and remediation, shown as the red circle. The surface water ditch at the Site boundary is lined with plastic. Gas field contractors reported during excavation a marked '160 gas pipe' witnessed lap and lay bentomat type capping. It was reported that the capping soil is only 500 mm thick in some landfill areas.

Further works, including a geophysical survey, are due to be carried out in Summer 2021 to confirm the depth of capping and lining beneath the Site.

Plate 1 Site Capping at Dilute and Disperse Area of Aldeby Landfill



The Final Restoration Masterplan figure from FCC (Figure 601R294 in Appendix A) for the landfill details that the Site will be restored to gently sloping pasture grassland divided into fields by hedgerows and trees. A storage building will remain within the south-west of the Site. The drainage ditch, surface water soakaway and balancing pond will remain with additional surface water lagoons at the western and eastern boundaries of landfill.

2.3 Proposed Development

The Development consists of the construction of a solar park which includes the following elements: solar PV modules on ground mounted metal racking; DNO (Distribution Network Operator) switching station; client switching stations; battery containers; general spares container; access track; fencing; security cameras; cabling; and landscaping. These are shown on Figure 3757-REP-024 in Appendix A.

Strings of solar panels would be mounted on metal racking which comprise of metal poles anchored to the ground via concrete footings or shallow piles. These panels would tilt to the south, with approximately 2 to 6 metres between strings to avoid inter-panel shading. The panels would be mounted at approximately 0.8 m from the ground at the lowest point (the southern edge) to approximately 2.6 m at the highest point (the northern edge). The anticipated maximum height could be 3 m accounting for variations in slope and aspect of the Site.

There are two proposed options for the foundations of the solar panels, a short pile anchor system or a ballasted system as shown in 3757-REP-008. For the short pile anchor system feature, the solar panels would be attached to racking which is supported by steel piles into the ground. Anchor bars would be installed at 45 degrees to the piles under the ground to increase resistance. It is stated that the final design of the structure would be subject to forward design stages following the completion of other studies and geophysical surveys. Email confirmation was given from the Applicant that the anchor system would penetrate the soil from 470 mm to 500 mm depending on the make. Further information detailing ground conditions required for construction are detailed in Section 5.2.4.2.

The Site is currently in use for Captured Landfill Methane (CLM) extraction, which would continue for the lifetime of the Development. The layout of the Development has been designed to avoid impacts on CLM infrastructure. The Development would complement this existing use by maximising the benefits of energy generation at the Site.

The core construction activity period would be approximately 3 months and planning permission has been sought for a temporary operational period of 35 years. Aldeby landfill is currently subject to an approved restoration plan which is currently being implemented. This restoration plan would be deferred for the lifetime of the Development and would be re-implemented upon decommissioning of the Development.

2.4 Historical Usage Summary

2.4.1 The Site

The earliest available Ordnance Survey map of 1885 shows the Site comprised small buildings to the south-west of the Site, and undeveloped farmland that was divided into several fields with deciduous trees along the fence lines. The Site changes use and forms a sand and gravel quarry which later is restored by landfill, detailed in the historical permits in Section 3. The site is bounded by St Mary's Road to the south, Common Road to the west, Mill Road to the east and closed landfill and Taylors Road to the north.

2.4.2 Surrounding Area

The earliest available Ordnance Survey map (Norfolk, XCIX.8 S25-inch to the mile, published 1885) shows the site is bound by roads to the west and south-west, and an access track to the south. The surrounding area features undeveloped agricultural land and dwellings, including Burnthouse Farm to the north and College Farm to the south. Gravel pits are marked in the immediate surrounding area and small ponds are shown to the south-east. Boon's Heath is shown to the immediate east of the Site (Suffolk X.5 S25-inch to the mile). The River Waveney is located approximately 685 m south of the Site, which flows east towards the Outer Thames Estuary. There is also an extensive drainage network surrounding this heavily modified watercourse.

In 1927 an access track is shown to the gravel pit to the north of the Site (Norfolk XCIX.8, 25-inch to the mile). The Ordnance Survey map (62/49-2546, 1:25,000 published in 1946) shows the farm to the north has been renamed as Oakland Farm and Eastend Farm is now shown to the south. A well or spring is now marked at the buildings to the south-east of the Site. By 1958 the access roads that bound the Site are shown. The Ordnance Survey Map (Sheet 137-Lowestoft-B published 1969) shows a gravel pit on site.

The most recent OS Map 1:25,000 (2021) shows the Site is bound by roads and urban development. The surrounding area to the north is shown as workings. From previous reports shown in Section 3, we know the site has previously been quarried and then backfilled with landfill.

2.5 Rainfall and Climate

In the River Waveney catchment, the National River Flow Archive (NRFA) report Average Annual Rainfall (AAR 1961 – 1990) at the River Waveney at Needham Mill gauging station, approximately 27 km west of the Site, as 594 millimetres (mm).

As monthly long-term climate data is not freely available from the NRFA, long term average rainfall data (1981 to 2010) obtained by the Meteorological Office at the Lowestoft gauging station, located approximately 8 km east of the Site, are presented in Table 1.

Table 1 Long term average rainfall data (1981 - 2010), Lowestoft

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	50.4	41	43.1	42.1	49.9	48.9	50.9	57.8	52.6	63.9	63.2	56.2

2.6 Geological Conditions

2.6.1 Geology

The British Geological Survey (BGS) Geoindex maps[5] indicate the Site to be underlain by sand and gravel of the Aldeby Sand and Gravel Member in the centre of the Site, chalky till and poorly sorted sediments of the Lowestoft Formation to the south and sand and gravel of the Lowestoft Formation to the north. This is underlain by undifferentiated clays, silts, sands and gravel bedrock deposits of the Crag Group.

2.6.2 Borehole logs

A review of the BGS borehole data showed information from several boreholes was available within the Site boundary or immediately adjacent. as detailed in Table 2.

Table 2 Review of Available BGS Borehole Logs in Surrounding Area

Borehole ID	Grid Reference	Location relative to site	Geological Strata	Comment
TM49SE15	646500 292500	Centre of Site	0 – 0.7m Topsoil 0.7 – 1.5m Sandy Clay 1.5 – 3.1m Sand & Gravel 3.1 – 4.5m Clay 4.5 – 22.5m Interbedded layers of Sand, Gravel and Clay	Groundwater struck at 2.3m and 14m.
TM49SE23	646550 292620	Approximately 75 m north-west of Site	0 – 0.45m Sandy gravelly Topsoil 0.45 – 7.7m Coarse Sand & Gravel 7.7 – 19.4m Gravel & Sand 19.4 – 22m Clayey Sand	No groundwater strikes during drilling
TM49SE22	646740 292620	Approximately 10 m north of Site	0 – 0.3m Sandy gravelly Topsoil 0.3 – 22.2m Sand & Gravel 22.2 – 24m Clayey Sand	No groundwater strikes during drilling
TM49SE7	646410 292620	Approximately 50 m north of Site	0 – 1.8m Gravel 1.8 – 7.9m Coarse Sand & Stone 7.9 – 10.7m Red Sand 10.7 – 11.9m Red Sand & Clay 11.9 – 13.7m Yellow Sand 13.7 – 19.2m interbedded layers of Sand & Clay	Rest level of groundwater at 12.2m below well-top

[5] available online https://mapapps2.bgs.ac.uk/geoindex/home.html

2.6.3 Mining

In relation to mining, the Coal Authority online viewer shows the site is not within the Coal Mining Reporting area, with no other features noted within the site. No report has been obtained directly from the Coal Authority for the Site.

2.7 Hydrogeology

The Environment Agency 'Catchment Data Explorer' shows the Site overlies superficial deposits of the Broadland Rivers Chalk and Crag, which is within the wider Anglian groundwater body. The Anglian groundwater has an overall status of Poor. Reasons for this status include poor nutrient management and abstraction by the agricultural industry.

Information provided by the Environment Agency available on DEFRA's Magic Map viewer shows the site does not lie within a Drinking Water Safeguard Zone for Groundwater. The site also does not lie within a Source Protection Zone.

The BGS Geoindex 1:625,000 Hydrogeology map shows the entire site lies within a 'moderately productive aquifer' which is described as 'fine-grained, largely unconsolidated sands and silts aquifer up to 80 m thick'. The direction of groundwater flow within the area is not known.

2.8 Hydrology

Ordnance Survey raster mapping shows there are no watercourses within the Site boundary, with the nearest classified watercourse being the River Waveney located approximately 685 m from the Site. The watercourse is extensively drained with drains located from approximately 350 m from the Site. The Site is not shown to be located within the operational boundary of an Internal Drainage Board (IDB)[i].

The Environment Agency 'Catchment Data Explorer' shows the site lies within the 'Waveney (Ellingham Mill to Burgh St. Peter) heavily modified waterbody catchment (ID GB105034045903) with an overall classification of Moderate. It lies within the Broadland Rivers Management catchment within the wider Anglian catchment. The catchment is a high priority area for sediment issues, phosphate issues, nitrate issues, pesticide issues and is a former catchment sensitive farming priority (CSF) catchment 2011 – 2015 (England) and a Countryside Stewardship water quality priority area.

The Site is also located within a Drinking Water Protected Area (Surface Water) which has a current status of 'At Risk'.

Current drainage measures within the Site include a drainage ditch which flows along the Site boundary. The drainage ditch starts at the eastern boundary and flows south and then south-west to the existing surface water soakaway and balancing pool located within south of the Site, as shown in Figure 601A368A Final Restoration Masterplan. Upon completion of the restoration of Aldeby Landfill, a surface water lagoon will also be located to the west of the Site.

In relation to flooding, the Environment Agency Flood Map, the site is located within Flood Zone 1 where there is a low probability of river and surface water flooding. Further details are provided in the FRA report summarised in Section 3.

Designated sites within 10km of the Development and their hydrological connectivity to the Development are shown in Table 3, sourced from DEFRA Magic Map.

Table 3 Designated Sites within 10 km of the Development

Designated Site	Distance from Development	Qualifying Interest	Hydrological Connection to Development
The Broadland Special Protection Areas (SPA), The Broads Special Area of Conservation (SAC), Broadland RAMSAR and Barnby Broad & Marshes Sites of Special Scientific Interest (SSSI)	Approx 800 m south-east	Breeding bird assemblage, lowland ditch and wetland, nationally scarce plants, vascular plant assemblage, wet woodland, hard oligo-mesotrophic waters with benthic vegetation, natural eutrophic lakes, transition mires, quaking bogs, calcareous fens, alkaline fens, alluvial forests, Molinia meadows, Desmoulin's whorl snail, Fen orchid, Ramshorn snail, otter, wetland invertebrate and plant assemblage, floodplain alder woodland and fen, bewick's swan, bittern, gadwall, hen harrier, marsh harrier, ruff, shoveler, whooper swan and wigeon.	No – hydrologically disconnected by the River Waveney
The Broadland SPA, The Broads SAC, Broadland RAMSAR, Stanley and Alder Carrs, Aldeby SSSI	Approx 2.25 km west	Hard oligo-mesotrophic waters with benthic vegetation, natural eutrophic lakes, transition mires, quaking bogs, calcareous fens, alkaline fens, alluvial forests, Molinia meadows, Desmoulin's whorl snail, Fen orchid, Ramshorn snail and otter, floodplain fen, vascular plant assemblage, wet woodland, wetland invertebrate and plant assemblage, floodplain alder woodland and fen, bewick's swan, bittern, gadwall, hen harrier, marsh harrier, ruff, shoveler, whooper swan and wigeon.	No – upstream of the Development
The Broadland SPA, The Broads SAC, Broadland RAMSAR, Sprat's Water and Marshes Carlton Colville SSSI	Approx 3 km east	Hard oligo-mesotrophic waters with benthic vegetation, natural eutrophic lakes, transition mires, quaking bogs, calcareous fens, alkaline fens, alluvial forests, Molinia meadows, Desmoulin's whorl snail, Fen orchid, Ramshorn snail and otter, breeding bird assemblage, eutrophic lakes, standing waters, floodplain fen, vascular plant assemblage, wetland invertebrate and plant assemblage, floodplain alder woodland and fen, bewick's swan, bittern, gadwall, hen harrier, marsh harrier, ruff, shoveler, whooper swan and wigeon.	No – hydrologically disconnected by the River Waveney
Sotterley Park SSSI	Approx 6.2 km south	Lichen assemblage	No – hydrologically disconnected by the River Waveney
The Broadland SPA, The Broads SAC, Broadland RAMSAR, Geldeston Meadows SSSI	Approx 6.5 km west	Hard oligo-mesotrophic waters, natural eutrophic lakes, molinia meadows, transition mires and quaking bogs, calcareous fens, alkaline fens, alluvial woods, Desmoulin's whorl snail, otter, fen orchid, Little ramshorn whirlpool snail, wet woodland, lowland mire grassland, lowland neutral grassland, wetland invertebrate and plant assemblage, floodplain alder woodland and fen, bewick's swan, bittern, gadwall, hen harrier, marsh harrier, ruff, shoveler, whooper swan and wigeon.	No – upstream of the Development

Designated Site	Distance from Development	Qualifying Interest	Hydrological Connection to Development
Outer Thames Estuary SPA	Approx 7.5 km east	Common tern, little tern, red-throated diver	Yes – River Waveney issues into Outer Thames Estuary
Pakefield to Easton Bavents SSSI	Approx 7.8 km east	Breeding bird assemblages, coastal vegetated shingle, Pleistocene vertebrata, Quaternary of East Anglia, floodplain fen, hard maritime cliff and slope, coastal geomorphology, nationally scare plant, RDB plant population, saline coastal lagoons, vascular plant assemblage.	No – hydrologically disconnected by the River Waveney
Leet Hill, Kirby Cane SSSI	Approx 8.1 km west	Quaternary of East Anglia	No – upstream of the Development
Titsal Wood, Shadingfield SSSI	Approx 9.2 km south-west	Lowland mixed deciduous woodland	No – hydrologically disconnected by the River Waveney
Benacre to Easten Bavents Lagoons SAC, SPA	Approx 9.7 km south-east	Coastal lagoons	No – hydrologically disconnected by the River Waveney
The Broadland SPA, The Broads SAC, Broadland RAMSAR, Halvergate Marshes SSSI	Approx 9.9 km north	Hard oligo-mesotrophic waters, natural eutrophic lakes, molinia meadows, transition mires and quaking bogs, calcareous fens, alkaline fens, alluvial woods, Desmoullin's whorl snail, otter, fen orchid, Little ramshorn whirlpool snail, aggregations of breeding and non-breeding birds, ditches, invertebrate assemblages, vascular plant assemblage, wet woodland, wetland invertebrate and plant assemblage, floodplain alder woodland and fen, bewick's swan, bittern, gadwall, hen harrier, marsh harrier, ruff, shoveler, whooper swan, wigeon.	No – hydrologically disconnected by the River Waveney
Breydon Water SPA, RAMSAR	Approx 9.9 km north	Bewick's swan, lapwing, avocet, common tern, golden plover, ruff and wintering waterbird assemblage.	No – hydrologically disconnected by the River Waveney

2.9 Domestic Drinking Water Sources

It was identified from the active landfill permit (EPR/BP3032SG/V008) issued in July 2018, sourced from the EA and summarised in Section 3, that annual monitoring is required as part of the active landfill permit for three properties with domestic drinking water sources. The properties identified are College Farm, East End Farm and Marsh Cottage. The properties are all located approximately 250 m south of the Site. The monitoring point which is annually tested is reported as being within 1 km of the Site.

3 PREVIOUS REPORTS

3.1 Introduction

This section provides a review of any information that may be relevant to the Development, in particular, relating to the hydrological, hydrogeological and geological conditions of the area surrounding the development. These are provided for reference in Appendices B and C.

3.1.1 Aldeby Landfill Planning Application and Supporting Statement – Variation of Condition 1 (time limit) attached to planning permission reference (C/7/2007/7004) – PDE Consulting Limited on behalf of Waste Recycling Group Limited, March 2012

The application submitted sought to amend Condition 1 to extend the timescale for the landfilling and restoration obligations at the Site to July 2018. This amendment was due to an overall reduction in volume of waste sent to landfill which reduced the applicant's ability to complete restoration in the original timescale.

Information included in the application states that the site has historically been used for mineral extraction, waste landfilling and phased restoration with associated ancillary operations. The Site comprises two vehicle maintenance buildings and an existing landfill gas management facility. Access is from Common Road with a purpose-built haul road which links the site entrance to Rectory Road and the A143.

The application states the planning history of Aldeby Quarry and Landfill site commenced in the 1950s when extraction of sand and gravel was undertaken. This was followed by progressive landfilling and restoration. The earliest known planning permission related to waste disposal was granted planning permission in June 1987 by the Council. The restoration of the quarry through landfilling was permitted by the Council in July 1996.

The extension of the original timescale by six years was considered by the Applicant to be sufficient to allow the completion of restoration of the Site with negligible additional impact upon the surrounding environment or local residents.

3.1.2 Aldeby Gas Utilisation Plant – PPC Permit No. BP3032SG – Environment Agency (EA), August 2005

A permit was issued by the EA in August 2005 under Pollution Prevention and Control (PPC Regulations) to authorise works of a gas utilisation scheme at Aldeby landfill. Works permitted include combustion activities, flaring of landfill gas and storage of lubricating oils. These works involve the combustion of landfill gas in two single spark ignition engines. All combustion gases are vented to atmosphere via stacks located on each gas engine and a flare stack which is used when required. The Aldeby Gas Utilisation Plant is supported by facilities at Aldeby landfill. These include the landfill gas collection system and the return of condensate and liquid process effluent to the landfill site leachate system. All emissions are emitted to air from the stacks.

The permit states the site's underlying geology is a major aquifer with soils of high leaching potential. The aquifer is overlain by thick clay strata, then sands and silts, which are then overlain by a minor aquifer of marine sands and gravels (Aldeby and Corton sands).

The permit states no emission from the Permitted Installation shall be made of any List I or List II substances (as defined in the Groundwater Regulations 1998) to groundwater. For substances other than those in List I or List II the Operator shall use Best Available Techniques (BAT) or where not practicable will reduce emissions to groundwater. BAT will also be used to prevent or reduce fugitive emissions of substances to water (other than groundwater) and sewer. Facilities for all storage and handling of waste shall be designed, maintained and operated to prevent releases to water or land. An emissions monitoring

programme will be implemented and the results assessed. The operator should notify the EA of any detection of substance emission, fugitive emission, accident or malfunction that may cause significant pollution. The site closure plan will be implemented on the termination or decommissioning of the permitted activities.

3.1.3 Aldeby Landfill and Aldeby Gas Utilisation Plant – PPC Permit No. BP3032SG – Variation and Consolidation Notices– Environment Agency (EA), December 2008 to July 2018

Variation notice HP3638X for Permit No. BP3032SG dated December 2008, details the addition of a third landfill gas engine and flare, increasing the sites overall rated thermal input and additional air emissions.

Variation notice EPR/BP3032SG/C003 dated February 2010 details the replacement of environmental permits A and B for the gas utilisation plant and landfill respectively with a consolidated environmental permit. The variation notice principally relates to Aldeby landfill and the authorisation of its operation in accordance with Environmental Permitting Regulations 2007 and Landfill Directive (99/31/EC). As detailed in the permit, the landfill comprises an active area of 15 cells (Cells 4a to 14) and a closed area (Cells 1 to 3). The varied permit authorises construction of interface lining system over parts of Cells 1 to 3 above which waste will be deposited in Cells 11 to 14. The landfill is classified as a non-hazardous installation. Leachate is collected and delivered by pipeline to a leachate storage tank for removal off-site by tanker or for re-circulation on site. Surface water is collected across the site by ditches into a soakaway lagoon in the south-west corner of the site. Landfill gas is collected and combusted in the gas utilisation plant. The facility is within a rural setting, with the report noting that three SSSIs located are within 2 km. The operator is required to undertake monitoring of emissions to land, surface water and groundwater to minimise impacts.

In September 2010, a variation notice was issued to delete a condition that had been mistakenly been included in the previous variation and consolidation notice. This condition was that groundwater trigger levels should be reviewed annually and would result in the implementation of revised groundwater monitoring plans. A variation notice was issued in May 2013, detailing the updates by the Environmental Permitting (England and Wales) (Amendment) Regulations 2013 to reflect the implementation of the Industrial Emissions Directive into England and Wales. In October 2013 the permit was varied by the EA to add additional waste codes for restoration purposes to the list of permitted wastes accepted.

In December 2015 a varied and consolidated permit (EPR/BP3032SG/V007) was issued in the modern condition format. This related to the addition of standard condition for landfill gas management, changing hydrogeological risk assessment condition so reviews were undertaken every six years rather than four, including standard leachate and groundwater quality monitoring tables and a standard reporting table.

A varied permit was issued in July 2018 for table S3.6 Groundwater which has been amended to accommodate a previously agreed monitoring point. The point corresponds to domestic drinking water sources situated within 1 km of the site. These sources are College Farm, East End Farm and Marsh Cottage. The variation application EPR/BP3032SG/V008 details the monitoring frequency for emissions at the site, including annual testing of the domestic drinking water sources within 1 km of the site.

3.1.4 Aldeby Solar Park – Flood Risk Assessment (FRA) – Arcus Consultancy Services Ltd, March 2021

A FRA of the Solar Park Development was undertaken by Arcus Consulting in March 2021. As the Site is located within a Flood Zone (FZ) 1 it is described as having a 'low probability' of flooding, with less than 1 in 1,000 annual probability of river or sea flooding in any year.

