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Beddington ERF and WTS



Viridor South London Limited

Consolidated Site Condition Report

ERF and WTS

Document approval

	Name	Signature	Position	Date
Prepared by:	Katie Hampton		Associate Senior Consultant	18/05/2023
Checked by:	James Sturman		Lead Consultant	19/05/2023

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Management Summary

Viridor South London Limited (Viridor) operates a two-stream Energy Recovery Facility (ERF) at Beddington Lane, Croydon, under an Environmental Permit (EP) (Ref: EPR/GP3305LN).

Viridor also operates a Waste Transfer Station (WTS) which is located adjacent to the ERF, under a standard rules permit (Ref: EPR/JB3902FZ).

Viridor has applied to the Environment Agency (EA) to consolidate the EP for the WTS into the EP for the ERF, so that the two activities are regulated under a single EP.

As the two permits are being consolidated, the EA has requested that an updated/consolidated Site Condition Report is provided, which includes the full site and its activities.

The original Site Condition Report (Ref: S1190-0900-0005JRS) submitted in support of the original EP application for the ERF has been used as a source of information in this consolidated Site Condition Report.

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1 Site Details

Table 1: Site Details

Name of the applicant	Viridor South London Limited
Activity address	Beddington Energy Recovery Facility (ERF), Beddington Lane, Croydon, CRO 4TD
National grid reference	TQ 29239 66831
Document reference / dates for Site Condition Report at permit application	At original permit application: 'S1190-0900-0005JRS'. This updated report: S3191-0330-0003KLH.
Document references for site plans (including location and boundaries)	S3191-8000-0001AO1 Emission Points R2.0

1.1 Site location

The Site is located at Beddington Farmlands, which is located south of Mitcham Common and north of Beddington Park, within the London Borough of Sutton. The site lies 500m metres to the south of the London Borough of Merton and 600m to the west of the boundary of the London Borough of Croydon.

The topography of the Site is fairly flat, having historically been used for waste, waste water and minerals extraction. Prior to this, the area was used for agriculture.

The site is bounded to the east by sludge beds (part of Thames Water's waste water treatment works) and Beddington Lane beyond, to the west by the railway, to the north by sludge beds and to the south by Beddington Park.

Access to the site is via an access road linking into the Coomber Way roundabout on Beddington Lane.

2 Condition of the land at permit issue

The information provided in this section is based on the original Site Condition Report and supporting Envirocheck Report (presented within Appendix B).

2.1 Geology

As reported in the Envirocheck Report, at the time of permit issue there were no areas of artificial ground and landslip within the Installation Boundary. There was a small area of Made Ground (undivided) immediately to the north east of the Installation. There were a number of other areas of Made Ground surrounding the Installation. This includes two areas of infilled ground located approximately 250m to the east of the installation and one area of landscaped ground (undivided) located approximately 250m to the south of the Installation.

As reported in the Envirocheck Report, the British Geological Society (BGS) 1:625,000 map (The BGS map) indicates that the Superficial Deposits beneath the Installation Boundary is Hackney Gravel Member from the Wolstonian period. These Superficial Deposits are classified as sand and gravels.

The BGS map indicates that the Bedrock/Solid Geology beneath the Installation Boundary is London Clay from the Eocene period.

The Envirocheck Report does not identify any records of Faults within the Installation Boundary.

The Envirocheck Report identifies that there are five BGS Recorded Mineral Sites within 1000 m of the Installation Boundary. All of these extractions are reported as having ceased.

The Envirocheck Report reports that the Installation is not located within an area of coal mining.

2.2 Hydrogeology

The Envirocheck Report indicates that the Aquifer within the Superficial Deposits surrounding the Installation is regarded as being a Minor Aquifer (variably permeable) – these can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers.

2.3 Hydrology and surface waters

There are surface water containment systems included within the Installation Boundary. This form part of the Sustainable Urban Drainage System (SUDS) for the Installation.

As reported in the Envirocheck Report, the nearest major watercourse to the Installation is the River Wandle which is located approximately 900m to the south of the Installation Boundary.

