Site Condition Report

Environmental Permit Application

SF LHR Limited

Unit 4, Westgate Industrial Estate, Feltham, TW14 8RS

Prepared by:

SLR Consulting Limited

Floor 3, 86 Princess Street, Manchester, M1 6NG

SLR Project No.: 410.064891.00001

4 March 2024

Revision: FINAL

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
FINAL	4 March 2024	Jonathan O'Donnell	Sharon Abram	Sharon Abram
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Basis of Report

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Appendices

1.0 Introduction

SLR Consulting Limited has been instructed by SF LHR Limited (Serverfarm) to prepare an Environmental Permit (EP) application for the proposed expansion of their Feltham datacentre located at Unit 4, Westgate Industrial Estate, Feltham, TW14 8RS ("the site"). The EP application will be submitted to the Environmental Agency (EA) for determination.

This Site Condition Report (SCR) aims to record and describe the condition of the land prior to the commencement of any environmentally permitted operations within the proposed EP boundary.

This SCR will provide a point of reference and baseline environmental data so that when the EP is surrendered it can be demonstrated that there has been no deterioration in the condition of the land as a result of operations at the site and ensure that the condition of the land is in a 'satisfactory state'.

The location of the site is illustrated in Drawing 001. The Site Layout and Emission Points are presented on Drawing 002; Local Receptors are shown on Drawing 003A and Natural and Cultural Heritage are illustrated on Drawing 003B.

Sections 1 to 3 of the Environment Agency's SCR template[1] have been completed within this document and comprise the following aspects:

- site details;
- condition of the land at permit issue;
- geology;
- hydrology;
- hydrogeology;
- pollution history;
- evidence of historic contamination; and
- permitted activities.

Sections 4 to 7 of the SCR template (refer Section 2) will be maintained during the life of the EP and Sections 8 to 10 (refer Section 3) will be completed and submitted in support of the application to surrender the EP.

The following sources have been utilised in the preparation of this SCR:

- Multi Agency Geographical Information for the Countryside[2]
- RSK Geosciences, Geo-environmental Factual and Interpretive Report (Ref. 1922546 R01, dated November 2022) (Appendix A)
- British Geological Survey[3]

[1] https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report accessed August 2023

[2] Multi-Agency Geographical Information for the Countryside Map, available at www.magic.defra.gov.uk, accessed August 2023.

[3] British Geological Survey, available at http://www.bgs.ac.uk, accessed August 2023.

- Environment Agency. Flood map for planning[4].

1.1 Site Details

Table 1-1: Site Details

SITE DETAILS	
Name of the applicant	SF LHR Limited
Activity address	Unit 4, Westgate Industrial Estate, Feltham, TW14 8RS, United Kingdom
National grid reference (centre of site)	TQ 07523 73102
Document reference and dates for Site Condition Report at permit application and surrender	Site Condition Report – 410.064891.00001 SCR, December 2023.
Document references for site plans (including location and boundaries)	Drawing 001 - Site Location Plan. Drawing 002 - Site Layout Plan and Emission Points Drawing 003A – Local Receptors Drawing 003B – Natural & Cultural Heritage

Note:

In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form, then you should submit the additional plan or plans with this Site Condition Report.

1.2 Condition of the Land at Permit Issue

Table 1-2: Condition of the land at permit issue

CONDITION OF THE LAND AT PERMIT ISSUE	
Environmental setting including: geology; hydrogeology; and surface water	The data centre site, centred at NGR TQ 07523 73102, is located off Staines Road at Westgate Industrial Estate, Feltham, TW14 8RS. It is situated approximately 3km to the east of Feltham town centre. The Site location is illustrated on Drawing 001. The Site Layout Plan and Emission Points are presented on Drawing 002; Local Receptors are shown on Drawing 003A and Natural and Cultural Heritage on Drawing 004B.

[4] Flood map for planning, available at https://flood-map-for-planning.service.gov.uk, accessed in August 2023.