The EA 'Long Term Flood Risk Maps' indicate the Site to be at 'Very Low' risk of fluvial flooding, defined as an area with a chance of flooding of less than 0.1%.

A land drain is located to the south of the Site, flowing in a westerly direction before discharging into an attenuation lagoon to the south-west. The EA 'Risk of Flooding from Surface Water Map' indicates there are no flood waters at the Site which issue from the drainage network. As a result, the fluvial flood risk at the site is considered to be Negligible.

The Site was indicated to be at 'medium' risk of pluvial flooding with the EA Risk of Flooding from Surface Water Map. The proposed solar farm access track to the west of the Site is at risk of pluvial flooding to maximum depths of 1.2 m and isolated areas to the north of the Site to depths of 900 mm. Sensitive infrastructure is located in an area with no modelled pluvial depths. PV arrays are located in the isolated areas to 900 mm pluvial flooding. The electrical connections on the PV arrays are on the upper edge of panels and well above ground level and would still function if areas of the Site were underwater following an extreme rainfall event. A borehole record of the Site shows clay and gravel stratum overlain by sand present to depths of 36 m. Given the low permeability of bedrock, flooding as a result of groundwater fluctuations is considered unlikely and the risk considered Negligible.

Arcus state that the site is relatively well drained by clay dominated soils. They state that the proposed Development will utilise the network of existing tracks where possible, limiting the requirement for new hardstanding. Type 2 aggregate used for any new access tracks will be permeable. PV arrays have the potential to concentrate rainfall under the drip line. The use of vegetation under the drip line will reduce the potential for surface water run-off rates to increase at the Site.

The existing perimeter swale will be retained and is considered to intercept surface water runoff from the Site. Following construction of the Development, surface water will be appropriately managed through use of existing swales and the implementation of a drainage strategy which will be maintained by the solar farm operators.

4 CONSULTATION

4.1 Introduction

An Environmental Statement was submitted as part of the planning application for the Development in March 2021. The planning application also included a Planning, Design and Access Statement which included an Ecological Impact Assessment (EcIA), Flood Risk Assessment (FRA), Transport Statement and Glint and Glare Assessment in addition to Planning Drawings 1-9. A response to the application was received from the Council in April 2021 which request, in accordance with Regulation 18(3)(b) and (c) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'), that a Hydrological/Hydrogeological Risk Assessment be submitted as part of the EIA to assess the impact of the Development on groundwater and surface water quality. This was required due to the location of the Development on the dilute and disperse unlined part of the landfill site.

4.2 Local Authority

No formal consultation has been carried out with the local council Contaminated Land Officer (CLO) or the Minerals and Waste Planning Team.

4.3 Environment Agency

The EA was contacted on the 17th May 2021 for information relating to historical permits at Aldeby Landfill and any other information relating to groundwater monitoring data. An email response was received the same day with the installation licenses attached. The versions of installation licenses are summarised in Section 3 and the latest version attached in Appendix B.

4.4 The Applicant

The Applicant was consulted on the outline solar panel foundation design. Further information regarding the two different design options for the solar panel foundations were provided. In addition, the Applicant provided the FCC's action plan detailing ongoing groundwater and surface water monitoring at Aldeby Landfill. Information was also provided by the Applicant on the 18th May from FCC with further details regarding the cap on the dilute and disperse area of Aldeby Landfill which is summarised in Section 2.2.

5 CONCEPTUAL SITE MODEL

5.1 Pre-mitigation Conceptual Site Model

After review of the desk study information and supplementary information sources, development of the conceptual site model was undertaken to identify any potential pollutant linkages.

The pre-mitigation conceptual site model (CSM) comprises three main elements;

- Potential source;
- Potential pathway; and
- Potential receptor

The pre-mitigation CSM is a schematic summary of the environmental processes on a site and its surrounding area, and defines the potentially significant sources and possible pathways through which contaminants can travel and the potential receptors which could ultimately be at risk.

The CSM will consider the existing landfill site in conjunction with the Development and the potential pollutant pathways that may be complete as a result. It does not consider the existing baseline impacts associated with the closed landfill site that are dealt with under the current licencing by the EA.

5.2 Risk Assessment

5.2.1 Potential Sources

The potential sources of pollution in relation to the Development can be split into two groups:

- Existing landfill source which could be altered as a result of the Development; and
- New pollutants relating to the construction and operation of the Development.

The existing sources of pollution at the landfill site comprise the landfill waste stored within a combination of lined cells (within the north of the development site) and unlined cells (dilute and disperse) within the centre and south of the Site. Both areas are capped with the capping depth to be confirmed.

In relation to the Development, the main risks to potential receptors would be from potential pollution sources during the construction works. This may include:

- Potential chemical spills from concrete for ballasted system (although this would be mitigated if the ballasted system was delivered already cast);
- Potential sediment / erosion from construction of hardstanding and solar panels; and
- Potential chemical spills from fuel or chemical storage, refuelling, washing or leakages from plant onsite.

During the operational phases of the site, there is potential for chemical spills in the event of any fire and associated surface water run-off in the event of an emergency.

5.2.2 Potential Pathways

The following potential pathways for pollution or sediment are as follows:

- Leaching of potential pollutants through the landfill cap, unsaturated and saturated zone (permeable superficial and bedrock deposits);
- Creating of new flow pathways as a result of any excavations or foundations that compromise the landfill cap. This may result in new pathways from pollutants to the landfill below, as well as potentially creating pathways for contaminated groundwater or leachate towards the surface; and
- Surface water run-off via overland flow and along drains and other watercourses.

5.2.3 Potential Receptors

The following potential receptors have been identified:

- Surface water – on-site drainage systems which are in hydrological connection to downstream watercourses and designated sites;
- Private Water Supplies within the wider area;
- Groundwater – underlying aquifers which have moderate permeability
- Vegetation and fauna downstream of the Site; and
- Site Users – both construction workers and maintenance staff for the Development and Aldeby Landfill.

5.2.4 Potential Pollutant Pathways

5.2.4.1 Existing Landfill

The Development features strings of solar panels mounted to metal racking which would either use short pile anchor system or ballasted system for foundation.

As shown in 'Solar Array Foundation Design Planning' Drawing 10 there is a minimum EA standoff distance of 300mm required from the bottom of the piles to the underlying geomembrane capping liner which must not be penetrated. Therefore, 800mm is the minimum capping depth of soil above the membrane or clay cap required for the short pile anchor system. The ballasted system is mounted on steel frames that are supported on concrete 'shoes' laid at existing ground level. The size of the concrete 'shoes' and the design of the structure will be determined in forward design stages. In the ballasted system there would be no penetration below ground and no minimum depth of soil above the capping.

Whilst further surveys are in place to confirm the existing landfill capping thickness across the Site for the short pile anchor system, should the landfill cap depth not be sufficient then the ballasted system would be used. Therefore, for either foundation design, the landfill cap will not be compromised and the geomembrane/ clay cap will not be penetrated.

This embedded design mitigation means that the landfill cap design would not be compromised by the development of the landfill and the proposed development would not change or impact the existing conditions relating to the landfill i.e., **no new pathways for pollutants are created with no change in surface water infiltration or drainage**.

5.2.4.2 Construction

A number of potential sources are present during the construction phase such as potential spills from equipment and plant on-site. As there is the potential for leaching of pollutants through the landfill cap or existing drainage system, a number of mitigation measures are required on-site during the construction phase to prevent any pollution potential into the landfill cap, landfill underlying aquifer via migration through the unsaturated zone (see Section 5.3).

In relation to risks to the underlying aquifers, as detailed in Section 2.6.1, boreholes from the BGS GeoIndex map viewer struck groundwater at 2.3m, 12.2m and 14m and two boreholes did not encounter groundwater. The maximum depth the structure system for the solar panels would be 470mm – 500mm, and due to these findings, groundwater is also not considered to be at shallow depth.

In relation to risks to surface water receptors, the closest named surface water body (River Waveney) is recorded to be approximately 685 m from the Development. There are numerous drains present approximately 350 m to the south of the Development. There is also an existing drain within the Site that flows along the eastern and southern boundaries to a surface water lagoon at the south-west of the Site. From the OS Maps the onsite drain

and lagoon are determined not to be hydrologically connected to the River Waveney and its drainage network. With the proposed mitigation and good practice measures proposed, any risk from pollutants to migrate to these receptors via the existing drainage system is minimised.

In relation to drinking water, the site lies within a Drinking Water Protected Area for Surface Water and is noted to be within 1 km of domestic drinking water sources. However, any potential increase in run-off or pollution from the Development will be considered within the mitigation measures and Pollution Prevention Plan.

In relation to vegetation and fauna, whilst there are no receptors on-site, there is the potential for off-site receptors nearby to be impacted by any potential chemicals or sediment pollution migrating off site e.g., to nearby watercourses, however, the mitigation measures below will reduce these risks.

5.2.4.3 Operation

Potential effects associated with the operation of the Development to surface water and groundwater receptors are primarily from the risk of pollution events from minor spills from maintenance vehicles, as well as a risk of a battery fire and pollution event from run-off to watercourses.

The magnitude of effects of the risk of a battery fire is similar during operation as previously discussed for during construction.

5.3 Mitigation

Through the construction and operation of the Development, the risk of potential for pollution and sedimentation to nearby receptors will be minimised through good practice measures, limiting the risk from contamination and prevention of complete pollutant pathways. The mitigation measures proposed should be managed onsite through a Construction Environment Management Plan prior to construction to ensure good practice is adhered to in order to reduce the risk to sensitive receptors.

Mitigation measures are being considered for the following specific construction phase sources:

- Run-off from exposed ground and material stockpiles;
- Run-off from increased hardstanding and solar panels;
- Storage of plant onsite;
- Plant washings / washing areas;
- Fuel and chemical storage / refuelling areas; and
- Leaking / vandalised equipment.

Mitigation for sources of chemical pollution, sediment pollution, impediments to flow and change in interflow patterns and increase in runoff are discussed below, in addition to mitigation for risks to site users.

5.3.1 Chemical Pollution

Potential sources of chemical pollution are likely to be from construction plant and materials onsite. The following mitigation measures will be implemented to prevent chemical pollution:

- Plant onsite should be kept to a minimum as far as practicable during construction works;
- Strategies will be implemented to reduce the number of transport and vehicle movements onsite;
- Plant will be kept in a secure location onsite overnight to prevent leakage and theft or vandalising of plant;

- For any battery storage facilities, the battery storage components would be contained within sealed units with respective inverters. Full details of measures implemented would be provided within the Construction Environmental Management Plan but may also include an automatic fire suppression system with a shut-off mechanism to prevent spread of polluted water. This system would include a valve and bunded area from which contaminated water can be pumped out and removed from the Development;
- An appropriate speed limit will be set for all vehicles onsite;
- All idling vehicles should be switched off;
- No refuelling of plant will take place onsite;
- Maximum vehicle load capacities will not be exceeded;
- Potentially contaminating chemicals will not be stored appropriately in designated areas within the construction compound onsite to prevent any accidental spills;
- All vehicles and plant will be supplied with an appropriately sized spill kit(s) and plant with drip pans to contain minor spills;
- Regular vehicle and plant checks will be conducted (through daily checklists) to ensure minimal potential for fuel or oil leaks to occur; and
- Where maintenance of machinery is required, it will take place offsite if possible. If maintenance is required onsite, it will be conducted on suitable absorbent spill pads with drip pans;
- Construction compounds will have a bunded area underlain by impermeable ground membrane layer. The bunded area will have 110% capacity to attenuate stored liquids; and
- Any concrete pours should be planned and specific procedures adopted in accordance with CIRIA C532.

5.3.2 Sediment Pollution

Site works may include either sinking of steel piles or installation of concrete at ground level. Increase in sediment pollution is likely either due to an increase in run-off from hardstanding and solar panels or sediment produced from construction activities e.g., vehicle and plant movements.

The following mitigation measures will be followed to minimise risk of sediment pollution:

- Maintenance of existing drainage infrastructure;
- Existing access tracks will be used in the design as far as practicable;
- Areas below the solar panel drip line will be reseeded and vegetated;
- If run-off of sediment is observed onsite, measures such as silt fencing and settlement lagoons should be employed;
- Water-assisted dust sweeper(s) may be required at the site entrance and at local roads to remove any material tracked out of site;
- No vehicle washing should take place onsite, with details of where off-site vehicle washing should be carried out; and
- Strategies will be implemented to reduce the number of transport and vehicle movements onsite.

5.3.3 Pollution Prevention Plan

Good practice will be followed in all aspects of construction, operation and decommissioning, specifically through a Pollution Prevention Plan (PPP). This will be incorporated as part of the final Construction Environmental Management Plan (CEMP). This would be approved by the local planning authority in consultation with the EA prior to commencement of the construction phase.

The PPP will set out measures to be employed to avoid or mitigate potential pollution for all phases of the Development, and will also include an Incident Plan to be followed should

a pollution event occur. This plan will be produced following consultation and agreement with EA and all appropriate personnel working on the construction site will be trained in its use. The Construction Project Manager will have specific responsibility for the implementation of the CEMP.

Method statements will also be applied, which will follow the principles laid out in relevant CIRIA guidance and the principles of the Pollution Prevention Guidelines (PPGs).

5.3.4 Risks to Site Users

The following mitigation measures are proposed to limit risks to site users during the construction and operational phases:

- Use of PPE including gloves during construction works to reduce the possibility of any residual dermal contact risk; and
- Should the capping be uncovered to be of insufficient depths for the foundation type used, works should halt to prevent contact with landfill and the foundation type and location of arrays updated.

5.4 Post Mitigation Conceptual Site Model

Based on the potential pollutant sources outlined in Section 5.2.1 with the mitigation measures proposed in Section 5.3, the residual risk to the site is anticipated to be low.

However, consultation should be carried out with FCC prior to construction works to inform and confirm the assumptions made within the conceptual site model in relation to the depth of capping layer at the landfill.

6 CONCLUSION

Following review of the available desk study information and reports, a preliminary hydrogeological assessment has been carried out to establish the potential risks to the Site and surrounding area arising from the Development.

The conceptual site model identified a number of potential sources from both the existing landfill as well as sources from the proposed development construction. A number of sensitive receptors were identified, including hydrological and hydrogeological receptors within the immediate site area, risks to site workers, the water environment, as well as vegetation/fauna within the surrounding site area.

Whilst the landfill cap depth and soil thickness has not been confirmed and is subject to ongoing surveys, the proposed solar panel foundation design will ensure that the landfill cap membrane and clay cap is not compromised and a minimum clearance of 300 mm between the base of the cap/membrane is maintained. As a result, there are no new potential pollutant pathways created as a result of the Development.

As a result of the construction of the Development a number of mitigation measures are proposed to minimise the risks to identified receptors during this phase, primarily through construction phase good practice measures and preventing any complete pollutant linkages being in place.

Subject to the mitigation measures proposed, the Development poses a low risk with respect to contamination to either the Site itself, site users or sensitive receptors in the vicinity.

APPENDIX A – FIGURES

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.

2. DO NOT SCALE FROM THIS DRAWING.

3. ANY ANOMALIES IDENTIFIED WITH THE DETAILS SHOWN ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF FCC ENVIRONMENT (UK) LIMITED PRIOR TO CONSTRUCTION WORKS COMMENCING.

LEGEND:

- Ownership Boundary
- Operational Area
- Proposed Area
- Temporary Capped Area
- Permanently Capped Area
- Construction Area
- Latest Available Ground Contours (100)
- As-built Cell Footprint

Revision:	Date:	Description:	By:	Chk:
-	-	-	-	-
-	-	-	-	-
A	20.03.20	Site survey updated, compressor & workshop added	BS	RH

Reference files:
Information taken from plans:
Site Survey: 601W2267E

FCC Environment (UK) Limited
6 Sidings Court, White Rose Way, Doncaster, DN4 5NU

Site: **ALDEBY**
LANDFILL SITE

Drawing Title: **Annual Site Plan 2020**

Drawn By:	Checked By:	Date:	Scale:	Paper Size:
BS	RH	20.03.20	1:2500	A3

Status:	Revision:	Drawing No:	Plan Number:
FINAL	-	601A368	PLAN 2

Last Saved By: Ben.Stocks Date: 20-Mar-20Plot By:ben.stocks Date: 20-Mar-20

Landscape Setting and Design Features
The Site occupies old established sand and gravel workings on gently rising land above the flood plain of the River Waveney. Surrounding land use is mixed farming (predominantly arable). The settlements of Burgh St. Peter and Aldeby lie to the north.

A pattern of hedgerows divides fields of varying sizes with scattered copses and small woodlands providing a loose structure to the landscape. Natural scrub regeneration has occurred within old gravel workings at Boon's Heath to the east. Mineral workings also lie beyond Common Road to the west of the site, whilst Long Dam Level to the south provides characteristics wide views across the river towards extensive woodlands beyond.

During site restoration, new internal field hedgerow boundaries, boundary planting and a small copse will be established.

Soils and Grading
The Site will be infilled and restored to the levels indicated on the drawing. Owing to an historic shortfall of indigenous soils, restoration will be undertaken using a combination of imported soils and existing stockpiles.

The capping and soil layers will be evenly spread to the following minimum thickness:

Soil forming materials	200mm
Subsoil:	550mm
Upper Protection Layer:	300mm
Synthetic Liner*:	
Lower Protection Layer*:	300mm
Total:	1.35 metres

* A clay cap may be used as an alternative to the synthetic liner and lower protection layer.

Where the copse and hedgerows are proposed above landfill the total soil cover depth over the cap will be increased to a minimum thickness of 1.5metres, where a clay cap is used, to provide for root development of trees and shrubs in accordance with modern guidance.

Imported subsoil and soil forming materials will be screened to remove stone or other deleterious material greater than 75mm and 20mm respectively, prior to placement. Allowance will be made for natural consolidation of the soil layers after placement. As a rule of thumb, 25% may be used for this purpose in dry soil conditions.

Soils will only be placed and spread using low ground pressure machines during periods of dry weather whilst the soils are below their lower plastic limits.

Drainage
A concept surface water drainage scheme is indicated on the plan. Much of this has already been implemented, including a surface water collection point and soak away in the southern sector of the Site.

Seeding
The ecological and amenity value of hedgerows and drainage ditches will be enhanced by the establishment of rough grassland margins. New 3.0m wide margins will receive lower fertility soils (to encourage species diversity) and following grading will be lightly cultivated and sown with British Seed Houses A4 mixture (www.britishseedhouses.com) or similar.

Tree and shrub planting areas will be broadcast sown with Westerwolds rye grass at the rate of 25kg/ha as a nurse crop to encourage recolonisation by herbs and other grasses from dormant and wind-blown seed.

A minimum 10 metre wide margin has been left unplanted around the existing pond to avoid shading of the water surface as the trees mature. This strip, where currently cultivated to the north of the site boundary, has been left to recolonise naturally and will be managed by cutting if necessary to prevent invasion by noxious weeds until desirable herb-rich communities are established.

Agricultural Aftercare
Aftercare will be undertaken in accordance with agreed aftercare strategies.

On completion of each phase or part phase of restoration a detailed management programme will be agreed with the Planning authority. When each field parcel has been restored the individual aftercare schemes will normally be amalgamated to rationalise the aftercare husbandry so that the minimum aftercare period for each field parcel will be five years.

Fencing
All peripheral litter netting will be removed upon restoration of the Site. Woodlands and new hedgerows will be enclosed by stock-proof fencing when adjacent to any actively grazed pasture. It is not anticipated that deer browsing will occur, but should such signs be encountered appropriate protection will be added where necessary.

Tree, Shrub, and Hedgerow Planting
The restoration scheme proposes the re-establishment of hedgerows and field sizes commensurate with current views on modern farming practice and wildlife conservation objectives. Largely native broadleaved species will be used, in structured mixtures including woodland edge and small trees.

Area A has been undertaken on a forestry basis at 2.0m centres. Blocks B to F will also be planted at 2.0m centres. Hedgerows are to be planted in a double staggered row at 0.5m centres (i.e. 4 plants per linear metre) with extra light standard tree species planted at irregular intervals.

Maintenance and replacement of losses undertaken within the aftercare period will accord with good forestry and horticultural practice. Detailed specifications for planting and aftercare will be agreed with the Authority beforehand.

Species Selection
Locally occurring species are included amongst those proposed for use in the restoration scheme, together with pioneer and nurse species which provide improved establishment and early affect. Species will be chosen from the following:

Botanical Name	Common Name
Woodland Areas	
*Alnus glutinosa***	Common Alder
*Alnus incana****	Grey Alder
Sorbus aucuparia	Rowan
Quercus robur	Oak
*Crataegus monogyna***	Hawthorn
*Corylus avellana***	Hazel
*Ilex aquifolium***	Holly
*Acer campestre***	Field Maple

** As understorey and woodland edge species
*** Adjacent to pond
**** Nurse Species

Botanical Name	Common Name
Hedgerows	
Crataegus monogyna	Hawthorn
Corylus avellana	Hazel
Ilex aquifolium	Holly
Acer campestre	Field Maple
*Quercus robur*****	Oak

***** Extra Light Standards

Legend:

- Land Under Applicants Control
- Planning Permission Boundary (Ref: C/7/2012/70008)
- Aldeby Landfill Site Boundary (the Site)
- Existing Post Settlement Restoration Contours (mAOD)
- Proposed Post Settlement Restoration Contours (mAOD)
- Existing Hedgerows and Trees
- Hedgerow Restoration and Hedgerow Trees
- Screen Planting
- Tree and Shrub Belts
- Woodland
- Woodland Planting Outside of the Application Area - Undertaken by the Private landowner
- A — Tree Compartment ID Reference
- Fence and Gate
- Drainage Ditch (with Flow Direction) and Soakaways
- Waterbodies
- Grassland Buffer Verge
- Pasture Grassland
- Property Boundary Marker Post

Revision:	Date:	Description:	By:	Chk:
	.	.	.	.
	.	.		