The Environment Agency operates a General Quality Assessment scheme (GQA) that is a method for nationally classifying river and canal water quality in England and Wales. The scheme provides a way of comparing river quality from one river to another and for looking at changes in river quality over time. The water quality is assessed using a number of criteria including the chemical and biological content of the water, the nutrient availability of the water, and the aesthetic characteristics of the water. The River Wandle between Wandle Park and Wandle is classified as 'River Quality B'.

As identified in the Envirocheck Report, the Installation is not at risk of flooding.

The Envirocheck Report Flood Map confirms that the Installation does not fall within 500m of a Flood Zone; there are no Flood Defences within 250m of the Installation; and there are no areas used for Flood Storage within 250m of the Installation.

2.4 Pollution history

2.4.1 Historical Land Use within the Installation Boundary

Historical land use searches show that the site was largely undeveloped fields until 1896. Historical maps show that there was a pathway/roadway which passed through the centre of the Installation running in an east westerly direction.

The 1885 map shows a drainage channel running in a north-south direction which bisects the Installation. In addition, there is a drainage channel running parallel to the eastern side of the Installation Boundary.

The 1898 map shows that the drainage channel running in a north-south direction no longer passes through the northern sector of the Installation.

The 1935 map shows a Tank in the south eastern corner of the Installation. There are no records available of the contents of the Tank.

The 1993 map shows that the land on which the Installation is located was an area of sludge beds.

2.4.2 Historical Incidents

As reported within the Envirocheck Report, at the time the original permit application was submitted, there had been:

- Eight pollution incidents to controlled water within 1000m of the Installation Boundary; and
- Four Substantiated Pollution Incidents within 1000m of the Installation Boundary.

The nearest pollution incident was located over 100 metres from the Installation Boundary. It is therefore considered that none of these pollution incidents could influence the ground conditions within the Installation.

Viridor can confirm that there was no visual or olfactory evidence of existing contamination within the Installation Boundary at the time the original permit application was submitted.

2.4.3 Previous Permits & Consents

As reported in the Envirocheck Report:

- There are eight discharge consents located within 1000m of the Installation Boundary. The nearest consented site is located over 400m from the Installation Boundary. It is therefore considered that any of the sites with discharge consents could influence the ground conditions within the Installation.
- There are records of two IPPC Authorised activities within 1000m of the Installation Boundary. One of these is located within the Installation Boundary itself – the gas engines associated with the landfill. These are not expected to influence ground conditions within the Installation. The other IPPC Authorised activity is located over 900m from the Installation.
- There are records of 19 Local Authority PPC Authorised activities within 1000m of the Installation Boundary. The nearest Local Authority PPC Authorised activity is located over 100m

from the Installation Boundary. It is therefore considered that none of these Local Authority PPC Authorised activities could influence the ground conditions within the Installation.

- There are six water abstractions within 1000m of the Installation Boundary. These are not considered to have relevance to the historical ground conditions within the Installation.
- There are records of five Historic Landfill Sites within 1000m of the Installation Boundary. The nearest historical landfill is located over 100m from the Installation Boundary. It is therefore considered that none of these Historic Landfills could influence the ground conditions within the Installation.
- There is one Licensed Waste Management Facility (Landfill boundary) within the Installation Boundary. This is the existing Beddington Farmlands Landfill Site, which is located on site. There is an additional one within 1000m of the Installation Boundary. This is located over 500m from the Installation Boundary and is not considered to influence the ground conditions within the Installation.
- There are two Licensed Waste Management Facility's (Locations) within the Installation Boundary. This is the existing Beddington Lane Composting facility operated by Viridor. There are an additional nine within 1000m of the Installation Boundary. The nearest is located over 200m from the Installation. It is not considered that any of these facilities will influence the existing ground conditions within the Installation.
- There is one Local Authority Recorded Landfill site within 1000m of the Installation Boundary. The nearest Local Authority Recorded Landfill site is located over 100m from the Installation Boundary. It is therefore considered that this Local Authority Recorded Landfill site could influence the ground conditions within the Installation.
- There are two Registered Landfill sites within 1000m of the Installation Boundary. The nearest Registered Landfill site is located over 300m from the Installation Boundary. It is therefore considered that this Registered Landfill site could influence the ground conditions within the Installation.
- There are seven Registered Waste Transfer Sites within 1000m of the Installation Boundary. The nearest Registered Waste Transfer site is located over 150m from the Installation Boundary. It is therefore considered that this Registered Waste Transfer site could influence the ground conditions within the Installation.
- There are two Registered Waste Treatment or Disposal Sites within 1000m of the Installation Boundary. The nearest Registered Waste Treatment or Disposal site is located over 300m from the Installation Boundary. It is therefore considered that this Registered Waste Treatment or Disposal site could influence the ground conditions within the Installation.
- There is one Planning Hazardous Substance Consent within 1000m of the Installation Boundary. This is located over 900m from the Installation Boundary. It is therefore considered that this Planning Hazardous Substance Consented site could influence the ground conditions within the Installation.