	Geology British Geological Survey (BGS) data indicates that the site is directly underlain by superficial deposits comprising Kempton Park Gravel Member (sand and gravel) which is a sedimentary superficial deposit. Underlying the superficial deposits is bedrock of the London Clay Formation (clay, silt and sand). Underlying this is the Harwich Formation (clay, silt and sand) or, where the Harwich Formation is absent, the Lambeth Group (clay, silt and sand). **Hydrogeology** A search on the Multi-Agency Geographical Information for the Countryside (MAGIC) map revealed that the bedrock (London Clay) beneath the site is classified as unproductive strata, defined as having low permeability and negligible significance for water supply or river base flow. The superficial deposits are classified as a principal aquifer, which is defined as 'strategically important rock units that have high permeability and water storage capacity'. **Source Protection Zones** The site does not fall within a Source Protection Zone. **Hydrology** The MAGIC map revealed that the site has Medium-Low groundwater vulnerability. **Surface Water Features** The nearest surface water feature is a series of lakes approximately 175m south of the site. There is a reservoir located approximately 270m north of the site. There is also the Bedfont Lakes Country Park (which includes 2 lakes and one pond) approximately 450m southeast of the site. There are no ponds, streams or drainage ditches on or adjacent to the site. **Flood Risk** The Flood Map for Planning[4] identifies the site as lying within Flood Zone 1, defined by as 'having a low probability of flooding from rivers and the sea'. The Long-Term Flood Risk Asessment[5] identifies the site as being 'Very low risk' from flooding from rivers and surface water. Flooding from groundwater is also unlikely.
Pollution history including: Pollution incidents that may have affected land Historical land-uses and associated contaminants • Any visual/olfactory evidence of existing contamination • Evidence of damage to pollution	**Summary of historical and pollution data sourced from the West Gate Estate, Feltham Geo-environmental Factual and Interpretive Report (1922546 R01), GSK Geosciences, November 2022, (as presented in Appendix A).** **Site Land Use** The earliest map of 1868 shows that the site comprised undeveloped, open ground (open field). Towards the end of the 19th century and into the 20th century, the site became an orchard. In 1931 development started on site, with the erection of a tile works in the northern section and a quarry in the southern section of the site, extending 250m within this site area. This quarry had an associated tramway

[5] Long-Term Flood Risk Assessment, available at Check the long term flood risk for an area in England - GOV.UK (www.gov.uk); accessed on 12th November 2023.

prevention measures	constructed around it's perimeter. The land on the western boundary of the site had been developed into a sand and gravel works. This tile works was demolished, and the quarry was infilled in the 1960s and redeveloped with a warehouse. This warehouse was extended in the early 1970s to include a motor truck depot. By 1999, the onsite warehouse had been demolished, with this area of the site being redeveloped with offices/warehouses; the site layout has remained the same until the present day. **Surrounding Land Use** From 1868, the surrounding land use was predominantly open land, with a gravel pit located approximately 335m east of the site. In the early 1970s, maps showed that within a 100m vicinity of the site, warehouses were also developed. The surrounding area then remained the same until the present day. **Pollution History** There is one recorded historical quarry operation that was present in the south area of the site. This quarry was established in 1932 with an accompanying tile works; by 1960the quarry had been infilled. The closest historical landfill encompassed part of the site itself and was active between December 1953 and April 1992.The waste deposited here included inert, commercial and household. Within 1km of the site boundary, there were further large areas of landfill and infilled land. Operation and closure details have not been provided.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	**The following information has been sourced from the West Gate Estate, Feltham Geo-environmental Factual and Interpretive Report (1922546 R01), GSK Geosciences, November 2022, (as presented in Appendix A).** An on-site pollution incident occurred on 16th January 2017. This involved a leak from an above ground diesel day tank for Generator 7 that was reportedly caused by 'a system failure'. The leakage resulted in approximately 100 litres of diesel being released onto the adjacent hardstanding. The fuel was cleaned up and disposed of off site as hazardous waste. It was found that diesel had entered a nearby surface drainage channel which flowed into an oil interceptor where evidence of diesel was noted. As a result of the diesel leak, an intrusive investigation was undertaken in March and April 2018. This involved the drilling of five dynamic sampler boreholes to 4.00m below ground level (bgl) and one hand dug test pit to 1.20m bgl. The boreholes revealed that the site is underlain by a variable thickness of made ground over the Kempton Park Gravel Member with the London Clay Formation encountered at depth. The made ground (encountered to depths in excess of 3.9m) comprised a brown slightly silty gravelly sand overlying a thicker layer of a soft grey and brownish grey slightly gravelly silty clay. Visual/olfactory evidence of contamination within soils included black staining, an oily sheen and slight hydrocarbon odour indicating that the diesel leak of 2017 may have migrated through the hardstanding into the soils below. In general, the groundwater table was encountered in the made ground at a depth of between 0.65m and 1.74m bgl, with resting groundwater levels within the made ground at 2.70m depth bgl. The groundwater is considered to be only resting within the made ground as the site was