Reference files:
Information taken from drawing AD702-D1 version 4 dated March 2007 drawn by Brights and Associates.

FCC Environment
FCC Environment (UK) Limited
3 Sidings Court, White Rose Way, Doncaster. DN4 5NU

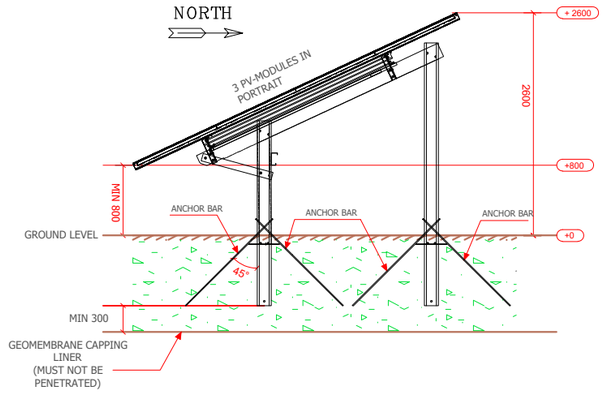
Site:
ALDEBY LANDFILL SITE

Drawing Title:
Final Restoration Masterplan

Drawn By:	Checked By:	Date:	Scale:	Paper Size:
CMC	SH	27th May 2014	1:2000	A2

Status:	Revision:	Plan Number:	Drawing No:
FINAL	-	Plan 7	601R294

OPTION A: SHORT PILE ANCHOR SYSTEM

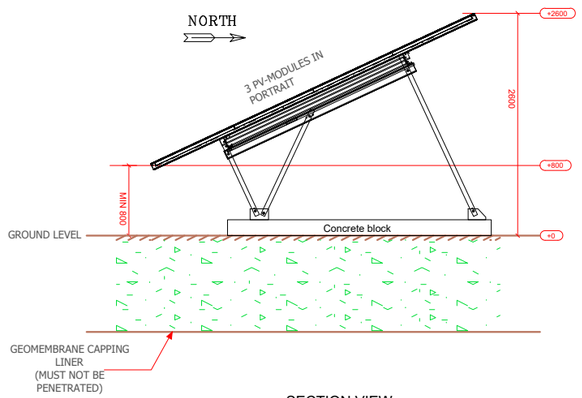


SECTION VIEW

FEATURES:

1. THE SOLAR PANELS WILL BE ATTACHED TO RACKING, WHICH IS SUPPORTED BY STEEL PILES DRIVEN INTO THE GROUND.
2. THE ANCHOR BARS WILL BE INSTALLED THROUGH HOLES IN THE PILES TO INCREASE RESISTANCE TO BOTH UPWARD AND DOWNWARD FORCE. THESE HOLES WILL BE DRILLED TO ACHIEVE A 45 DEGREES ANGLE.
3. THE SIZE OF THE ANCHORS AND THE DETAILED DESIGN OF THE SUPPORT STRUCTURE ITSELF WILL BE SUBJECT TO FORWARD DESIGN STAGES WHEN OTHER STUDIES AND GEOPHYSICAL SURVEYS ARE COMPLETED.

OPTION B: BALLASTED SYSTEM



SECTION VIEW

FEATURES:

1. THE SOLAR PANELS WILL BE MOUNTED ON STEEL FRAMES SUPPORTED ON CONCRETE 'SHOES' THAT ARE LAID AT EXISTING GROUND LEVELS.
2. NO PENETRATION BELOW GROUND.
3. THE SIZE OF THE 'SHOES' AND THE DETAILED DESIGN OF THE SUPPORT STRUCTURE ITSELF WILL BE DETERMINED IN FORWARD DESIGN STAGES.

ARCUS

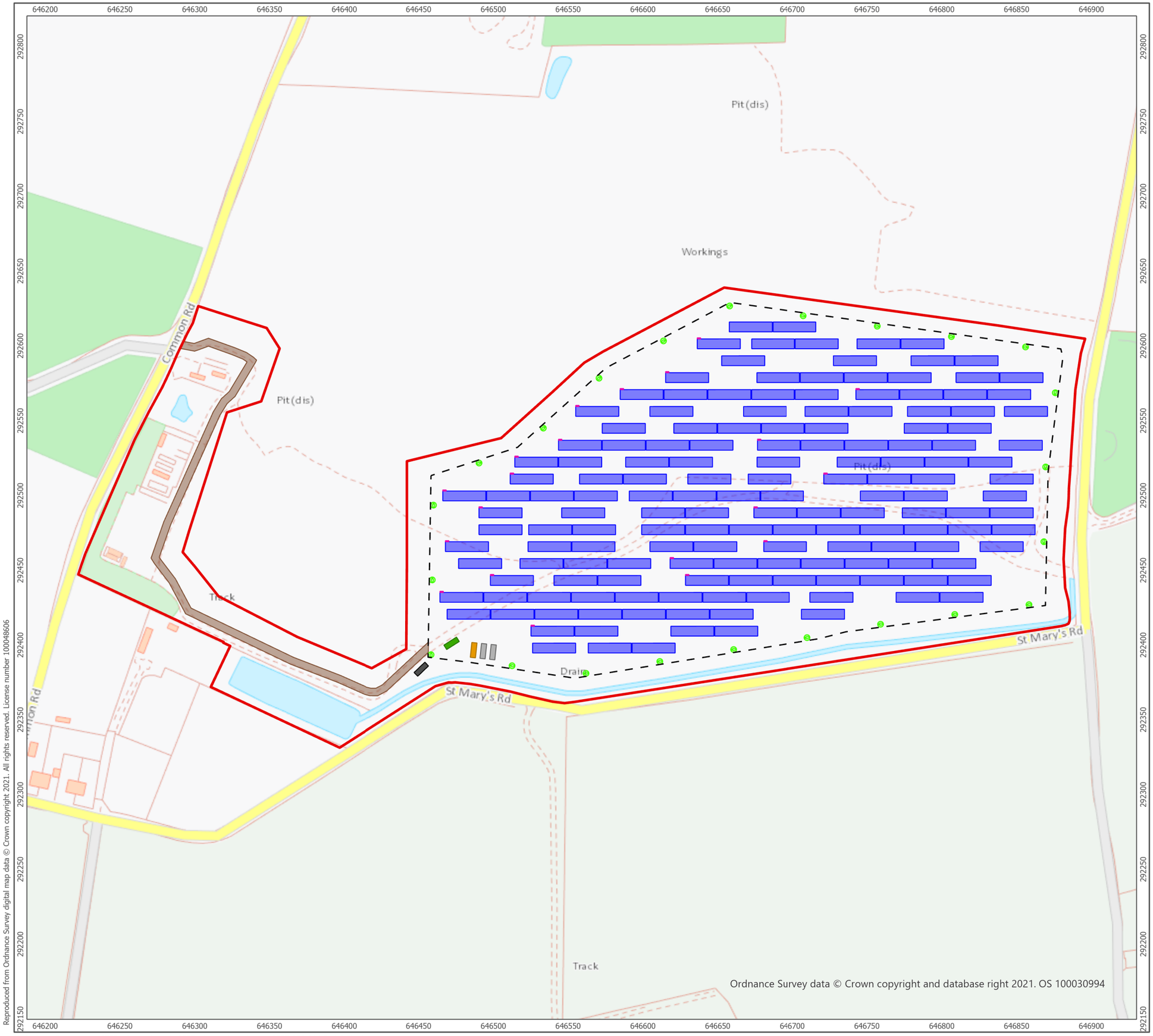
NOTE: DIMENSIONS CORRECT.
DRAWINGS NOT TO SCALE

N

Produced: SR Reviewed: Approved:	Ref: 3546_FIG_REP_0008 Date: 20/04/2021

Solar Array Foundation System
Planning Drawing 10

Planning Application
Ongar Solar Park



ARCUS

- Planning Application Boundary
- Fencing
- PV Array
- Inverter
- Client Side Switching Station
- DNO Switching Station
- Battery Energy Storage System
- General Storage Container
- Access Road
- CCTV

1:2,442 Scale @ A3

0 50 100 m

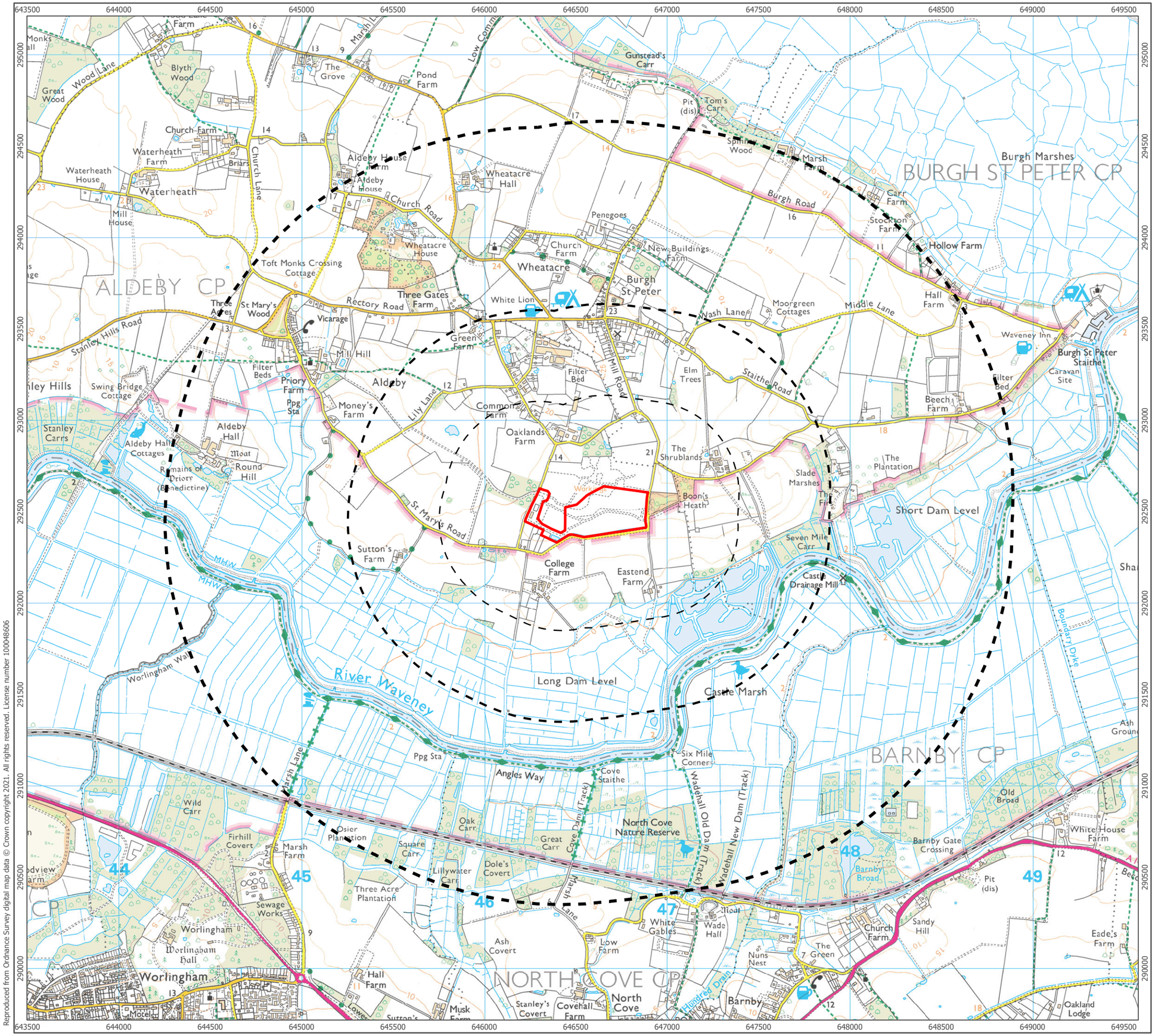
NORTH

Produced By: EL	Ref: 3757-REP-024
Checked By: AnM	Date: 18/05/2021

Site Layout Plan
Figure 1.2

Aldeby Solar Park
Environmental Statement

N:\Projects\Environment\3757 - Aldeby Landfill\3757 - Aldeby Landfill.aprx\3757-REP-024 Fig1.2 Site Layout



N:\Projects\Landscape\Projects\3757 Aldeby Landfill\3757 Aldeby Landfill.aprx\3757-REP-025 Fig4.1 Site Location

ARCUS

Site Boundary

Landscape Study Areas

- 0.5km Study Area
- 1km Study Area
- 2km Study Area

1:20,000 Scale @ A3

0 0.5 1 km

NORTH

Produced By: BM	Ref: 3757-REP-025
Checked By: CH	Date: 06/02/2021

Site Location
Figure 4.1

Aldeby Solar Park
Environmental Statement

APPENDIX B – ENVIRONMENT AGENCY PERMITS

Permit with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

Aldeby Landfill Gas Utilisation Scheme
Aldeby Landfill
Oakland's Gravel Pit
Common Road
Aldeby Nr Beccles
Norfolk
NR34 OBL

Permit number

BP3032SG

Contents

Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Section 1.1A(1)(b)(iii) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

> Section 1.1A(1)(b)(iii) - "Burning any of the following fuels in an appliance with a rated thermal input of 3 megawatts or more but less than 50 megawatts unless the activity is carried out as part of a Part A (2) or B activity "-
>
> (iii) any fuel manufactured from, or comprising, any other waste.

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

In some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to relevant sections of the IPPC Sector guidance, appropriate Horizontal guidance and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows.

This application is for a proposed Gas Utilisation Scheme that will be will be located on Aldeby Landfill (National Grid Reference TM 463 924) and is accessed via the A143 some 3 miles North East of Beccles and 10 miles West of Lowestoft in Norfolk.

Aldeby landfill is situated in a rural area with the River Waveney and associated Long Dam Level located about 1km to the South. The river, which flows East towards Lowestoft, forms the administrative boundary between the counties of Norfolk and Suffolk. The Stationary Technical Unit (STU) is located to the West of the landfill site near the weighbridge and site office. It is at a lower level than the rest of the site and is surrounded by screening bunds. The nearest residential properties are located 225m to the south and 400m to the North.

The underlying geology of the site shows that it is located on a major aquifer with soils of high leeching potential. The aquifer is overlain by a 40m thick clay strata (Eocene clays) this in turn is overlain by strata of sands and silts (Lowestoft Till) these are then overlain by a minor aquifer consisting of layers of marine sands and gravel's (Aldeby and Corton sands).

For this application, the STU is limited to that operated by Anti-Waste Limited at the Aldeby Gas Utilisation Plant. This involves the combustion of landfill gas in two single spark (Jenbacher J320) ignition engines with a combined thermal input of <5 MW and a (2000m3/hr HAASE) landfill gas flare stack when required. All combustion gasses are vented to atmosphere via 7m stacks located on each gas engine and a 10m stack on the flare.

The main process and plant at the Aldeby Gas Utilisation Plant site are supported by facilities from the adjacent Aldeby landfill site, for example, the landfill gas collection system. The condensate from the landfill gas system and any liquid process effluent is collected and returned to the adjacent landfill site leachate system. The waste arisings are mainly as a result of maintenance activities carried out by the maintenance technicians on behalf of Anti-Waste Limited. These wastes will include waste oil scrap metal and empty chemical drums.

A remote site Monitoring (RSM) facility will be installed at the site and will be linked via telemetry to a control room providing 24hr monitoring of the site. The operator has stated that the site will be incorporated and operated in accordance with the accredited ISO14001 management system used at the adjacent Aldeby landfill.

The predominant emissions from this installation are combustion gasses to air from the gas engines and the associated flare stack. There are no other emissions to water, sewer, groundwater or land from this installation.

The Broadlands Special Area of Conservation (which includes numerous Broadlands Special Protection Area sites) is within 5km of the site. There are also three Sites of Special Scientific Interest (SSSI's) within 5km of the site. Due to the limited size of the processes at the installation it is not expected that the installation will have any negative effect on these sites. The application states that, through consultation with English Nature, any effects that the landfill gas utilisation scheme may have on the SAC's were deemed insignificant.

A risk assessment has been undertaken to quantify the emissions from the engines and flare. The assessment is of the potential impacts on off-site receptors. Noise and odour assessments have also been undertaken to investigate the impact of noise/odour on off-site receptors. A site report has been produced to identify activities that may lead to land pollution and the preventative measures that are in place.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Other PPC Permits relating to this installation		
Permit holder	Permit Number	Date of Issue
Not applicable		

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of Issue
Not applicable		

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the Table above.

Other existing Licences/Authorisations/Registrations relating to this site		
Holder	Reference Number	Date of issue
Not applicable		

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.
To give a Notification under Condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Response Date
Application BP3032SG	*Received 28/03/2005*	*N/A*
Response to request for information	*N/A*	*N/A*
Permit determined	*17/08/2005*	

End of Introductory Note.

Permit

Pollution Prevention and Control Regulations 2000

ENVIRONMENT AGENCY

Permit

Permit number
BP3032SG

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), hereby authorises **Anti-Waste Limited** ("the Operator"),

Whose Registered Office (or principal place of business) is
Ground Floor West
900 Pavillion Drive
Northampton Business Park
Common Road
Northamptonshire
NN4 7RG

Company registration number 1569257

to operate an Installation at
Aldeby Gas Utilisation Scheme
Aldeby Landfill
Oakland's Gravel Pit
Common Road
Aldeby Nr Beccles
Norfolk
NR34 OBL

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

Signed	Date

Paul Butler

Waste Permitting Team Leader

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity listed in Schedule 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 1.1A(1)(b)(iii) Combustion Activities	Burning any fuel manufactured from, or compromising, any other waste in an appliance with a rated thermal input of 3 megawatts (MW) or more but less than 50 megawatts.	Receipt of raw materials to emission of combustion products
Associated activity		
Flaring of landfill gas	Flaring of landfill gas during periods when it cannot be utilised by the generation plant e.g. during scheduled maintenance	Landfill gas must be combusted in the flare apparatus to ensure destruction. Limited to periods when the generation plant is unavailable
Storage of lubricating oils	Bulk storage of engine oil	Oil must be stored in the dedicated self bunded tanks.

1.2 Site

1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in red on the Site Plan at Schedule 5 to this Permit.

1.3 Overarching Management Condition

1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

Table 1.4.1: Improvement programme

Reference	Requirement	Date
IP 1	The Operator shall provide to the Agency, in writing: A report detailing proposed methods for gathering sufficient and representative monitoring data for the emissions from the flare and the stacks of the two spark ignition engines that comply with existing guidance (i.e. Guidance for Monitoring Landfill Gas Engine Emissions) for Agency approval. A report detailing the results and conclusions of the monitoring exercise carried out following the monitoring programme approved by the Agency.	01/11/2005
IP 2	Using the data collected from the monitoring programme detailed in IP1 the Operator shall: Assess the air emissions produced by the flare and the stacks of the two spark ignition engines by calculating the long-term and short-term process contributions for the released substances and compare these concentrations against the relevant environmental benchmarks provided in the H1 Guidance and screening tool. Carry out air dispersion modelling for emissions identified as being significant by the H1 screening tool. The results of both of these further studies shall be submitted in writing to the Agency.	01/02/2006
IP 3	The Operator shall establish and maintain a Site Closure Plan and submit a copy to the Agency for approval. The plan shall be maintained to demonstrate that, in its current state, the installation can be decommissioned in a way that avoids any pollution risk and returns the site of operation to a satisfactory state.	10/10/2006

1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.

1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.

1.5.3 When the qualification “unless otherwise agreed in writing” is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.

1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application (and the Site Protection and Monitoring Programme, as the case may be) shall be deemed to be amended.

1.6 Pre-Operational Conditions

1.6.1 There are no pre-operational conditions

1.7 Off-site Conditions

1.7.1 There are no off-site conditions

2 Operating conditions

2.1 In-Process Controls

2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The response to questions 2.1 and 2.2 and given in pages/section13 –20 sections 2.1 and 2.2 of the application	28/03/2005

2.1.2 The Permitted Installation shall, subject to the other conditions of this Permit, be operated using the techniques and in the manner described in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit (as amended from time to time under condition 4.1.8), or as otherwise agreed in writing by the Agency.

2.2 Emissions

2.2.1 Emissions to Air, (including heat, but excluding Odour, Noise or Vibration) from Specified Points

2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the sources specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A1 Exhaust from the gas engine	Gas engine	Point A1 on site plan
A2 Exhaust from the gas engine	Gas engine	Point A2 on site plan
A3 Flare Exhaust from the flare	Gas flare	Point A3 on site plan

2.2.1.3 The limits for emissions to air for the parameters and emission points set out in Table 2.2.2 shall not be exceeded.