2.4.4 Previous Contamination and Site Investigations

At the time of producing this report, there are no records available of intrusive investigations associated with the land within the Installation Boundary.

3 Permitted activities

3.1 Permitted activities

The permitted activities include Installation activities (as defined in the Environmental Permitting Regulations) with directly associated activities for the ERF, and waste activities for the WTS. The permitted activities are presented in Table 2 and Table 3.

Table 2: Permitted activities – ERF

Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
S5.1 A1(b)	The incineration of non-hazardous waste in an incineration plant with a capacity exceeding 3 tonnes per hour.	From receipt of waste to emission of exhaust gas, treatment and storage of and disposal of waste arising. Waste types and quantities as specified in Table S2.2 of the permit.
Directly Associated Activity		
Electricity generation	Generation of electrical power using a steam turbine from energy recovered from the flue gases	
Back up diesel generator	For providing emergency electrical power to the plant in the event of supply interruption.	
Dewatering of Gulley Waste	Pre treatment of waste	

Table 3: Permitted activities - WTS

Description of specified activity	Limits of specified activity
<p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>D14: Repackaging prior to submission to any of the operations numbered D1 to 13</p> <p>D9: Physico-chemical treatment not specified elsewhere in Annex IIA which results in final compounds or mixtures which are discarded</p>	<p>The maximum quantity of asbestos waste received at the site shall not exceed 10 tonnes per day.</p> <p>The maximum quantity of asbestos waste stored at the site shall not exceed 10 tonnes.</p> <p>Treatment consisting only of manual sorting, separation, screening, baling, shredding, crushing or compaction of non-hazardous waste into different components for disposal, (no more than 50 tonnes per day) or recovery.</p> <p>There shall be no treatment of asbestos waste.</p> <p>No more than a total of 50 tonnes of intact and shredded waste vehicle tyres (waste</p>

Description of specified activity	Limits of specified activity
by means of any of the operations numbered D1 to D8 and D10 to D12 R3: Recycling/reclamation of organic substances which are not used as solvents R4: Recycling/reclamation of metals and metal compounds R5: Recycling/reclamation of other inorganic materials	codes 16 01 03 and 19 12 04) shall be stored at the site. The maximum quantity of hazardous waste that can be stored at the site shall not exceed 50 tonnes.

3.2 On-site fuel and chemical storage facilities

As identified within the original Site Condition Report, the activities undertaken at the ERF will utilise a number of fuels and chemicals. The primary, secondary and tertiary containment systems associated with the storage of these materials are presented in Table 4.

Table 4: Chemical and fuel containment facilities – ERF

Substance	Number of Storage Facilities	Primary Containment	Secondary Containment	Tertiary Containment
Gas Oil	1	Tank	Impervious bunding (110% capacity of the storage tank)	Concrete hardstanding
Urea	1	Silo	Concrete hardstanding	
Lime	1	Silo	Concrete hardstanding	
Activated carbon	1	Silo	Concrete hardstanding	
Other boiler treatment chemicals			Impervious bunding (110% capacity of the storage tank)	Concrete hardstanding

Information on the storage facilities for hazardous wastes at the WTS was submitted in support of this EP variation application. The storage facilities for hazardous wastes at the WTS are presented again in Table 5.