Table 2.2.2 : Emission limits to air and monitoring				
Emission point reference	Parameter	Limit (including Reference Period)[1]	Monitoring frequency	Monitoring method
A1	Oxides of Nitrogen (expressed as NO_2)	650 mg/m^3	Annual	ISO 10849: 1996
A1	Carbon Monoxide	1500 mg/m^3	Annual	ISO 12039: 2001
A1	Total Volatile Organic Compounds	1750 mg/m^3	Annual	BS EN 12619: 1999 or BS EN 13526: 2002
A1	Total Non-Methane Volatile Organic Compounds	150 mg/m^3	Annual	BS EN 13649: 2002
A2	Oxides of Nitrogen (expressed as NO_2)	650 mg/m^3	Annual	ISO 10849: 1996
A2	Carbon Monoxide	1500 mg/m^3	Annual	ISO 12039: 2001
A2	Total Volatile Organic Compounds	1750 mg/m^3	Annual	BS EN 12619: 1999 or BS EN 13526: 2002
A2	Total Non-Methane Volatile Organic Compounds	150 mg/m^3	Annual	BS EN 13649: 2002
Flare	Oxides of Nitrogen	150mg/m^3	Annual[Note 2]	ISO 10849: 1996
Flare	Carbon Monoxide	50mg/m^3	Annual[Note 2]	ISO 12039: 2001
Flare	Total Volatile Organic Compounds	10mg/m^3	Annual[Note 2]	BS EN 12619: 1999 or BS EN 13526: 2002
Flare	Total Non-Methane Volatile Organic Compounds	5mg/m^3	Annual[Note 2]	BS EN 13649: 2002

Note 1: See Section 6 for reference conditions
Note 2: Monitoring of flare emissions need only be conducted as per the requirements of Table 2.2.2 if the flare is operational for >10% of the time (on an annual basis). If this is exceeded, the operator shall notify the Agency in writing and provide a date by which the monitoring will be conducted.

2.2.1.4 No condition applies.

2.2.2 Emissions to water (other than groundwater), including heat, from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

2.2.2.2 Conditions 2.2.2.3 - 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 No emission from the Permitted Installation shall be made to water.

2.2.2.4 No condition applies.

2.2.2.5 No condition applies.

2.2.2.6 No condition applies.

Emissions to sewer

2.2.2.7 No emission from the Permitted Installation shall be made to sewer.

2.2.2.8 No condition applies.

2.2.2.9 No condition applies

2.2.2.10 No condition applies.

2.2.3 Emissions to groundwater

2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall use BAT to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, .

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- storage areas
- buildings
- pipes, valves and other transfer systems
- open surfaces

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground
- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

2.2.6.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.7 Emissions to Land

2.2.7.1 This Part 2.2.7 of this Permit shall not apply to emissions to groundwater.

2.2.7.2 No emission from the Permitted installation shall be made to land.

2.2.7.3 No condition applies.

2.2.8 Equivalent Parameters or Technical Measures

2.2.8.1 The Operator shall comply with the requirements specified in Table 2.2.11, which supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations.

Table 2.2.11 Equivalent parameters and technical measures

Parameter or measure	Requirement or description of measure, and frequency if relevant
Landfill gas quality	Full analysis of the constituents of the Landfill gas having regard to Agency Guidance LFTGN 04 September 2004. Sample to be taken after treatment (condensate removal) as close as possible to the inlet point to the engine. Analysis results should be submitted to the Agency on an annual basis beginning from the date of issue of the permit.

2.3 Management (and Fit and Proper Person for Specified Waste Management Activities (SWMAs)).

2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

Training

2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.

2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.

2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:

2.3.6.1 a written or electronic maintenance programme; and

2.3.6.2 records of its maintenance.

Incidents and Complaints

2.3.7 The Operator shall maintain and implement written procedures for:

2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits and if such event occur;

2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and

2.3.7.3 ensuring that detailed records are made of all such actions and investigations.

2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

2.4 Efficient use of raw materials

2.4.1 The Operator shall -

2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;

2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and

2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

2.5.1 The Operator shall design, maintain and operate all facilities for the storage and handling of waste on the Permitted installation such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

2.5.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.6 Waste recovery or disposal

2.6.1 Waste produced at the Permitted Installation shall be:

2.6.1.1 recovered to no lesser extent than described in the Application; and

2.6.1.2 where not recovered, disposed of while avoiding or reducing any impacts on the environment provided always that this is not done in any way that would have a greater effect on the environment than that described in the Application.

2.6.2 The Operator shall maintain the waste recovery or disposal table or description submitted in response to Section 2.6 of the Application and in particular review the available options for waste recovery and disposal for the purposes of complying with condition 2.6.1 above.

2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.

2.7 Energy Efficiency

2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.2.

2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.

2.7.3 The Operator shall design, maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note as from time to time amended. Energy efficiency shall be secured in particular by:

- ensuring that the appropriate operating and maintenance systems are in place;
- ensuring that all plant is adequately insulated to minimise energy loss or gain;
- ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
- employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;

- where building services constitute more than 5% of the total energy consumption of the installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and

maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:

- equipment maintenance, eg. of fans, pumps, motors, conveyors and mobile plant;
- use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
- timing and location of noisy activities and vehicle movements;
- periodic checking of noise emissions, either qualitatively or quantitatively; and
- maintenance of building fabric,

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.10 On-site Monitoring

2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Table 2.2.2, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.

2.10.2 No condition applies.

2.10.3 No condition applies.

2.10.4 No condition applies

2.10.5 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.

2.10.6 The Operator shall maintain records of all monitoring taken or carried out (this includes records of the taking and analysis of samples instrument measurements (periodic and continual), calibrations, examinations, tests and surveys) and any assessment or evaluation made on the basis of such data.

2.10.7 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing.

2.10.8 There shall be provided:

2.10.8.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and

2.10.8.2 safe means of access to other sampling/monitoring points when required by the Agency.

2.10.9 The Operator shall carry out the on-going monitoring identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, unless otherwise agreed in writing by the Agency.

2.10.10 The Operator shall, within 6 months of the issue of this Permit, in accordance with and using the format given in the Land Protection Guidance:

2.10.10.1 collect the site reference data identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, and

2.10.10.2 report that site reference data to the Agency, unless otherwise agreed in writing by the Agency.

2.11 Closure and Decommissioning

2.11.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:-

2.11.1.1 attention to the design of new plant or equipment;

2.11.1.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and

2.11.1.3 the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.

2.11.2 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.

2.11.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.

2.11.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

2.12.1 This is not a multi-Operator installation

2.13 Transfer to effluent treatment plant

2.13.1 No transfer from the Permitted Installation shall be made to effluent treatment plant.

3 Records

3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-

3.1.1 be made available for inspection by the Agency at any reasonable time;

3.1.2 be supplied to the Agency on demand and without charge;

3.1.3 be legible;

3.1.4 be made as soon as reasonably practicable;

3.1.5 indicate any amendments which have been made and shall include the original record wherever possible;

3.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and

3.1.7 where they concern the condition of the site of the Installation or are related to the implementation of the Site Protection and Monitoring Programme, be kept at the Permitted Installation, or other location agreed by the Agency in writing, until all parts of the Permit have been surrendered.

4 Reporting

4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.

4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:-

4.1.2.1 in respect of the parameters and emission points specified in Table S2 to Schedule 2;

4.1.2.2 for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;

4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Tables; and

4.1.2.4 to the Agency within 28 days of the end of the reporting period.

4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 and S4.2 of Schedule 4, assessed at any frequency specified therein, and using the form specified in Table S3 to Schedule 3.

4.1.4 The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.

4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.

4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement.

4.1.7 The Operator shall, within two months of the date of this permit, submit a detailed Site Protection and Monitoring Programme, in accordance with and using the appropriate template format given in the Land Protection Guidance. The Operator shall implement and maintain the Site Protection and Monitoring Programme (SPMP) submitted under condition 4.1.7, and shall carry out regular reviews of it at a minimum frequency of every 2 years. The results of such reviews and any changes made to the SPMP shall be reported to the Agency within [1 month] of the review or change.

5 Notifications

5.1.1 The Operator shall notify the Agency **without delay** of:-

5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;

5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant pollution;

5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution; and

5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.

5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-

5.1.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;

and such information shall be in accordance with that Schedule.

5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-

5.1.3.1 permanent cessation of the operation of part or all of the Permitted Installation;

5.1.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and

5.1.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.1.3.2.

5.1.4 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which adds to that provided to the Agency as part of the Application or to that in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit.

5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-

5.1.5.1 where the Operator is a registered company:-

- any change in the Operator's trading name, registered name or registered office address;
- any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary)
- any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;

5.1.5.2 where the Operator is a corporate body other than a registered company:

- any change in the Operator's name or address;
- any steps taken with a view to the dissolution of the Operator.

5.1.5.3 In any other case: -

- the death of any of the named Operators (where the Operator consists of more than one named individual);
- any change in the Operator's name(s) or address(es);
- 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 them being in a partnership, dissolving the partnership;

5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-

5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement.

5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that agreement.

5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.

5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:-

5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.

5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period.

6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:-

"Application" means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations and any operational change agreed under the conditions of this Permit.

"background concentration" means such concentration of that substance as is present in:

- water supplied to the site; or
- here more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

"BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned." . In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

"Fugitive emission" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"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.

"Land Protection Guidance" means the version of the Agency guidance note "H7 - *Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme",* including its appended templates for data reporting, which is current at the time of issue of the Permit.

"$L_{Aeq,T}$" means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

"$L_{A90,T}$" means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

"L_{AFmax}" means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"Monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"Permitted Installation" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"PPC Regulations" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"Sewer" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"Staff" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"Year" means calendar year ending 31 December.

6.1.2 Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-

6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 5% (Dry gas) dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

6.1.4 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

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 PPC Regulations.

Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place

Measures taken, or intended to be taken, to stop the emission	

Part B

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 or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

*authorised to sign on behalf of Anti-Waste Limited

Schedule 2 - Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins
Oxides of Nitrogen	A1, A2, A3 *Note 1*	Every 12 months	1/08/2006
Carbon Monoxide	A1, A2, A3 *Note 1*	Every 12 months	1/08/2006
Total Volatile Organic Compounds	A1, A2, A3 *Note 1*	Every 12 months	1/08/2006
Total Non-Methane Volatile Organic Compounds	A1, A2, A3 *Note 1*	Every 12 months	1/08/2006

Note 1: Monitoring of flare emissions need only be conducted as per the requirements of Table 2.2.2 if the flare is operational for >10% of the time (on an annual basis). If this is exceeded, the operator shall notify the Agency in writing and provide a date by which the monitoring will be conducted.

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media / parameter	Form Number	Date of Form
Air	A1	
Performance indicators	PI1	

Schedule 4 - Reporting of performance data

Data required to be recorded and reported by Condition 4.1.3. The data should be assessed at the frequency given and reported annually to the Agency.

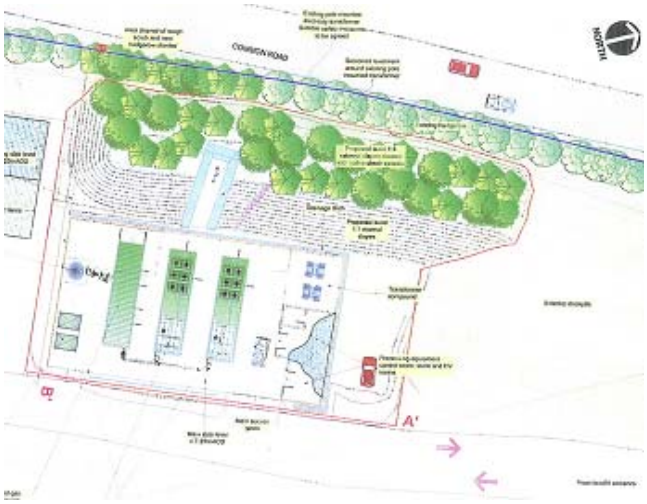
Table S4.1: Annual Production/Treatment	
Volume of land fill gas utilised	Nm^3
Flare operation hours	Hrs
Gas Engine operation hours	Hrs

Table S4.2: Performance parameters			
Parameter		Frequency of assessment	Performance indicator
Total Oxides of nitrogen (expressed as NO_2) emission	Annually	Kg/MWh	
Total Carbon monoxide emission	Annually	Kg/MWh	
Downtime of Landfill Gas Engines	Annually	Downtime (hrs) / Available Operational Time (hrs)	

Data required to be recorded and reported by Condition 2.7.1.

Table S4.1: Energy consumption			
Energy Imported (MWh)	Energy Exported (MWh)	Energy Used on Site (MWh)	Site Efficiency (%)

Schedule 5 - Site Plan



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END OF PERMIT

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Anti-Waste Limited

Aldeby Landfill
Oaklands Gravel Pit
Common Road
Aldeby
Beccles
Suffolk
NR34 0BL

Variation application number

EPR/BP3032SG/V008

Permit number

EPR/BP3032SG

Aldeby Landfill
Permit number EPR/BP3032SG

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

This variation application has amended trigger levels for carbon dioxide in perimeter landfill gas monitoring boreholes in line with the Industry. Code of Practice (ICoP) 'Perimeter Soils Gas Emissions Criteria and Associated Management' published in 2011.

The table S3.6 Groundwater – other monitoring requirements has also been amended to accommodate a previously agreed monitoring point. This point corresponds to the domestic drinking water sources situated within 1km of the site: College Farm, East End Farm and Marsh Cottage.

Aldeby Landfill is located in South Norfolk approximately 2km east of the village of Aldeby and approximately 7km west of Lowestoft. The landfill comprises an active area (previously WML70481) and a closed area (previously WML70451) which no longer accepts waste. The active area will consist of cells 4 to 14 and the closed area comprises cells 1 to 3. The permit authorises the construction of an interface lining system over parts of Cells 1 to 3 above which waste will be deposited in Cells 11, 12, 13 and 14.

Leachate is collected and delivered by pipeline to a leachate storage tank for removal off site via tanker or for re-circulation on site. Surface water is collected from ditches around the whole landfill into a soakaway lagoon in the south-west corner of the site. Landfill gas is collected and combusted in the gas utilisation plant.

The gas utilisation scheme consists of two 1MW Jenbacher landfill gas engines, one 760KW Caterpillar and a HTN Haase Flare. The total thermal input is 7.8MW. All combustion gases are vented to atmosphere via 7m stacks on each engine and a 10m stack on the flare.

The regulated facility is located in a rural setting surrounded by agricultural land which falls to the south towards the River Waveney. Three SSSIs lie within 2 km. The Operator is required to undertake monitoring of emissions to land and to water including groundwater and surface water to ensure that impacts on the environment and human health are minimised.

The schedules specify the changes made to the 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 BP3032SG received (EPR/BP3032SG/A001)	28/03/05	
Permit determined (EPR/BP3032SG)	17/08/05	

Status log of the permit		
Description	**Date**	**Comments**
Variation Application HP3638XA (EPR/BP3032SG/V002)	Duly made 13/02/08	
Variation notice issued	18/12/08	
Variation issued Consolidated permit number EPR/BP3032SG EPR/BP3032SG/V003	26/02/10	
Variation issued EPR/BP3032SG/V004	21/09/10	
Agency variation issued EPR/BP3032SG/V005	14/05/13	Agency variation to implement the changes introduced by IED
Administrative variation issued EPR/BP3032SG/V006	18/10/13	
Environment Agency Landfill Sector Review 2015 Permit reviewed Variation determined EPR/BP3032SG/V007 Permit EPR/BP3032SG (Billing ref: NP3630RS)	01/12/15	Varied and consolidated permit issued in modern condition format.
Application EPR/BP3032SG/V008 (variation)	Duly made 21/03/16	Normal variation to remove CO2 compliance levels and replace with action levels according to ICoP guidelines
Additional information received	21/06/16	Response to schedule 5 notice dated 06/07/16.
Variation determined EPR/BP3032SG (Billing ref: ZP3136RV)	05/07/18	Varied permit issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

Permit number

EPR/BP3032SG

Issued to

Anti-Waste Limited ("the operator")

whose registered office is

Ground Floor West
900 Pavilion Drive
Northampton Business Park
Northampton
NN4 7RG

company registration number **01569257**

to operate a regulated facility at

Aldeby Landfill
Oaklands Gravel Pit
Common Road
Aldeby
Beccles
Suffolk
NR34 0BL

to the extent set out in the schedules.

The notice shall take effect from 05/07/2018

Name	Date
Philip Lamb	**05/07/2018**

Authorised on behalf of the Environment Agency

Schedule 1

The following condition was varied as a result of an Environment Agency initiated variation:

Table S3.3, S3.6, S3.8 and S3.9 as referenced by condition 3.5.1

Schedule 6 Interpretation

The following conditions were varied as a result of the application made by the operator:

Table S1.2 as referenced by condition 2.3.1

Table S3.4 and as referenced by condition 3.5.1

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BP3032SG

This is the consolidated permit referred to in the variation and consolidation notice for application **EPR/BP3032SG/V008** authorising,

Anti-Waste Limited ("the operator"),

whose registered office is

Ground Floor West
900 Pavilion Drive
Northampton Business Park
Northampton
NN4 7RG

company registration number **01569257**

to operate an installation at

Aldeby Landfill
Oaklands Gravel Pit
Common Road
Aldeby
Beccles
Suffolk
NR34 0BL

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

Name	Date
Philip Lamb	**05/07/2018**

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 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.

1.2 Finance

1.2.1 The financial provision for meeting the obligations under this permit shall be as set out in the Deed of Performance dated 17 October 2007 between the Waste Recycling Group Limited (now known as FCC Environment (UK) Limited) and the Environment Agency as varied by a Deed of Variation dated 15 October 2010 (as varied by further Deeds of Variation from time to time). The operator shall accordingly ensure that the Permit is and remains throughout its subsistence a Permit to which the Deed relates and the operator shall produce evidence of such provision whenever required by the Environment Agency.

1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:

(a) the costs of setting up and operating the landfill;

(b) the costs of the financial provision required by condition 1.2.1; and

(c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

1.3.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) Review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) Implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

1.4.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1 The operator shall:

(a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;

(b) review and record at least every four years whether changes to those measures should be made; and

(c) take any further appropriate measures identified by a review.

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 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.

2.3.2 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 or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan , 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.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Landfill Engineering

2.5.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

2.5.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the operator has submitted a cell layout drawing and the Environment Agency has confirmed that it is satisfied with the cell layout drawing.

2.5.3 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by the Environment Agency.

2.5.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.

2.5.5 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

2.5.6 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by the Environment Agency.

2.5.7 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.

2.5.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.5.5 and 2.5.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.

2.5.9 For the purposes of conditions 2.5.1,2.5.2, 2.5.4 and 2.5.5, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

2.5.10 Where the Environment Agency has required further information under condition 2.5.9(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

2.6 Waste acceptance

2.6.1 Wastes shall only be accepted for disposal if:

(a) they are listed in schedule 2, table S2.1 and

(b) they are non- hazardous waste and

(c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm), and

(d) they are not shredded used tyres, and

(e) they are not liquid waste (including waste waters but excluding sludge), and

(f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown, and

(g) all the relevant waste acceptance procedures have been completed, and

(h) they fulfil the relevant waste acceptance criteria, and

(i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and

(j) they are wastes which have been treated, except for: inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment, and

(k) they are wastes with a code beginning with 07 05 and 16 03, they shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.

2.6.2 Wastes shall only be accepted for restoration where:

(a) they are listed in schedule 2, table S2.2 and

(b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.

2.6.3 The operator shall:

(a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and

(b) be satisfied that the waste conforms to the requirements of condition 2.6.1.

2.6.4 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.6.5 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.6.6 The total quantity of waste that shall be deposited or recovered in the landfill shall be limited by the pre-settlement levels shown on drawing ESID-006C Rev B

2.6.7 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1 table S1.4.

2.6.8 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.7 Leachate levels

2.7.1 The limits for the level of leachate listed in schedule 3 table S3.1 shall not be exceeded.

2.8 Closure and aftercare

2.8.1 The operator shall maintain a closure and aftercare management plan.

2.9 Landfill gas management

2.9.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:

(a) collect landfill gas; and

(b) control the migration of landfill gas.

2.9.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 The limits in Schedule 3 shall not be exceeded.

3.1.2 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.2.

3.1.3 The limits given in Table S3.2 shall not be exceeded, save that compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.

3.1.4 The operator shall prevent the input of any hazardous substances from the activities into groundwater.

3.1.5 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:

(a) between nine and six months prior to the fourth anniversary of the granting of the permit, and

(b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.

3.2 Emissions of substances not controlled by emission limits

3.2.1 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.

3.2.2 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 which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 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.

3.4 Noise and vibration

3.4.1 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.

3.4.2 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 which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:

(a) Leachate specified in tables S3.1 and S3.8;

(b) Point source emissions specified in table S3.2;

(c) Groundwater specified in tables S3.3 and S3.6;

(d) Landfill gas specified in tables S3.4, S3.5 and S3.7; and

(e) Surface water specified in table S3.9.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:

(a) annually, and

(b) prior to the disposal of waste in any new cell or new development area of the landfill, and

(c) following closure of the landfill or part of the landfill.

3.6 Pests

3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.6.2 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution hazard or annoyance from pests;

(b) implement the pests 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) the results of groundwater monitoring;

(ii) sub-surface landfill gas monitoring;

(iii) leachate levels, quality and quantities;

(iv) landfill gas generation and collection;

(v) waste types and quantities;

(vi) the specification and as built drawings of the basal, sidewall and capping engineering systems.

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 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 A report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;

(b) the energy consumed at the site, reported in the format set out in schedule 4 table S4.3

(c) the annual production/treatment set out in schedule 4 table S4.2;

(d) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;

(e) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

(f) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;

(g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;

(h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of leachate and landfill gas extraction and all monitoring points.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) using the forms specified in schedule 4 table S4.4 or other reporting format as agreed in writing with the Environment Agency; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 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.

4.2.5 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) in the event of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, 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 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.

4.3.4 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 "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities				
Activity reference	**WFD Annex I and II operations (where applicable)**	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
A1	D5 –Specially engineered landfill; R5 - the recycling or reclamation of inorganic material and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for non-hazardous waste and landfill restoration	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.6, as an integral part of landfilling. Disposal of wastes specified in Schedule 2 Table S2.1 only in Cells 4A to 14, as shown on Drawing ESID-004 (Revision C, 10/09). Disposal of wastes for use in restoration, as specified in Schedule 2 Table S2.2, in Cells 1 to 14 as shown on Drawing ESID-004 (Revision C, 10/09).
Directly Associated Activities				
A2	R1 – use principally as a fuel to generate energy		Utilisation of landfill gas for energy recovery in an appliance with a rated thermal input < 50MW	Utilisation of landfill gas arising from the landfill.
A3	N/A		Temporary storage of waste (leachate)	Leachate arising from the landfill.
A4	N/A		Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill. Limited to periods when the generation plant is available
A5	D6 – release to water body except seas/ oceans		Discharges of site drainage from the landfill.	From surface water management system to point of entry to controlled waters.
A6	N/A		Storage of fuel for operation of plant and equipment.	Fuel storage tank.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application BP3032SG (Aldeby Landfill Gas Utilisation Scheme)	The response to questions 2.1 and 2.2 and given in pages13 –20 in sections 2.1 and 2.2 of the application Section 2.6 regarding waste recovery and disposal	28/03/05
Site Protection and Monitoring Programme (in response to Condition 4.1.7 of BP3032SG)	All	01/06
Variation HP3638XA (Aldeby Landfill Gas Utilisation Scheme)	All	29/01/08
Additional Information to Support Permit Application (Aldeby Landfill)	Form: EPA – Application for an environmental permit – Part A Form: EPB – Application for an environmental permit – Part B Excluding the following: - Reference in Table 7 'Emission in accordance with Discharge Consent Ref. 7/34/19/G/1' - Appendix 5D 'List of Proposed Non Haz Waste Types to be Accepted at Aldeby Landfill' and 'List of Waste Types to be Accepted for Use in Restoration at Aldeby Landfill' Form: EPF – Application for an environmental permit – Part F Non Technical Summary Excluding the following: - Appendix ESID 3 ('List of Proposed Non Haz Waste Types to be Accepted at Aldeby Landfill' and 'List of Waste Types to be Accepted for Use in Restoration at Aldeby Landfill') of Non Technical Summary Appendix 1 (Environmental Setting and Installation Design) - Tables A3 and A4 of Appendix 6 (H1 Environmental Risk Assessment) - Table NHRA2 of Appendix 5 (Revised Risk Assessment for Nuisance and Health Issues)	13/02/09
Response to request for additional information dated 30/06/09	Drawings ESID1 and ESID3 (question 18)	06/08/09
Response to request for additional information dated 28/08/09	Tables A3 and A4 of H1 Environment Risk Assessment (question 5) Description of the leachate storage area (question 6) Confirmation of the frequency of inspection of the leachate storage area (question 7) WAMITAB certificate (question 8) Confirmation that a post conviction plan has been approved (question 9) Drawings ESID2 and Drawings ESID5 to ESID13 (question 11) Table NHRA2 (question 17) List of permitted wastes (question 18) Confirmation that waste disposal will only take place in those areas of the landfill for which there is planning permission (question 19)	11/09/09

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
	Drawings ESID2 and Drawings ESID5 to ESID13 (question 11) Table NHRA2 (question 17) List of permitted wastes (question 18) Confirmation that waste disposal will only take place in those areas of the landfill for which there is planning permission (question 19)	
Response to request for additional information dated 06/10/09	'List of Waste Types to be a Accepted for Use in Restoration at Aldeby Landfill' (question 1) Appendix HRA5 'Closed Landfill' of Non Technical Summary Appendix 2 (Hydrogeological Risk Assessment) (question 3)	06/10/09
	Drawing ESID4 (revision C, dated 10/09)	09/10/09
Response to request for additional information dated 27/11/09	All of email sent at 09.03 regarding background gas monitoring data and references for leachate infrastructure	01/12/09
Response to request for additional information dated 12/01/10	All of email sent at 12:05 regarding in waste gas monitoring	15/01/10
Response to request for additional information dated 26/02/10	All of email sent at 12.04 confirming operation in accordance with relevant guidance detailed in Agency email sent at 11.08 on 26/02/10	26/02/10
Response to IC1 regarding leachate, GW and LFG compliance breach actions	Document titled 'IC1 Trigger Breach Action Plans V2" attached to email dated 22/7/10. Agency confirmed agreement 10/8/10.	22/07/10
Response to IC2 regarding monitoring procedures for LFG infrastructure	Document titled 'IC2 Ammended 07.03.2011' attached to email dated 7/3/11. Agency confirmed agreement 22/3/11.	07/03/11
Response to IC4 updated leachate infrastructure plan	Document titled 'Leachate Plan IC4' attached to email dated 19/04/10. Agency confirmed agreement 10/08/10.	19/04/10
Response to IC9 Southern Perimeter drain engineering	Document titled 'Aldeby Surface Water Ditch Installation Spec' attached to email dated 13/12/10.	13/12/10
Surface Water Plan	Drawing ALD-SWP-01 attached to email dated 26/08/10	26/08/10
Response to pre-operational condition 1	Document titled 'Pre-op Condition 1 as issued', attached to email dated 25/10/10.	25/10/10
Response to pre-operational condition 3	Document titled 'Pre-op Condition 3 as issued' and 'D126953_ALD_002A' attached to email dated 15/03/11.	15/03/11
Restoration submission	Document titled 'Method statement for ameliorant use at Aldeby Landfill – February 2014' attached to email from Mark Pailing dated 21/2/14.	21/02/14

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Restoration submission	Email and all documents attached to it (titled, 'Soil Reconciliation Calcs', 'Soils for restoration assessment procedures for FCC' and Organics Assessment Procedure Ext') received 3/04/14 (Waste acceptance criteria and procedures)	03/04/14
Revised GW trigger levels	Document titled 'Groundwater trigger review May 2013' attached to email from R Bennett dated 5/9/13.	05/9/13
Odour Management Plan	Document titled 'Aldeby – Odour Management Plan September 2014 Version 2' attached to email dated 19/9/14. Agency approved 2/10/14.	19/09/14
Landfill Gas Management Plan	Landfill Gas Management Plan May 2015 Ref EMS-4-13.08-Aldeby. Attached to email from R Bennett dated 29/5/15.	29/5/15
Landfill Leachate Management Plan	Landfill Leachate Management Plan May 2015. Attached to email from R Bennett dated 29/5/15.	29/5/15
Application variation EPR/BP3032SG/V008	Application forms C2 and C3 and referenced supporting information	23/03/16
Response to Schedule 5 notice. Application variation EPR/BP3032SG/V008	Aldeby Gas Management Plan	/03/18

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
1	Submit a written report to the Environment Agency for approval. The report must contain proposals for managing surface water and a programme of monitoring for discharges to controlled waters. The monitoring programme must include - a suite of substances to be monitored which includes Hazardous (formally 'List I') substances - emission limits for discharges to controlled water - actions that will be taken following the breach of an emission limit The report should be supported by drawings which clearly show the proposed surface water scheme and discharge point(s). The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plans. You must implement the proposals from the date as approved by the Environment Agency.	Completed
2	The Operator shall submit to the Environment Agency in writing for approval a proposed annual tonnage limit for restoration wastes (as detailed in table S2.2).	Completed

Table S1.4 Annual waste input limits	
Category	**Limit Tonnes/ Year**
Non-hazardous waste	201,760
Waste for restoration	35,000

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
01	**Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 01	**wastes from mineral excavation**
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03	**wastes from physical and chemical processing of metalliferous minerals**
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 10
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 05	**drilling muds and other drilling wastes**
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing**
02 01	**wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 03	**wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 04	**wastes from sugar processing**
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
02 05	**wastes from the dairy products industry**
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	**wastes from the baking and confectionery industry**
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 01	**wastes from wood processing and the production of panels and furniture**
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 01	waste bark and wood

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	de-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	**Wastes from the leather, fur and textile industries**
04 01	**wastes from the leather and fur industry**
04 01 01	fleshings and lime split wastes
04 01 02	liming waste
04 01 06	sludges, in particular from on-site effluent treatment containing chromium
04 01 07	sludges, in particular from on-site effluent treatment free of chromium
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	wastes from dressing and finishing
04 02	**wastes from the textile industry**
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 15	wastes from finishing other than those mentioned in 04 02 14
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
05	**Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal**
05 01	**wastes from petroleum refining**
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
05 01 16	sulphur-containing wastes from petroleum desulphurisation
05 01 17	bitumen
05 06	**wastes from the pyrolytic treatment of coal**
05 06 04	waste from cooling columns
05 07	**wastes from natural gas purification and transportation**
05 07 02	wastes containing sulphur

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
06	**Wastes from inorganic chemical processes**
06 03	**wastes from the MFSU of salts and metallic oxides**
06 03 14	solid salts other than those mentioned in 06 03 11 and 06 03 13
06 03 16	metallic oxides other than those mentioned in 06 03 15
06 05	**sludges from on-site effluent treatment**
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
06 06	**wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes**
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02
06 09	**wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes**
06 09 02	phosphorous slag
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 11	**wastes from the manufacture of inorganic pigments and opacificiers**
06 11 01	calcium-based reaction wastes from titanium dioxide production
06 13	**wastes from inorganic chemical processes not otherwise specified**
06 13 03	carbon black
07	**Wastes from organic chemical processes**
07 01	**wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
07 02	**wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 13	waste plastic
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 17	wastes containing silicones other than those mentioned in 07 02 16
07 03	**wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 04	**wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 05	**wastes from the MFSU of pharmaceuticals**
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	solid wastes other than those mentioned in 07 05 13
07 06	**wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 07	**wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
08	**Wastes from the manufacture, formulation, supply and use (mfsu) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks**
08 01	**wastes from MFSU and removal of paint and varnish**
08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17
08 02	**wastes from MFSU of other coatings (including ceramic materials)**
08 02 01	waste coating powders
08 02 02	aqueous sludges containing ceramic materials
08 03	**wastes from MFSU of printing inks**
08 03 07	aqueous sludges containing ink
08 03 13	waste ink other than those mentioned in 08 03 12
08 03 15	ink sludges other than those mentioned in 08 03 14
08 03 18	waste printing toner other than those mentioned in 08 03 17
08 04	**wastes from MFSU of adhesives and sealants (including waterproofing products)**
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
09	**Wastes from the photographic industry**
09 01	**wastes from the photographic industry**
09 01 08	photographic film and paper free of silver or silver compounds
09 01 10	single-use cameras without batteries
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
10	**Wastes from thermal processes**
10 01	**wastes from power stations and other combustion plants (except 19)**
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
10 01 24	sands from fluidised beds
10 01 25	wastes from fuel storage and preparation of coal-fired power plants
10 01 26	wastes from cooling-water treatment
10 02	**wastes from the iron and steel industry**
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other sludges and filter cakes
10 03	**wastes from aluminium thermal metallurgy**
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 20	flue-gas dust other than those mentioned in 10 03 19
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 04	**wastes from lead thermal metallurgy**
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09
10 05	**wastes from zinc thermal metallurgy**
10 05 01	slags from primary and secondary production
10 05 04	other particulates and dust
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06	**wastes from copper thermal metallurgy**
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 04	other particulates and dust
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
10 07	**wastes from silver, gold and platinum thermal metallurgy**
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 04	other particulates and dust
10 07 05	sludges and filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
10 08	**wastes from other non-ferrous thermal metallurgy**
10 08 04	particulates and dust
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 16	flue-gas dust other than those mentioned in 10 08 15
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
10 09	**wastes from casting of ferrous pieces**
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
10 10	**wastes from casting of non-ferrous pieces**
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
10 11	**wastes from manufacture of glass and glass products**
10 11 03	waste glass-based fibrous materials

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
10 11 05	particulates and dust
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
10 12	**wastes from manufacture of ceramic goods, bricks, tiles and construction products**
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust
10 12 05	sludges and filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 12 13	sludge from on-site effluent treatment
10 13	**wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)
10 13 07	sludges and filter cakes from gas treatment
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14	waste concrete and concrete sludge
11	**Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy**
11 01	**wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising)**
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09
11 01 14	degreasing wastes other than those mentioned in 11 01 13
11 02	**wastes from non-ferrous hydrometallurgical processes**
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
11 05	**wastes from hot galvanising processes**
11 05 02	zinc ash
12	**Wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 02	ferrous metal dust and particles
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 13	welding wastes
12 01 15	machining sludges other than those mentioned in 12 01 14
12 01 17	waste blasting material other than those mentioned in 12 01 16
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20
15	**Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 09	textile packaging
15 02	**absorbents, filter materials, wiping cloths and protective clothing**
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	**Wastes not otherwise specified in the list**
16 01	**end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)**
16 01 03	end-of-life tyres
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 19	plastic
16 01 20	glass
16 03	**off-specification batches and unused products**
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
16 08	**spent catalysts**
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 11	**waste linings and refractories**
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
17	**Wastes from construction and demolition wastes (including excavated soil from contaminated sites)**
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 other than those mentioned in 17 01 06
17 02	**wood, glass and plastic**
17 02 01	wood
17 02 03	plastic
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 04	**metals (including their alloys)**
17 04 11	cables other than those mentioned in 17 04 10
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 06	**insulation materials and asbestos-containing construction materials**
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 09	**other construction and demolition wastes**
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
18	**Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection(for example dressings, plaster casts, linen, disposable clothing, diapers)

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 06	chemicals other than those mentioned in 18 02 06
19	**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**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 03	**stabilised/solidified wastes**
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 04	**vitrified waste and wastes from vitrification**
19 04 01	vitrified waste
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 01	screenings
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
19 09	**wastes from the preparation of water intended for human consumption or water for industrial use**
19 09 01	solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 04	spent activated carbon
19 09 05	saturated or spent ion exchange resins
19 09 06	sludges from regeneration of ion exchangers
19 10	**wastes from shredding of metal-containing wastes**
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 11	**wastes from oil regeneration**
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01	paper and cardboard
19 12 04	plastic and rubber
19 12 08	textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
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
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 41	wastes from chimney sweeping

Table S2.1 Permitted waste types and quantities for Cells 4a to 14	
Waste code	**Description**
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
20 03	**other municipal wastes**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Table S2.2 Permitted waste types and quantities for restoration use in Cells 1 to 14	
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 metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing**
02 01	**wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 07	waste from forestry
02 04	**wastes from sugar processing**
02 04 01	soil from cleaning and washing beet
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 01	**wastes from wood processing and the production of panels and furniture**
03 01 01	waste bark and cork
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 01	waste bark and wood
03 03 05	de-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of paper and cardboard
03 03 09	lime mud waste
10	**Wastes from thermal processes**
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)
16	**Wastes not otherwise specified in the list**

Table S2.2 Permitted waste types and quantities for restoration use in Cells 1 to 14	
Waste code	**Description**
16 03	**off-specification batches**
16 03 04	inorganic off-specification batches other than those mentioned in 16 03 03
16 03 06	organic off-specification batches other than those mentioned in 16 03 05
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
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 other than those mentioned in 17 01 06
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 09	**other construction and demolition waste**
17 09 04	mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	**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**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 19	sands from fluidized beds
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar waste
19 05 03	off-specification compost
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 05	sludges from treatment of urban waste water
19 09	**wastes from the preparation of water intended for human consumption or water for industrial use**
19 09 02	sludges from water clarification
19 12	**wastes from the mechanical treatment of waste (e.g. sorting, crushing, compacting, pelletising) not mentioned elsewhere in the list**
19 12 07	wood other than those mentioned in 19 12 06
19 12 09	minerals (e.g. sand, stones)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of waste 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
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**

Table S2.2 Permitted waste types and quantities for restoration use in Cells 1 to 14	
Waste code	**Description**
20 01	**separately collected fractions (except 15 01)**
20 01 38	wood other than that mentioned in 20 01 37
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description Drawing 601M330 dated 11.01.18	**Limit**	**Monitoring frequency**	**Monitoring standard and method**
Operational Cells or Phases (Any cells or phases that do not have a final engineered cap agreed in accordance with the landfill engineering condition, 2.5)			
None	–	–	–
Non Operational Cells or Phases (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.5)			
Leachate compliance and monitoring points Cell 4A: LC4/1R, LC4/2, LM4/1R Cell 4B: LC4/3, LM4/2R Cell 5A: LCP5A/1, LMP5A/1, LMP5A/2 Cell 5B: LCP5B/1, LMP5B/1, LMP5B/2 Cell 6A: LM6/1, Cell 6B: LC6/1, LC6/1AR, LC6/1BR Cell 7A: LCP7A /1R, LMP7A/1,LMP7A/2 Cell 7B: LCP7B/1R, LMP7B/1R, LMP7B/2R Cell 8: LCP8A/1, LMP8A/1 and LMP8A/2 Cell 9: LCP9A/1, LMP9A/1, LMP9A/2 Cell 10: LCP10/1, LMP10/1 and LMP10/2 Cell 11: LCP11/1, LMP11/1, LMP11/2R Cell 13: LCP13/1, LMP13/1R, LMP13/2	3m above cell base	Quarterly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
Cells 1 to 3: 2008/1, 2008/2, 2008/3, LM3/1, LM3/2, LM3/3, LM3/4, LM1, LM2	No limit		

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	**Parameter**	**Source**	**Limit (including unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
Exhausts from gas engines A1 and A2 as shown on the plan in Schedule 7	Oxides of Nitrogen	Gas utilisation plant	650 mg/m^3	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency
	CO		1500 mg/m^3			
	Total VOCs		1750 mg/m^3			
Exhaust from gas engine A4 as shown on the plan in Schedule 7	Oxides of Nitrogen	Gas utilisation plant	500 mg/m^3			
	CO		1400 mg/m^3			
	Total VOCs		1000 mg/m^3			
Flare A3 as shown on the plan in Schedule 7	Oxides of Nitrogen	Landfill Gas Flares	150 mg/m^3	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Monitoring is unnecessary where the flare is active for <10% of the year.
	CO		50 mg/m^3			
	Total VOCs		10 mg/m^3			

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference Drawing 601M330 dated 11.01.18	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
GW16	Ammoniacal nitrogen	6.6 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit
	Chloride	250 mg/l			
	Copper	2 mg/l			

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference Drawing 601M330 dated 11.01.18	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
	Phenol	0.00095 mg/l			(www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	0.23 ug/l			
	Toluene	4 µg/l			
GW17	Ammoniacal nitrogen	20 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	460 mg/l			
	Copper	2 mg/l			
	Phenol	0.0006 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	0.23 ug/l			
	Toluene	4 µg/l			
BH3D	Ammoniacal nitrogen	14.5 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	990 mg/l			
	Copper	2 mg/l			
	Phenol	0.0027 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	8 ug/l			

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference Drawing 601M330 dated 11.01.18	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
	Toluene	4 µg/l			
BH4D	Ammoniacal nitrogen	26.5 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	990 mg/l			
	Copper	2 mg/l			
	Phenol	0.00084 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	2.1 µg/l			
	Toluene	4 µg/l			
BH36D	Ammoniacal nitrogen	9 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	990 mg/l			
	Copper	2 mg/l			
	Phenol	0.00065 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	0.23 µg/l			
	Toluene	4 µg/l			
BHB	Ammoniacal nitrogen	6.6 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit
	Chloride	250 mg/l			
	Copper	2 mg/l			

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference Drawing 601M330 dated 11.01.18	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
	Phenol	0.0005 mg/l			(www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	2.3 µg/l			
	Toluene	4 µg/l			
BHC	Ammoniacal nitrogen	17.42 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	250 mg/l			
	Copper	2 mg/l			
	Phenol	0.00242 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	0.23 ug/l			
	Toluene	4 µg/l			
BHD	Ammoniacal nitrogen	40.8 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	560 mg/l			
	Copper	2 mg/l			
	Phenol	0.0036 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0054 mg/l			
	Mecoprop	2 µg/l			

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference Drawing 601M330 dated 11.01.18	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
	Toluene	4 µg/l			
BHE	Ammoniacal nitrogen	2 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Chloride	250 mg/l			
	Copper	2 mg/l			
	Phenol	0.0007 mg/l			
	Zinc	5 mg/l			
	Cadmium	0.0036 mg/l			
	Mecoprop	0.23 µg/l			
	Toluene	4 µg/l			
Soakaway 1 as detailed on drawing ALP SWP01	pH	No limit	Spot sample	Monthly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Conductivity				
	Chloride				
	Ammoniacal Nitrogen				
	Suspended Solids				
Soakaway 2 as detailed on drawing ALP SWP01	pH	No limit	Spot sample	Monthly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Conductivity				
	Chloride				
	Ammoniacal Nitrogen				
	Suspended Solids				