Table 5: Hazardous waste storage facilities at the WTS

Hazardous waste type	Relevant EWC code(s)	Storage facility/capacity	Containment measures
Hazardous WEEE			
Small domestic appliances	20 01 23* 20 01 35*	2 tonnes in 12 yard enclosed skip	Primary: Base of skip Secondary: Contained process drainage

Hazardous waste type	Relevant EWC code(s)	Storage facility/capacity	Containment measures
Televisions	16 02 13* 20 01 35*	2 tonnes in 12 yard enclosed skip	Primary: Base of skip Secondary: Contained process drainage
Fridges	16 02 13* 20 01 23* 20 01 35*	Concrete wall bay – 4 tonnes (approx. 50 units max)	Primary: Concrete bay Secondary: Contained process drainage
Batteries	20 01 33*	Plastic storage crate (no more than 1 tonne)	Primary: Storage crate Secondary: Contained process drainage
Fluorescent tubes	20 01 21*	Secure fluorescent tube boxes, each ca. 20 kg (0.02 tonnes)	Primary: Box Secondary: Contained process drainage
Hazardous clinical wastes			
Hazardous clinical wastes	18 01 03* 18 02 02*	Received in sealed packages or containers, stored in wheeled trollies. Maximum 5 tonnes of clinical waste stored on site at any one time.	Primary: Sealed package/containers Secondary: Trolley Tertiary: Contained process drainage
Other			
Solvents and chemicals	20 01 13* 20 01 14* 20 01 15* 20 01 17* 20 01 19*	Drums or sealed containers (total capacity of 200 litres stored or ca. 0.2 tonnes).	Primary: Drum or sealed containers Secondary: 250 litre bund (sump pallets) constructed of polyethylene or similar Tertiary: Contained process drainage
Hazardous pressurised gases	16 05 04*	Secure compound/cage (0.5 tonnes)	Primary: Cage/compound Secondary: Contained process drainage
Asbestos	17 06 05*	8 tonnes in 12 yard enclosed skip	Primary: Skip Secondary: Contained process drainage
Total estimated storage capacity for hazardous wastes: 22.72 tonnes			

3.3 Environmental Risk Assessment

An Environmental Risk Assessment was submitted in support of the original EP application for the ERF. Furthermore, an updated Environmental Risk Assessment was developed and submitted in support of the variation application to consolidate the ERF and WTS permits. The document references are provided below:

- S1190-0900-0012JRS; and

- S3191-0320-0003KLH.

Both assessments have been undertaken in accordance with EA H1 guidance. The assessments consider the potential sources of ground and surface water pollution that could occur due to fugitive emissions from the Installation or from accidents occurring at the Installation. The assessments also detail any mitigation measures employed to reduce the frequency or impact of these events.

The land use and pollution history of the site has been considered in this Site Condition Report.

The Environmental Risk Assessment(s) identify that the development requires the storage of various chemicals, which could pose a risk to the ground and groundwater during normal operation. All process areas, loading/unloading, materials handling areas and roadways are covered in concrete and/or tarmac hardstanding. It is therefore not regarded that there is any risk of ground/groundwater contamination during normal operation of the Installation.

The Environmental Risk Assessment(s) concluded that for land, groundwater and surface water, the residual impacts from the operation of the Installation are insignificant provided the mitigation measures are employed. It is therefore concluded that the installation poses little risk of pollution.

4 Changes to the activity

A summary of the changes proposed with this variation application, in accordance with the requirements of the EA's Site Condition Report template and guidance, is provided within Table 6.

Table 6: Summary of changes to the permitted activities

Have there been any changes to the activity boundary?	There have been no changes to the permitted Installation Boundary.
Have there been any changes to the permitted activities?	Yes, summarised as follows: <ul style="list-style-type: none">• ERF: Increase in processing capacity to 382,286 tonnes per annum.• WTS: Include additional clinical and hazardous EWC codes.
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	No.

5 Summary

During the operation of the Installation, Viridor will continue to maintain any records which demonstrate how the land and groundwater have been protected. This information will include inspection records of site infrastructure, pollution/incident reports, records of any ground investigations undertaken, and any monitoring records of soil, gas and/or water during the life of the permit. Where it is identified that pollution has occurred records will be maintained to demonstrate any pollution incidents that may have affected the land or groundwater. These records will be retained to be used at Permit Surrender.

Appendices

A Plans and Drawings

B Original Site Condition Report

ENGINEERING  CONSULTING

FICHTNER

Consulting Engineers Limited

Kingsgate (Floor 3), Wellington Road North,
Stockport, Cheshire, SK4 1LW,
United Kingdom

t: +44 (0)161 476 0032

f: +44 (0)161 474 0618

www.fichtner.co.uk