Table S3.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Drawing 601M330 dated 11.01.18, or such later version agreed in writing with the Agency	**Parameter**	**Limit (**% v/v) **(including units)***	**Monitoring frequency**	**Monitoring standard or method**
BH1ND, BH1NS, GW37S, GW37D, BH2D, BH2S, BH3D, BH3S, BH4D, BH4S, BH5, GM18, GM19D, GM19S, GM20A, GM20D, GM20S, GM21, GM21A, GM22, GM22A, GM23A, GM23D, GM23S, GM24, GM24A, GM25D, GM25S, GM26D, GM26S, GM27D, GM27S, GM28D, GM28S, GM29D, GM29S, GM30D, GM30S, GM31D, GM31S, GM32, GM33, GM34D, GM34S, GMBH35D, GMBH35S, GMBH36D, GMBH36S, GMW06, GMW07, GMW08, GMW09, GMW10, GMW11, GMW12, BHSP1, BHSP2	Methane	1.0	Monthly	As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
BH1ND, BH1NS, GW37S, GW37D, BH2S, BH4D, BH5, GM19D, GM19S, GM20A, GM20D, GM20S, GM21A, GM22A, GM23A, GM24, GM24A, GM25D, GM25S, GM33, GMBH35D, GMBH35S, GMBH36D, GMBH36S, GMW07, GMW11, GMW12	Carbon Dioxide	No limit		
BH2D, BH3D, BH3S, BH4S, GM18, GM21, GM22, GM23D, GM23S, GM26D, GM26S, GM27D, GM27S, GM28D, GM28S, GM29D, GM29S, GM30D, GM30S, GM31D, GM31S, GM32, GM34D, GM34S, GMW06, GMW08, GMW09, GMW10, BHSP1, BHSP2		3.9 above agreed background levels		
BH1ND, BH1NS, GW37S, GW37D, BH2D, BH2S, BH3D, BH3S, BH4D, BH4S, BH5, GM18, GM19D, GM19S, GM20A, GM20D, GM20S, GM21, GM21A, GM22, GM22A, GM23A, GM23D, GM23S, GM24, GM24A, GM25D, GM25S, GM26D, GM26S, GM27D, GM27S, GM28D, GM28S, GM29D, GM29S, GM30D, GM30S, GM31D, GM31S, GM32, GM33, GM34D, GM34S, GMBH35D, GMBH35S, GMBH36D, GMBH36S, GMW06, GMW07, GMW08, GMW09, GMW10, GMW11, GMW12, BHSP1, BHSP2	Oxygen	No limit		
	Atmospheric Pressure	No limit		
	Differential Pressure	No limit		
* The limits specified take account of the agreed background concentrations as detailed in the email to the Environment Agency dated 01/12/09 at 09.03				

Table S3.5 Landfill gas emissions from capped surfaces for cells that have accepted non hazardous biodegradable waste – monitoring requirements			
Monitoring point Ref. /description	**Parameter**	**Monitoring frequency**	**Monitoring Standard or method**
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.5 Landfill gas emissions from capped surfaces for cells that have accepted non hazardous biodegradable waste – monitoring requirements			
Monitoring point Ref. /description	**Parameter**	**Monitoring frequency**	**Monitoring Standard or method**
Temporarily capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Whole site	Total methane emission	As agreed with the Environment Agency	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Uncapped areas	Methane concentration	Every 12 months	As agreed with the Environment Agency based on the wording of revised LFTGN 07 or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.6 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
Up gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances	Annually for first six years of operation	
Down or cross gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
Domestic drinking water sources situated within 1km of the site:	Water level, pH, Chlorides Ammoniacal Nitrogen TOC	Annually	

College Farm, East End Farm and Marsh Cottage	Electrical Conductivity TON Alkalinity, Sodium, Potassium, Calcium, Magnesium, Iron, Manganese, Phosphates Sulphates, COD		
MEPP	Base of monitoring point (mAoD)	Annually	

Table S3.7 Landfill gas – other monitoring requirements

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste gas monitoring boreholes or sealed leachate wells or sacrificial gas extraction system	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly until gas extraction commences	Calibrated handheld monitoring instrument	For cells or phases which have no active gas extraction. Gas extraction system shall be installed and extraction commenced once monitoring shows onset of methane production in waste at a rate that can be sustainably extracted. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.
	Hydrogen sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (version 3, March 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	For cells or phases which have no active gas extraction. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring. Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.7 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Gas flow rate or suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such other frequency as may be agreed in writing with the Environment Agency.	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken. Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertake Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered
Gas collection system at well control valve	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (version 3, March 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.7 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Output to flare or LFG Utilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (version 3, March 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency [or a trace gas characterisation method agreed with the Environment Agency].	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Output to flare or LFG Utilisation Compound	Methane Carbon Dioxide Oxygen Gas flow rate Suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Weekly		Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken.

Table S3.7 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Flare A3 as shown on the plan in Schedule 7	Temperature	As per LFTGN05 (version 2, March 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency.	
A1, A2 & A4 Gas engines, post turbo as shown on the plan in Schedule 7	NOx and CO	Quarterly	In accordance with Appendix C of LFTGN08, (version 2, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	Where monitoring using hand-held, electrochemical equipment indicates an exceedance of the emissions standards specified in Table S3.2, these shall be used as action levels and the operator shall investigate the cause and take appropriate measures to reduce emissions.

Table S3.8 Leachate – other monitoring requirements				
Monitoring point reference or description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Operational Cells or Phases (Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.5)			At leachate compliance point as listed in table S3.1.	

Table S3.8 Leachate – other monitoring requirements				
Monitoring point reference or description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency	None
MEPP	Hazardous substances	Annually		None
MEPP	Depth to base (mAoD)	Annually		None
Non Operational Cells or Phases **(Any cell or phases that have a final engineered cap agreed in accordance with condition 2.5)**				
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese,	Annually		
MEPP	Hazardous substances	Once every four years		None
MEPP	Depth to base (mAoD)	Annually		

Table S3.9 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
MEPP	Ammoniacal nitrogen Chloride Suspended Solids Visual Oil and Grease pH electrical conductivity	Monthly	Spot sample	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data		
Parameter	**Reporting period**	**Period ends**
Leachate and/ or groundwater level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by schedule 3, table S3.2	Every 12 months	31 December
Emission to groundwater As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.5	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.6	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.7 Trace gas monitoring	Every 3 months Every 12 months	31 March, 30 June, 30 September, 31 December 31 December
Other leachate monitoring As specified by schedule 3, table S3.8	Every 12 months	31 December
Other surface water monitoring As specified by schedule 3, table S3.9	Every 12 months	31 December
Meteorological data Landfill Directive, annex III, section 2	Every 12 months	31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2: Annual production/treatment	
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass. Accepted from offsite for treatment at any onsite effluent treatment plant.	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation. Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.7 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year % methane v/v m3 /hr

Table S4.3 Performance Parameters			
Parameter	**Frequency of assessment**	**Annual total**	**Unit**
Energy used (including for leachate treatment)	Annually		MWh of electricity or natural gas

Table S4.4 Reporting Forms		
Media/parameter	**Reporting Format**	**Date of Form**
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Environment Agency	21/08/15
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	21/08/15
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	21/08/15
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	21/08/15
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	21/08/15
Waste Return	Waste Return Form RATS2E	21/08/15
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	21/08/15

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	
Substances(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	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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	
Substances(s) detected	
Concentrations of substances 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.

“annually” means once every year.

“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.

“Background concentration” means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

(a) “Cell layout drawing” means: A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:

(i) the location of the new cell on the site;

(ii) the proposed level (Above Ordnance Datum) of the base of the excavation;

(iii) the proposed finished levels of all containment and leachate drainage layers;

(iv) the positions of leachate management infrastructure; and

(v) the positions of landfill gas infrastructure (if appropriate).

(b) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:

(i) changes to slope length and gradient within the cell;

(ii) new leachate or landfill gas infrastructure construction design;

(iii) slope stability issues such as new basal excavation level; and/or

(iv) depth of waste.

“Construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the New Cell or Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the New Cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;

- “As-built” plans and sections of the works;
- Copies of the site engineer’s daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the New Cell or Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675. Words and expressions used in this permit which are also used in those 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.

“exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“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.

“hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154, schedule 22 and listed in our Hydrogeological risk assessment guidance.

"inert waste" means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater

“Landfill Infrastructure” means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;
- lining within the installation.

within the site.

“LFTGN 05” means Environment Agency Guidance for monitoring enclosed landfill gas flares.

“LFTGN 07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

“LFTGN 08” means Environment Agency Guidance for monitoring landfill gas engines.

“Liquids” means any liquid other than leachate within the engineered landfill containment system.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“M2” means Environment Agency Guidance Monitoring of stack emissions to air.

“medicinal product” means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or their predecessors under the Medicines Act 1968, section 130.

“MEPP” Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

“New Cell” means any new cell, part of a cell or other similar new area of the site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

“No impact” means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

“Pests” means Birds, Vermin and Insects.

“Previous year” means the 12 month period preceding the month the annual report is submitted in.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“Relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Review of the Hydrogeological Risk Assessment” means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

‘Sustainably extracted’ means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be

extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

‘waste code’ - See ‘List of Wastes’.
“WFD” means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste [and repealing certain Directives] – the Waste Framework Directive.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08.

Where the following terms appear in the waste code list in Tables S2.1 they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008;

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘polychlorinated biphenyls and polychlorinated terphenyls’ (‘PCBs’) means PCBs as defined in Article 2(a) of Council Directive 96/59/EC’.
Article 2(a) says that ‘PCBs’ means:

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight;

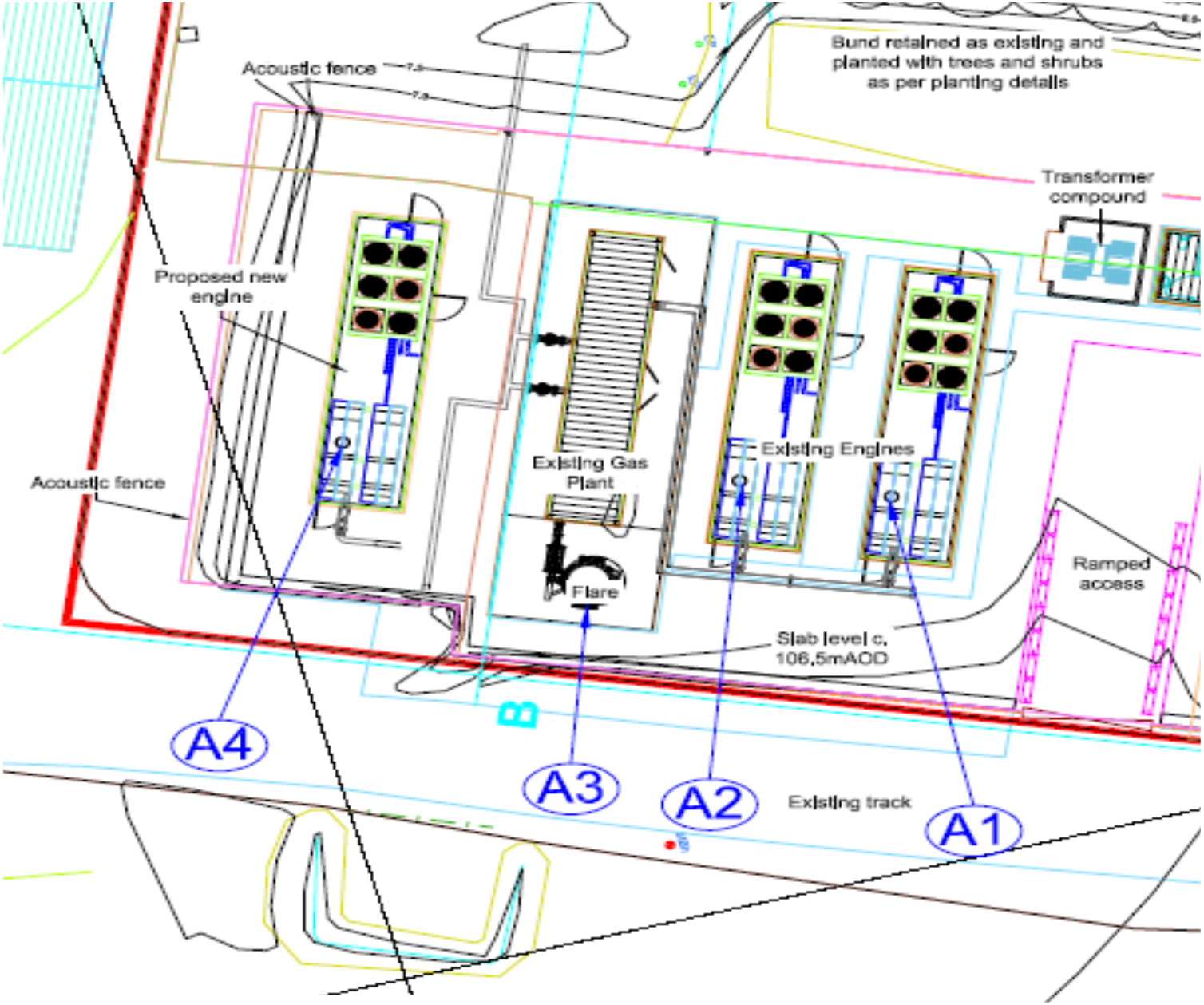
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan



END OF PERMIT

APPENDIX C – ALDEBY LANDFILL PLANNING APPLICATION AND SUPPORTING STATEMENT – VARIATION OF CONDITION 1 (TIME LIMIT) ATTACHED TO PLANNING PERMISSION REFERENCE (C/7/2007/7004)

PLANNING APPLICATION AND SUPPORTING STATEMENT

Variation of condition 1 (time limit) attached to planning permission reference C/7/2007/7004 to allow for the site to be restored in accordance with conditions 2 and 3 by 08 July 2018.

Aldeby Landfill, Aldeby, Nr Beccles, Norfolk

Report prepared on behalf of:
Waste Recycling Group Limited

Report date:
09 March 2012

This Report was prepared by PDE Consulting Limited on behalf of Waste Recycling Group Limited

consulting limited
chartered surveyors

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CONTENTS

I. PLANNING APPLICATION FORMS AND CERTIFICATES

Norfolk County Council
at your service

Application for removal or variation of a condition following grant of planning permission.

Town and Country Planning Act 1990.

Planning (Listed Buildings and Conservation Areas) Act 1990

Publication of planning application on council websites

Please note that with the exception of applicant contact details and Certificates of Ownership, the information provided on this application form and in supporting documents may be published on the council's website.

If you have provided any other information as part of your application which falls within the definition of personal data under the Data Protection Act which you do not wish to be published on the Council's website, please contact the council's planning department.

Please complete using block capitals and black ink.

It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application**.**

1. Applicant Name and Address		
Title: Mr	First Name: Mat	
Last Name: Nicholson		
Company (optional): Waste Recycling Group Limited		
Unit:	House No.	House Suffix:
House Name: Judkins Office		
Address 1: Tuttle Hill		
Address 2: Nuneaton		
Town:		
County: Warwickshire		
Country:		
Postcode: CV10 0HU		

2. Agent Name and Address		
Title: Mr	First Name: John	
Last Name: Snow		
Company PDE Consulting Limited (optional):		
Unit:	House No.	House Suffix:
House Name:		
Address 1: 6 Forbes Business Centre		
Address 2: Kempson Way		
Town: Bury St Edmunds		
County: Suffolk		
Country: United Kingdom		
Postcode: IP32 7AR		

3. Site Address Details		
Please provide the full postal address of the Application site		
Unit:	House No.	House Suffix:
House Name:		
Address 1: Aldeby Landfill Site		
Address 2: Oaklands Gravel Pit		
Address 3:Aldeby		
Town: Nr Beccles		
County: Norfolk		
Country:		
Postcode (optional):		
Description of location or a grid reference (must be completed if postcode is not known): Easting: 646700 Northing: 292700		
Description: Landfill Site		

4. Pre-application Advice
Has assistance or prior advice been sought from the local authority about this application? ☒ Yes ☐ No If yes, please complete the following information about the advice you were given (This will help the authority to deal with this application more efficiently). Please put a cross if the full contact details are not known, and then complete as much as possible: ☐
Officer name: Mr John Bailey
Reference:
Date (Must be pre-application submission)
Details of pre-application advice received? Advised on application requirements.

3. Description of the Proposal
Please provide a description of the approved development as shown on the decision letter, including the application reference number and date of decision in the sections below:
Variation of Condition 2 and 12 of planning permission C/7/94/7029 to alter permitted working of the site and to amend the final restoration scheme to allow an extension to the area of existing landfilling and restoration activities.

Application reference number: C/7/2007/7004 Date of decision (DD/MM/YYYY): 25/05/2007
(Date must be pre-application submission)

Please state the condition number(s) to which this application relates:
Condition number(s):

1.	1	6.	
2.		7.	
3.		8.	
4.		9.	
5.		10.	

Has the building, work or change of use already started?	Yes ☐	No ☒
If yes, please state the date when building, work or use were started (DD/MM/YYYY):		(date must be pre-application submission)
Has the building, work or change of use been Completed?	Yes ☐	No ☐

6. Condition(s)-Removal

Please state why you wish the conditions to be removed or changed:

To allow for an extension in time to complete landfilling and restoration obligations at the site until 08 July 2018

If you wish the existing condition to be changed, please state how you wish the condition to be varied:

'The development to which this permission relates shall cease and the site shall be restored in accordance with conditions 2 and 3 by 8 July 2018.'

7. Certificates

One certificate A,B,C or D must be completed, together with the Agricultural Holdings Certificate with this application form

CERTIFICATE OF OWNERSHIP- CERTIFICATE A

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates.

Signed – Applicant:	Or signed – Agent:	Date (DD/MM/YYYY)

CERTIFICATE OF OWNERSHIP- CERTIFICATE B

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

~~I certify/~~ The applicant certifies that ~~I have/~~the applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land or building to which this application relates.

Name of Owner	Address	Date Notice Served
Mr D Burroughs and Mrs M Vale	Oaklands Farm Common Road Aldeby Beccles Norfolk NR34 0BL	09 March 2012

Signed – Applicant:	Or signed – Agent:	Date (DD/MM/YYYY)
		09 March 2012

CERTIFICATE OF OWNERSHIP- CERTIFICATE C

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/The applicant certifies that:

Neither Certificate A or B can be issued for this application

All reasonable steps have been taken to find out the names and addresses of the other owners *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)*of the land or building, or of a part of it, but I have/the applicant has been unable to do so.

The steps taken were:

Name of Owner	Address	Date Notice Served

Notice of the application has been published in the following newspaper (circulating in the area where the application land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed – Applicant:	Or signed – Agent:	Date (DD/MM/YYYY)

CERTIFICATE OF OWNERSHIP- CERTIFICATE D		
Signed – Applicant:	Or signed – Agent:	Date (DD/MM/YYYY)

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/The applicant certifies that:

Neither Certificate A or B can be issued for this application

All reasonable steps have been taken to find out the names and addresses of the other owners *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)*of the land or building, or of a part of it, but I have/the applicant has been unable to do so.

The steps taken were:

Agricultural Holdings Certificate

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

Agricultural Land Declaration – You must complete either A or B

(A) None of the land to which the application relates is, or is part of, an agricultural holding.

Signed – Applicant:	Or signed – Agent:	Date (DD/MM/YYYY)
		09 March 2012

(B) I have/ The applicant has given the requisite notice to every person other than myself/ the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

Name of Tenant	Address	Date Notice Served

Signed – Applicant:	Or signed – Agent:	Date (DD/MM/YYYY)

8. Planning Application Requirements - Checklist

Please read the following checklist to make sure you have sent all the information in support of the proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

3 copies of a completed and dated application form:	☒	3 copies of other plans and drawings or information necessary to describe the subject of the application:	☒

9. Declaration			
I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.			
Signed – Applicant:	Or signed – Agent: 	Date (DD/MM/YYYY) 09 March 2012	(date cannot be pre-application)

10. Applicant Contact Details – See Agent		
Telephone numbers		
Country Code:	National No.	Extension No.
Country Code:	Mobile No. (optional)	
Email Address (optional):		

11. Agent Contact Details – PDE Consulting Ltd		
Telephone numbers		
Country Code	National No. 01284 764085	Extension No.
Country Code	Fax No. (optional)	
Email Address (optional) : john@pdeconsulting.co.uk		

12. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land?

☒ Yes ☐ No

If the Planning Authority needs to make an appointment to carry out a site visit, whom should they contact? *(please select only one)*

☒ Agent ☐ Applicant ☐ Other (if different from the agent/applicant's details)

If other has been selected, please provide:

Contact name:	Telephone No.
Email Address:	

II. SUPPORTING STATEMENT

1. INTRODUCTION

Summary of the Proposed Development

1.1 This application has been prepared by PDE Consulting Limited as Agent for the Applicant Anti-Waste Limited which is a wholly owned subsidiary of Waste recycling Group Limited (WRG).

1.2 This application is being submitted to Norfolk County Council under Section 73 of the Town and Country Planning Act 1990 to enable development of land without complying with condition 1 of the extant planning consent C/7/2007/7004.

1.3 This application seeks to amend condition 1, of the above referenced consent, to extend the timescale for the continuation of landfilling and restoration obligations at the Site. This application is being made in light of the current difficult market conditions, landfill tax increases and an overall reduction in the volume of waste being sent to landfill all of which have fettered the applicants ability to complete restoration in the timescales originally granted.

The Applicant Company

1.4 WRG own and operate Aldeby Quarry and Landfill site. Operations at the Site have historically included mineral extraction, waste landfilling and phased restoration together with associated ancillary operations.

1.5 WRG is part of Fomento de Construcciones y Contratas (FCC) the Spanish based international construction and services group. WRG provide an integrated waste management and energy recovery solutions to meet national, regional and local requirements. Within the UK the Company accepts circa 13 million tonnes of household, commercial and industrial waste each year. This includes a network of waste transfer and recycling centres and a regional network of landfill sites.

Site Location and Access

1.6 Aldeby Quarry and Landfill Site is located in Norfolk, approximately 2km to the north east of Beccles and approximately 4km from the western edge of Lowestoft. The landfill is located approximately 1.5km to the east and 0.5km to the south of the villages of Aldeby and Burgh St Peter respectively.

1.7 There is an existing compound area in the south west of the Site which comprises two vehicle maintenance buildings and an existing landfill gas management facility operated by Infinis.

1.8 Access to the landfill is gained from Common Road. A purpose built haul route is situated to the west of the access with Common Road. The haul route links the site entrance to Rectory Road and the A143 that runs in a north-south direction between Bury St Edmunds and Great Yarmouth.

1.9 The Application Site comprises the northern half of the historic quarry and landfill site and extends to an area of 13.8 hectares. The boundary of the Application Area, outlined in red, and its relationship to the surrounding land also under the control of the Applicant, can be seen on drawings reference M11.146.01 and M11.146.02.

2. THE CURRENT STATUS OF THE APPLICATION SITE

Planning History

2.1 Aldeby Quarry and Landfill site has an extensive planning history which commenced in the 1950's when sand and gravel reserves were worked at the Site followed by progressive landfilling and restoration. Planning permission has also been sought and gained since that time for various associated ancillary operations, infrastructure and facilities. The earliest known planning permission relating to waste disposal at the site was granted planning permission on 24 June 1987 by Norfolk County Council.

2.2 The historic planning permission of most relevance to the Application Site was granted by Norfolk County Council on 08 July 1996 for the restoration of the quarry through infilling of controlled waste under planning permission reference C/7/94/7029 (Appendix 1).

2.3 More recently planning permission was granted by Norfolk County Council on 25 May 2007 for the variation of Condition 2 and 12 of planning permission reference C/7/94/7029 to alter the permitted working of the Application Site and to amend the final restoration scheme to allow an extension to the area of existing landfilling and restoration activities under planning permission reference C/7/2007/7004 (Appendix 2).

2.4 Condition 1 of planning permission reference C/7/2007/7004 permits the landfilling and restoration of the Application Site until 08 July 2012 and it is this condition which is the subject of this Section 73 planning application to vary the condition.

Present Use

2.5 The wider quarry and landfill site within which the Site is located comprises an area of 25.9 hectares and has historically been utilised for the extraction of sand and gravel reserves with landfilling and restoration taking place on a phase by phase basis.

2.6 The general layout of the Site comprises previously restored areas, areas where landfilling is currently taking place, facilities and infrastructure in connection with the management of landfill gas and leachate, parking, maintenance areas and access.

2.7 The Site comprises the northern half of the historic quarry and landfill site and extends to an area of 13.8 hectares. The boundary of the Application Area outlined in red and its relationship to the surrounding land also under the control of the Applicant can be seen on drawings reference M11.146.01 and M11.146.02.

3. THE PROPOSAL

Introduction

3.1 This planning application has been submitted to Norfolk County Council to allow the continuation of development approved under planning permission reference C/7/2007/7004 without compliance with condition 1 (time limit) to allow for an extension in time to complete landfilling and restoration obligations until 08 July 2018.

The Proposed Development

3.2 It is proposed that Condition 1 attached to planning permission reference C/7/2007/7004 be varied as follows:

3.3 Currently Condition 1 reads as follows;

'The development to which this permission relates shall cease and the site shall be restored in accordance with conditions 2 and 3 by 08 July 2012.'

3.4 It is proposed that Condition 1 be amended to state;

'The development to which this permission relates shall cease and the site shall be restored in accordance with conditions 2 and 3 by 08 July 2018.'

3.5 For reference, Conditions 2 and 3 attached to planning permission reference C/7/2007/7004 relate to landscaping and planting requirements and have no time limiting implications.

Need

3.6 The main factor preventing completion of landfilling and restoration of the Site by 08 July 2012 is a reduction in waste inputs to the Site.

3.7 The reduction in waste inputs is a consequence of societal behaviour changes shifting more towards recycling, landfill tax increases and an overall reduction of waste arisings as a consequence of the current economic downturn. .

3.8 Norfolk County Council, as the county Waste Disposal Authority, is required to provide sites for the acceptance of residual municipal waste collected by the Waste Collection Authorities within Norfolk. Ten of Norfolk County Council's contracts expired on 31 March 2011. A contract at Aldeby Quarry and Landfill Site exists until 2014.

3.9 The Council undertook a procurement process to secure replacement services for the period 2011 to 2015 as an interim measure in advance of the anticipated start of the Waste PFI treatment facility at the Willows Business Park in 2015/2016.

3.10 Contracts were awarded to sites at six separate locations, of which five are managed by the Applicant.

3.11 As a result of residual waste contracts there is, therefore, sufficient waste arisings to continue landfilling and restoration until at least 2014 which would in turn make up for the reduction in waste inputs over recent years.

3.12 After 2014 it is intended that waste arisings entering the Site will be through diversion of the residual municipal waste stream from the other sites operated by the Applicant as part of residual waste contracts with Norfolk County Council.

3.13 In this way it is considered that sufficient waste arisings will be available to complete landfilling at the Site to ensure that the Applicant can meet their restoration obligation within the requested extended timescales.

3.14 From a landscape perspective, at present areas of the Application Site remain un restored with a prominent valley feature separating the operational and closed areas of the site, Hence, should planning permission not be granted to enable completion of landfilling and restoration the site will need to be closed and restored in its current form leaving the prominent valley feature in place which will create an alien feature within the existing surrounding landscape.

3.15 There is, therefore, a clear need to ensure that restoration and landfilling can continue in the manner described within this application in order to ensure the restoration obligations for the Site can be achieved, in line with the approved restoration scheme and the requirements of the extant Planning Permission and the Environmental Permit relating to the landfill operations.

Environmental Issues

3.16 It is considered that allowing an additional six years for the satisfactory completion of the restoration of the Site will have a negligible additional impact upon the surrounding environment or local residents. The impact upon the local landscape through allowing the restoration to be completed will be positive.

4. CONCLUSIONS

4.1 The proposal seeks a short additional period of six years in order to complete landfilling and restoration obligations.

4.2 Such an additional period of time would allow the Applicant sufficient time to recover from a reduction in waste inputs and continue to restore the Application Site in accordance with the approved restoration strategy.

4.3 It is considered that on this basis there is sufficient justification to allow the proposed development to proceed in the matter outlined within this application.

DRAWINGS

Drawing Numbered M11.146.01	'Site Location Plan'	Scale 1:50,000@A3
Drawing Numbered M11.146.02	'Site Layout Plan'	Scale 1:2500@A3

Legend

Land under the Control of the Applicant

Application Area (Boundary of previous Planning Permission reference C/7/2007/7004)

pde. consulting limited
chartered surveyors

REV	AM'D	NOTES	DATE

DRAWING STATUS
FINAL

PROJECT
ALDEBY LANDFILL SITE

CLIENT
Waste Recycling Group

TITLE
Site Location Plan

DATE	SCALE
Feb 2012	**1:50,000 @A3**
DRAWN **LMB**	CHECKED **JS**
DRAW NO. **M11.146.01**	REVISION

PleydellSmithyman

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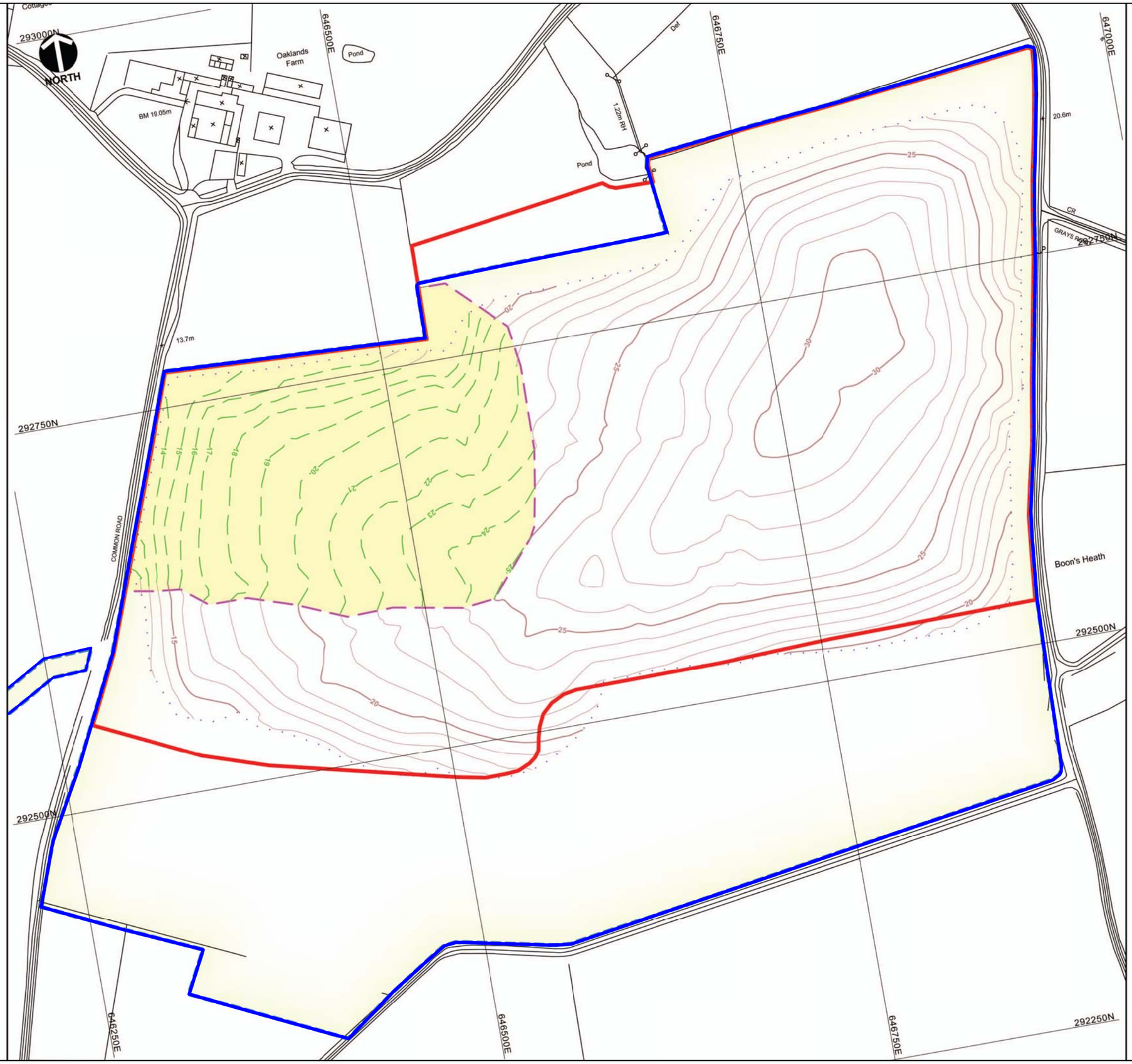
20A THE WHARFAGE, IRONBRIDGE
SHROPSHIRE TF8 7NH
T. 01952 433211 F. 01952 433323
E. psl@pleydellsmithyman.co.uk
www.pleydellsmithyman.co.uk



Legend

- Land under the Control of the Applicant
- Application Area (Boundary of previous Planning Permission reference C/7/2007/7004)

pde. consulting limited
chartered surveyors

REV	AM'D	NOTES	DATE

DRAWING STATUS
FINAL

PROJECT
ALDEBY LANDFILL SITE

CLIENT
Waste Recycling Group

TITLE
Site Layout Plan

DATE	SCALE
Feb 2012	**1:2500 @A3**
DRAWN **LMB**	CHECKED **JS**
DRAW NO. **M11.146.02**	REVISION

PleydellSmithyman

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Appendix 1

Planning Permission Reference C/7/94/7029 dated 8 July 1996

Planning Ref. No. C/7/94/7029

NORFOLK COUNTY COUNCIL

Town and Country Planning Act, 1990

Town and Country Planning (General Development Procedure) Order 1995

To: Mr J Parr
Greenways Landfill
The Ridge
Chipping Sodbury
Bristol
BS17 6AY

Particulars of Proposed Development

Location: Aldeby Sandpit, Aldeby, Nr Beccles

Applicant: ARC Ltd

Agent: Mr J Parr

Proposal: Restoration of sandpit through infilling with controlled waste

The Norfolk County Council hereby gives notice of its decision to PERMIT the development specified in the application and particulars deposited on the 01/11/1994.

This permission is subject to the conditions specified on the attached sheet.

The reasons for these conditions are also set out on the attached sheet.

Signed: _____ Date: 8 July 96.

for **DIRECTOR OF PLANNING AND TRANSPORTATION**

Norfolk County Council
County Hall
Martineau Lane
Norwich
NR1 2SG

SEE NOTES ON ATTACHED SHEET

NOTES

(1) If the applicant is aggrieved by the decision of the Local Planning Authority to refuse permission for the proposed development, or to grant permission or approval subject to conditions, he may appeal to the Secretary of State for the Environment in accordance with section 78 of the Town and Country Planning Act 1990, within six months of the date of this notice*. The Secretary of State has the power to allow a longer period for the giving of a notice of appeal but he will not normally be prepared to exercise this power unless there are special circumstances which excuse the delay in giving notice of appeal. The Secretary of State is not required to entertain an appeal if it appears to him that permission for the proposed development could not have been granted by the Local Planning Authority, or could not have been so granted otherwise than subject to the conditions imposed by them, having regard to the statutory requirements, to the provisions of the Development Order, and to any directions given under the Order.

(2) If permission to develop land is refused, or granted subject to conditions, whether by the Local Planning Authority or by the Secretary of State for the Environment, and the owner of the land claims that the land has become incapable of reasonably beneficial use by the carrying out of any development which has been or would be permitted, he may serve on the Council of the county or district in which the land is situated a purchase notice requiring that Council to purchase his interest in the land accordance with Section 137 of the Town and Country Planning Act, 1990.

(3) In certain circumstances, a claim may be made against the Local Planning Authority for compensation, where permission is refused, or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to him. The circumstances in which such compensation is payable are set out in Sections 114 and 115 of the Town and Country Planning Act, 1990.

(4) Any planning permission is subject to compliance with the byelaws (Local Acts, Orders, Regulations) and general statutory provisions in force.

* Appeals must be made on a form which is obtainable from the Planning Inspectorate, Tollgate House, Houlton Street, Bristol, BS2 9DJ.

Schedule of Conditions & Reasons Planning Ref. No. C/7/94/7029

Location: Aldeby Sandpit, Aldeby, Nr Beccles

Conditions:

1. The development to which this permission relates shall cease and the site shall be restored in accordance with conditions 2 &3 within 16 years of the date of this permission.

2. The restoration of the site shall be to the final contours shown on Drawing A8.L/7B as enclosed with letter dated 9 June 1995 from Land and Mineral Resource Consultants Limited.

3. The scheme of planting and landscaping shown on Drawing No. A8.L/7B, and as amended by the letter from Land and Mineral Resource Consultants Limited dated 15 March 1995, shall be implemented within the first available planting season following the date of this permission in the case of areas not to be filled in accordance with this permission, and within one year of the completion of the relevant phases in the areas which are to be filled. The scheme shall make provision for re-seeding and re-planting where failures or damage occur within a period of five years from the date of initial planting. Any damaged or dead trees so planted shall be replaced with trees of similar size and species at the next appropriate season.

4. No operation authorised or required under this permission shall take place on Sundays or public holidays, or other than during the following periods:-

   07.30 - 18.00 Mondays to Fridays
   07.30 - 13.00 Saturdays

   unless otherwise agreed beforehand in writing with the County Planning Authority.

5. No waste disposal shall commence on site until a scheme detailing anticipated noise levels to be generated, and the means for controlling them has been agreed in writing with the County Planning Authority.

6. Measures shall be taken to minimise dust nuisance and sand blow caused by the operations subject to this permission, including spraying of road surfaces, topsoil and cover stockpiles as necessary.

7. No waste or other material shall be brought onto the site except that which is to be disposed of in accordance with this permission. There shall be no other handling, storage, treatment or transfer.

8. Handling, movement and re-spreading of topsoil and subsoil shall not take place except when the soils are in a suitably dry and friable condition and in such a way and with such equipment as to ensure minimum compaction. (No handling of topsoil and subsoil shall take place except between 1st April and 31st October unless otherwise agreed in writing by the County Planning Authority.)

9. There shall be no vehicular access to the area except to the west via the haul road serving the existing waste disposal site permitted under reference 7/87/3193.

10. Measures shall be taken to ensure that vehicles leaving the site shall not be in a condition whereby they would deposit mud or other loose material on the public highway.

11. Any oil storage tanks on the site shall be sited on impervious bases and surrounded by oil tight bund walls; the bunded areas shall be capable of containing 110% of the tank volume and shall enclose all fill and draw pipes.

12. No operation shall take place except in accordance with the phased scheme of working shown on submitted Drawing No. A102/156, unless otherwise agreed in writing with the County Planning Authority.

13. Before subsoil is replaced an even layer of 300 mm of protective material shall be placed above the engineered synthetic membrane landfill cap.

14. Before topsoil is replaced an even layer of at least 550 mm of subsoil or subsoil substitute shall be spread on the 300 mm protective layer above the cap. Following the replacement of the topsoil in accordance with condition 15, the restored area shall be cross-ripped to a depth of at least 600mm to relieve compaction.

15. An even layer of topsoil shall be re-spread on the subsoil layer to an even depth of at least 200mm.

16. A field pipe underdrainage scheme shall be agreed in writing with the County Planning Authority and such scheme shall be implemented in phases within one year of the completion of each phase.

17. An aftercare scheme specifying that such steps as may be necessary to bring the land to the required standard for use for agriculture and forestry shall be submitted for the approval of the County Planning Authority not later than one year from the date of this permission. The approved aftercare scheme shall be implemented over a period of five years following the completion of restoration or in the case of phased restoration in stages each of five years duration dating from each completed restoration phase.

18. All stones and deleterious materials in excess of 15cm which arise from the ripping of the subsoil and topsoil shall be removed.

19. Any differential subsidence occurring during a period of five years after completion of soil replacement and which interferes with the planned after-uses shall be treated to the satisfaction of the County Planning Authority.

20. No material shall be removed from the site without the prior written consent of the County Planning Authority.

The reasons for the Council's decision to authorise the development subject to compliance with the conditions herein before specified are:

1,12. To ensure orderly working in the interests of the amenities of the surrounding area

3-7. To protect the amenities of the surrounding area.

2,8,13-20. To ensure the proper and expeditious restoration of the site.

11. To safeguard hydrological interests.

9,10. In the interests of highway safety.

Note:

Attention is drawn to the requirements of:

1. The Ministry of Agriculture Fisheries and Food as contained in their letter dated the 12 January 1995, a copy of which is attached to this notice.

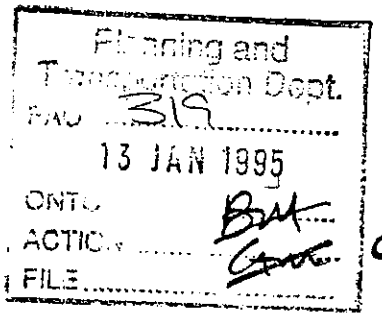
2. The National Rivers Authority as contained in their letter dated the 23 February 1995, a copy of which is attached to this notice.

3. Eastern Electricity as contained in their letter dated the 6 December 1994, a copy of which is attached to this notice.

4. This permission is subject to a legal agreement concerning vehicle routeing.

Ministry of Agriculture Fisheries and Food
Land Use Planning Unit
Block C, Government Buildings, Brooklands Avenue, Cambridge CB2 2DR
Telephone: 01223 - 455627 GTN: 3841 Fax: 01223 - 455673 Direct Dial: 01223 - 45

Director of Planning and Transportation
Norfolk County Council
County Hall
Martineau Lane
Norwich
NR1 2SG



Your reference: ENV/C/7/94/7029

Our reference: EL 28/01674

Date: 12 January 1995

Please reply to:

Dear Sir

ALDEBY SANDPIT, ALDEBY : ARC LTD : RESTORATION OF SANDPIT THROUGH INFILLING WITH CONTROLLED WASTE

I refer to your letter of 24 November 1994 consulting this Ministry in accordance with Schedule 5 of the Town and Country Planning Act 1990 (as amended) concerning a proposal by ARC Ltd to develop 19.7 hectares for waste disposal purposes.

Having considered this proposal in the light of the Government's policy for the protection of the best and most versatile agricultural land as set out in 2.5-2.6 and Annex A of Planning Policy Guidance Note 7, "The Countryside and the Rural Economy", although not objecting to this proposal, this Ministry wishes to draw your Authority's attention to the following agricultural considerations:

1. The majority of the site is not in agricultural use at the present time.

2. The presence and siting of gas monitoring wells, venting boreholes and leachate wells may limit the agricultural afteruse. Re-siting some of these structures may reduce this limitation.

3. The quality and suitability of imported soils will affect the standard of agricultural restoration that is achieved.

4. One metre of settled soil or soil-making material is required to accommodate a pipe underdrainage system. It is not completely clear whether the proposals provide this.

5. A pipe underdrainage scheme should be installed in the first year following restoration; appropriate outfalls are required.

I can confirm that it is appropriate to specify agriculture as an afteruse, in accordance with Schedule 5, Part 1, paragraph 4(1) of the Town and Country Planning Act 1990. Subject to appropriate conditions as set out in the attached Appendix being imposed, the proposals should enable the land to be restored to agriculture to a standard that satisfies the requirements of paragraph 3(2) of Schedule 5 of the 1990 Act.

The views expressed by MAFF are without prejudice to the Secretary of State for the Environment's duty to take account of all material planning considerations and the representations made by other parties.

Should your Authority be unwilling to include such conditions, this Ministry would expect to discuss the matter further with you. I should be grateful if you would let me know the outcome of your Authority's consideration of this proposal.

Yours faithfully

P J CHILLINGWORTH
Regional Planning Adviser

ENC

MS2301M

GENERAL CONDITIONS

1. The site shall be worked in accordance with the submitted plans and details except as amended by the following conditions.

2. Throughout the period of working, restoration and Aftercare, the operator shall take all reasonable steps to ensure that drainage from areas adjoining the site is not impaired or rendered less efficient by the permitted operations. The operator shall take all reasonable steps, including the provision of any necessary works, to prevent damage by erosion, silting or flooding and to make proper provision for the disposal of all water entering, arising on or leaving the site during the permitted operations.

3. Any oil, fuel, lubricant, paint or solvent within the site shall be so stored as to prevent such material from contaminating topsoil, subsoil, soil making material, or reaching any watercourse.

4. Throughout the period of working, restoration and Aftercare, the operator shall have due regard to the need to adhere to the precautions laid out in the leaflet entitled "Preventing the Spread of Plant and Animal Diseases", published by MAFF.

SOIL HANDLING

1. Before development commences Schemes of Soil and Machine Movements shall be submitted to the MPA for their agreement. Such schemes shall:

   a) Be submitted at least 3 months prior to the start of the development.

   b) Identify the types of machinery and methodology for handling soils, together with restoration details including remedial works.

   c) Identify clearly the origin and final locations of soils/soil-making materials for use in the restoration, together with details of the soil textures and balancing the quantities, depths and areas involved.

2. All soil movement operations shall only be carried out when the full volume of soil involved is in a dry and friable condition, ie the soil is in a non-plastic state such that damage to its structure shall be avoided. Soil handling and movement shall not be carried out between the months of October to March inclusive unless otherwise agreed in writing by or on behalf of the MPA.

3. Plant or vehicle movement shall be confined to clearly defined haul routes agreed in writing by or on behalf of the MPA, or to the overburden/infill surface and shall not cross areas of topsoil and subsoil except for the express purpose of soil stripping or replacement operations.

SOIL STRIPPING AND STORAGE

1. Before any part of the site is excavated or traversed by heavy vehicles or machinery (except for the purpose of stripping that part or stacking topsoil on that part), or is built upon, or used for the stacking of subsoil, soil making material or overburden, or as a machinery dump or plant yard, or for the construction of a road, all available topsoil (and subsoil) shall be stripped from that part.

2. Bunds for the storage of agricultural soils shall conform to the following criteria:

   a) Topsoils, subsoils and subsoil substitutes shall be stored separately.

   b) Where continuous bunds are used dissimilar soils shall be separated by a third material, previously agreed in writing with the MPA.

   c) Topsoil bunds shall not exceed 3 m in height and subsoil (or subsoil substitute) bunds shall not exceed 5 m in height.

   d) Materials shall be stored like upon like, so that topsoil shall be stripped from beneath subsoil bunds and subsoil from beneath overburden bunds.

3. All storage bunds intended to remain in situ for more than 6 months or over the winter period are to be grassed over and weed control and other necessary maintenance carried out to the satisfaction of the MPA. The seed mixture and the application rates are to be agreed with the MPA in writing no less than one month before it is expected to complete the formation of the storage bunds.

4. All topsoil, subsoil, and soil making material shall be retained on the site.

INFILLING

1. The base of the excavation shall be levelled prior to the commencement of landfilling.

2. The landfill material shall be evenly spread and compacted in layers by means of a steel-wheeled compactor.

3. The final surface of the infill is to be at such a level as to follow the final pre-settlement contours as specified in the submitted details. Once infilling is complete on any phase or part phase the operator shall give the MPA 5 working days notice to enable an inspection of the site to be made.

LANDFILL GAS AND LEACHATE

1. The design of the proposed landfill gas and leachate well heads shall be submitted to the MPA for their consideration, at least three months prior to the expected capping. The design shall be such as not to become an unseen obstruction to agricultural machinery.

2. The design for the gas collection mains and laterals shall be submitted to the MPA for their consideration at the same time. The design shall be such as to ensure that the distribution system does not become an unseen obstruction to the drainage and cultivations of the agricultural soils and, in any case, the crown of such pipes should not be within the top 0.9 m of the agricultural soils.

3. A scheme of landfill gas monitoring, defining the frequency and methodology of detecting and dealing with landfill gas within the agricultural soils, shall be submitted to the MPA at times to coincide with the agricultural Aftercare procedures.

IMPORTED SOILS/SOIL MAKING MATERIALS

1. Where it is intended to use imported soils or soil making materials as agricultural soils in the restoration process these materials shall, unless otherwise previously agreed in writing with the MPA:

   a) Be separately stored in a designated area previously agreed with the MPA.

   b) Be identified to, and agreed as suitable with, the MPA prior to placement.

   c) Be free of objects greater than 15 cm in any dimension which are likely to cause any obstruction to cultivations.

SOIL REPLACEMENT

1. The subsoil, or subsoil substitute, is to be spread to a minimum even settled depth of 80 cm so as to follow the final pre-settlement contours. The topsoil is to be spread to a minimum settled depth of 20 cm over the reinstated subsoil so as to form the final pre-settlement contours. The restored area is to be ripped in suitably dry soil conditions in such a manner as to disturb the whole soil profile to a depth of 60 cm.

2. The minimum settled depth of subsoil/subsoil substitute and topsoil shall be 1 metre.

3. All stones and other materials in excess of 15 cm in any dimension which are likely to obstruct cultivation in the agricultural afteruse shall be picked and removed from the site.

DIFFERENTIAL SETTLEMENT

1. In any part of the site where differential settlement occurs during the restoration and Aftercare period, the applicant, where required by the MPA, shall fill the depression to the final settlement contours specified with suitable imported soils, to a specification to be agreed with the MPA.

AFTERCARE

1. An Aftercare Scheme requiring that such steps as may be necessary to bring the land to the required standard for the use of agriculture shall be submitted for the approval of the MPA not later than 3 months prior to the date on which it is first expected that the replacement of topsoil shall take place.

   The submitted Scheme shall:

   a) Provide an outline strategy in accordance with Annex 5 of MPG 7 for the five year Aftercare period. This shall specify steps to be taken and the period during which they are to be taken. The Scheme shall include provision of a field drainage system and provide for an annual meeting between the applicants, the MPA and MAFF.

   b) Provide for a detailed annual programme, in accordance with Annex 5 of MPG 7 to be submitted to the MPA not later than two months prior to the annual Aftercare meeting.

2. Unless the MPA, after consultation with MAFF, agree in writing with the person or persons responsible for undertaking the Aftercare steps that there shall be lesser steps or a different timing between steps, the Aftercare shall be carried out in accordance with the submitted Scheme.

94/7029

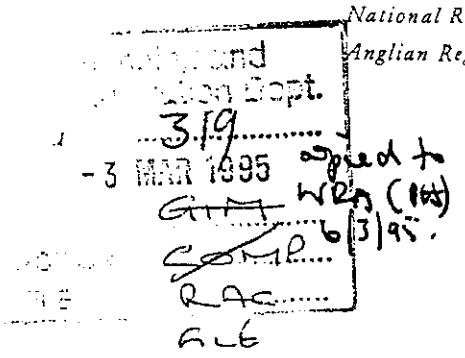
Our ref: BP/GJ/94/3/NCC/0082

Date: 23 February 1995

NRA

National Rivers Authority
Anglian Region

Mr J M Shaw
Director of Planning & Property
Norfolk County Council
County Hall
Martineau Lane
NORWICH
Norfolk
NR1 2DH



Dear Mr Shaw

PROPOSAL: RESTORATION THROUGH INFILLING WITH CONTROLLED WASTE
LOCATION: ALDEBY SANDPIT, ALDEBY
APPLICANT: ARC LIMITED

Thank you for referring the above application which was received on 7 December 1994.

The Authority requests that any approval includes the following formal conditions:-

CONDITION: Prior to the commencement of any development, a scheme for the provision and implementation of the following items shall be submitted and agreed in writing with the Waste Regulation Authority in consultation with the NRA.

REASON: To prevent pollution of the water environment.

CONDITION: Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound should be at least equivalent to the capacity of the tank plus 10%. If there is multiple tankage, the compound should be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses must be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipework should be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets should be detailed to discharge downwards into the bund.

Cont'd/. .....

NRA

REASON: To prevent pollution of the water environment.

CONDITION: There shall be no discharge of foul or contaminated drainage from the site into either groundwater or any surface waters, whether direct or via soakaways.

REASON: To prevent pollution of the water environment.

The following informatives and recommendations should be included with the decision notice.

The Applicant must agree to submit a detailed Working Plan as part of the Site Licence defining all site engineering and landfill containment design specifications, basal drainage system, leachate management, control and disposal plans and environmental monitoring.

The primary HDPE liner will be of minimum thickness 2 mm.

The secondary sand/bentonite liner will be of minimum thickness 300 mm with a maximum permeability of 1 x 10^{-10} m/sec.

All groundwater monitoring boreholes must have dedicated sampling equipment or be pump sampled. The Applicant must agree to submit an annual summary of groundwater quality monitoring and interpretation reports.

All site preparation works and installation of the composite containment system must be undertaken by experienced contractors with full-time supervision by independent geotechnical engineers with full certification, quality assurance and quality control. A detailed report must be submitted by the Applicant to the NRA describing in detail the procedures used, difficulties encountered and remedial works required.

In order to further mitigate against defects in the installation of the composite liner proposed for the site, the NRA also require that an electrical leak detection survey is undertaken after liner installation is completed. The confirmation of liner integrity shall be undertaken by an independent consultant. A report on any leaks detected and repairs conducted shall be submitted as part of Quality Assurance and Quality Control report requested above. No emplacement of waste shall be permitted until the integrity of the installed liner has been confirmed.

Cont'd/. ....

NRA

As part of the site licence agreement the Applicant must submit calculations providing an assessment of groundwater contamination risk under hypothetical worst case liner failure scenarios. This will accompany the production of a contingency plan to be implemented in the unlikely event of liner failure. The plan will address the proposed options for the interception and treatment of contamination groundwater and identify appropriate sewage works to be used in event of a need to dispose of leachate.

The Applicant must also submit details of proposals relating to long term leachate recirculation and control and the approach to be used to stabilising waste in the site.

The statement made in Section 8 Conclusions item 5 is unsatisfactory to the NRA. The Applicant should ensure that polluted water does not enter the marsh areas. The Applicant should submit a scheme and calculations showing how pollution to the marsh will be avoided.

The area on which this development is proposed is covered by a licence to abstract for gravel washing purposes. This may require formal variation to cover the new development. The applicant should contact the Authority for advice.

There is an existing abstraction at this site. Should the Applicant wish to continue using this abstraction an application for succession must be made to the Authority in accordance with Sections 49 and 50 Water Resources Act 1991.

It is the responsibility of the Applicant to ensure that the development will not affect any existing legal water interests in the area.

There are two SSSI's within 2 km of the site namely:-

1. Barnby Broads and Marshes SSSI

2. Stanley and Alder Carry, Aldeby SSSI

You are therefore advised to consult with English Nature.

A copy of this letter has been sent to the applicant/agent.

Yours sincerely

JONATHAN S WORTLEY (Dr)
Planning Manager (Eastern)

Encs

Please ask for: Mr B Pymer

EASTERN ELECTRICITY

Norwich Office
4 Duke Street
Norwich
Norfolk NR3 3AH

Direct tel: (01603)
Direct fax: (01603)

Planning & Transportation Dept.
Norfolk County Council
County Hall
Martineau Lane
NORWICH NR1 2DH

COMP
RAC
FILE

Our Ref: DS/MIN/94/2005
Direct dial: 282420

Your Ref: :ENV/C/7/94/7029

Date: 06/12/94

Dear Sir

ALDEBY,SANDPIT

I acknowledge receipt of your notice dated 24/11/94, together with copies of the following plans for your proposals:

OS EXTRACT

I enclose details of the positions of our cables that may be affected by your proposals.

Service cables and street lighting cables are not usually shown and these must be assumed to exist to any property on the road frontage, or to street lamps and road signs nearby. The contractor is held responsible for locating these cables by hand before using any machine, and for the cost of repairing any damage caused.

It is not expected that any major diversion of our plant will be required by your scheme. We will be pleased to carry out any minor diversions on a time and material basis on receipt of your official order.

Yours faithfully,

G D Jowett
Distribution Department

Appendix 2

Planning Permission Reference C/7/2007/7004 dated 25 May 2007

Planning Ref. No C/7/2007/7004

NORFOLK COUNTY COUNCIL

Town and Country Planning Act, 1990

Town and Country Planning (General Development Procedure) Order 1995

To: Alliance Environment & Planning Ltd
Halifax House
14/15 Frederick Road
Edgbaston
BIRMINGHAM
B15 1JD

Particulars of Proposed Development

Location: Aldeby Landfill Site

Applicant: Waste Recycling Group Ltd

Agent: Alliance Environment & Planning Ltd

Proposal: Variation of Condition 2 and 12 planning permission C/7/94/7029 to alter permitted working of the site and to amend the final restoration scheme to allow an extension to the area of existing landfilling and restoration activities.

The Norfolk County Council hereby gives notice of its decision to PERMIT the development described in the notice of planning permission reference C/7/94/7029 granted on the 8 July 1996 without compliance with condition Nos 2 and 12 set out in that notice, subject to compliance with the conditions set out on the attached sheets.

The reasons for the grant of permission and for the conditions are also set out on the attached sheets.

Signed: _____ Date: 25-5-2007.

for DIRECTOR OF PLANNING AND TRANSPORTATION

Norfolk County Council
County Hall
Martineau Lane
Norwich
NR1 2SG

SEE NOTES ON ATTACHED SHEET

NOTES

1. If the applicant is aggrieved by the decision of the Local Planning Authority to refuse permission for the proposed development, or to grant permission or approval subject to conditions, he may appeal to the Secretary of State for the Environment in accordance with section 78 of the Town and County Planning Act 1990, within six months of the date of this notice. The Secretary of State has the power to allow a longer period for the giving of a notice of appeal but he will not normally be prepared to exercise this power unless there are special circumstances which excuse the delay in giving notice of appeal. The Secretary of State is not required to entertain an appeal if it appears to him that permission for the proposed development could not have been granted by the Local Planning Authority, or could not have been so granted otherwise than subject to the conditions imposed by them, having regard to the statutory requirements, to the provisions of the Development Order, and to any directions given under the Order.

2. If permission to develop land is refused, or granted subject to conditions, whether by the Local Planning Authority or by the Secretary of State for the Environment, and the owner of the land claims that the land has become incapable of reasonably beneficial use by the carrying out of any development which has been or would be permitted, he may serve on the Council of the county or district in which the land is situated a purchase notice requiring that Council to purchase his interest in the land accordance with Section 137 of the Town and County Planning Act, 1990.

3. In certain circumstances, a claim may be made against the Local Planning Authority for compensation, where permission is refused, or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to him. The circumstances in which such compensation is payable are set out in Sections 114 and 115 of the Town and Country Planning Act, 1990.

4. Any planning permission is subject to compliance with the byelaws (Local Acts, Orders, Regulations) and general statutory provisions in force.

Appeals must be made on a form which is obtained from the Planning Inspectorate, Customer Support Unit, Room 3/15 Eagle Wing, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6PN. Tel: 0117 372 6372 Fax: 0117 372 8782 or e-mail: enquiries@planning-inspectorate.gsi.gov.uk.

Schedule of Conditions & Reasons Planning Ref. No. C/7/2007/7004

Location: Aldeby Landfill Site

Conditions:

1. The development to which this permission relates shall cease and the site shall be restored in accordance with conditions 2 and 3 by 8 July 2012.

2. Within two months of the date of this permission, a revised restoration scheme shall be submitted to the County Council for its approval in writing. No operations shall take place on the site other than in accordance with the revised scheme as may be so approved. The said scheme shall be consistent with the approved scheme on Drawings A8.L/7B and CW100/F/08 for the wider site, and shall include:

   (a) revised pre-settlement contours of the completed landfill in the additional area to be filled pursuant to this variation, to supersede those shown on the relevant parts of submitted drawing AD702-D9 dated March 2007;

   (b) revised post-settlement contours of the restored land in the additional area to be filled pursuant to this variation, to supersede those shown on the relevant parts of submitted drawing AD702-D1dated March 2007.

3. The scheme of planting and landscaping shown on Drawing A8.L/7B and as amended by the letter from Land and Minerals Resources Consultants Limited dated 15 March 1995 shall be implemented within the first available planting season following the date of this permission in the case of areas not to be filled in accordance with this permission, and within one year of the completion of the relevant phases in the areas to be filled. The scheme shall make provision for re-seeding and re-planting where failures or damage occur within a period of five years from the date of initial planting. Any damaged or dead trees shall be replaced with trees of similar size and species at the next appropriate season.

4. No operation authorised or required under this permission shall take place on Sundays or public holidays, or other than during the following periods:

   07.30 - 18.00 Mondays to Fridays
   07.30 - 13.00 Saturdays

   unless otherwise agreed beforehand in writing with the County Planning Authority.

5. No waste disposal shall commence on site until a scheme detailing daily noise levels to be generated, and the means of controlling them has been agreed in writing with the County Planning Authority.

6. Measures shall be taken to minimise dust nuisance and sand blow caused by the operations, including spraying of road surfaces, plant area and stockpiles as necessary.

7. No waste or other material shall be brought onto the site except that which is to be disposed of in accordance with this permission. There shall be no other handling, storage, treatment or transfer.

See continuation sheet...

Schedule of Conditions & Reasons Planning Ref. No. C/7/2007/7004

Location: Aldeby Landfill Site

Conditions continued:

8. Handling, movement and re-spreading of topsoil and subsoil shall not take place except when the soils are in a suitably dry and friable condition and in such a way and with such equipment as to ensure minimum compaction. (No handling of topsoil and subsoil shall take place except between 1st April and 31st October unless otherwise agreed in writing by the County Planning Authority.)

9. There shall be no vehicular access to the area except via the haul road to the west.

10. Measures shall be taken to ensure that vehicles leaving the site shall not be in a condition whereby they would deposit mud or other loose material on the public highway.

11. Any oil storage tanks on the site shall be sited on impervious bases and surrounded by oil tight bund walls; the bunded areas shall be capable of containing 110% of the tank volume and shall enclose all fill and draw pipes.

12. No operation shall take place except in accordance with the revised phasing shown on submitted Drawing AD702-D10 dated March 2007, unless otherwise agreed in writing with the County Planning Authority.

13. Before the subsoil is replaced an even layer of 300mm of protective material shall be placed above the engineered synthetic membrane landfill cap.

14. Before topsoil is replaced an even layer of at least 550mm of subsoil or subsoil substitute shall be spread on the 300mm protective layer above the cap. Following the replacement of the topsoil in accordance with condition 15, the restored area shall be cross-ripped to a depth of at least 600mm to relieve compaction.

15. An even layer of topsoil shall be re-spread on the subsoil layer to an even depth of at least 300mm.

16. A field pipe underdrainage scheme shall be agreed in writing with the County Planning Authority and such scheme shall be implemented in phases within one year of the completion of each phase.

17. An aftercare scheme specifying such steps as may be necessary to bring the land to the required standard for use for agriculture and forestry shall be submitted for the approval of the County Planning Authority not later than one year from the date of this permission. The approved aftercare scheme shall be implemented over a period of five years following the completion of restoration or in the case of phased restoration in stages each of five years duration dating from each completed restoration phase.

See continuation sheet...

Schedule of Conditions & Reasons Planning Ref. No. C/7/2007/7004

Location: Aldeby Landfill Site

Conditions continued:

18. All stones and deleterious materials in excess of 15cm which arise from the ripping of the subsoil and topsoil shall be removed from the site.

19. Any differential subsidence occurring during a period of five years after completion of soil replacement and which interferes with the planned landform or after-uses shall be treated to the satisfaction of the County Planning Authority.

20. No material shall be removed from the site unless otherwise agreed beforehand in writing with the County Planning Authority.

21. Within six weeks of the date of this permission, details of the siting and operation of the proposed odour suppression system shall be submitted to the County Planning Authority for its approval. The system as so approved shall thereafter be maintained in an effective operational condition for the duration of this permission.

The reasons for the above conditions are:

1 - 12.	To ensure orderly working in the interest of the amenities of the surrounding area.
3 – 7, 21.	To protect the amenities of the surrounding area.
2, 8, 13 - 20.	To ensure the proper and expeditious restoration of the site.
11.	To safeguard hydrological interests.
9, 10.	In the interests of highway safety.
Note:	Planning permission C/7/94/7029 as varied above is subject also to a legal agreement concerning vehicle routeing.

Reasons for the grant of permission:

The proposal is for the engineering and infilling with waste of two new cells in an area of 1.7 hectares, within the boundary of the previously permitted landfill. Subject to compliance with conditions carried forward from the previous permission, as amended to cover the new area, there are no planning objections and no conflict with the Norfolk Waste Local Plan or any other development plan policies.