<table>
<tr><td></td><td>previously quarried, naturally this would be expected to present within the Kempton Park Gravel Member. No visual or olfactory evidence of contamination was noted within the groundwater.</td></tr>
<tr><td>Baseline soil and groundwater reference data</td><td>
RSK carried out intrusive investigation works and subsequent monitoring of boreholes (3 deep and 5 shallow) between 12th September and October 2022 to provide soil sand groundwater data for the southern portion of the site, where the existing and new generators are to be located.

Soil and groundwater samples were taken and submitted for a suite of chemical analysis.

The RSK Geo-environmental Factual and Interpretive Report (1922546 R01), at Westgate Estate, Feltham, TW14 8RS, November 2022, is presented in Appendix A of this SCR.

The potential contaminants of concern in relation to the data centre permitted activities relate to diesel and hydrogenated vegetable oil (HVO) used as a fuel for the generators. Therefore the following analytical results from the RSK site investigation report are considered relevant for the establishment of baseline conditions at commencement of the permitted activities:

Soils: total petroleum hydrocarbons (THP CWG) and speciated polyaromatic hydrocarbons (PAHs); and

Groundwater: TPH CWG and speciated PAHs.

These analytical results are summarised below.

<u>Soil TPH and Total PAH Analytical Results</u>

TPH and total PAH results for the soil samples are summarised in Table 1.

Table 1-3. 2022 site investigation TPH & PAH soil sample results
<table>
<tr><td>Borehole ID</td><td>BH1</td><td>BH2</td><td>BH3</td><td>WS3</td><td>WS3</td><td>WS5</td><td>WS5</td><td>WS6</td></tr>
<tr><td>Sample Depth (m bgl)</td><td>0.5</td><td>0.3</td><td>0.5</td><td>0.35</td><td>0.7</td><td>0.4</td><td>0.7</td><td>0.8</td></tr>
<tr><td>TPH (Aliphatic & Aromatic >C5-C35) (mg/kg)</td><td>125</td><td>245</td><td>181</td><td>416</td><td>363</td><td>7</td><td><1</td><td>50</td></tr>
<tr><td>Total PAHs (mg/kg)</td><td>5.64</td><td>6.26</td><td>19.9</td><td>7.55</td><td>5.66</td><td><0.08</td><td><0.08</td><td>0.35</td></tr>
</table>

<u>Groundwater TPH and Total PAH Analytical Results</u>

TPH and total PAH results from the groundwater borehole samples are summarised in Table 2:

Table 1-4. 2022 site investigation TPH & Total PAH groundwater sample results
<table>
<tr><td>Borehole ID</td><td>BH1</td><td>BH2</td><td>BH3</td></tr>
<tr><td>TPH (Aliphatic & Aromatic >C5-C35) (ug/l)</td><td>138</td><td>20</td><td>291</td></tr>
<tr><td>Total PAHs (ug/l)</td><td>0.10</td><td>0.06</td><td>0.69</td></tr>
</table>
</td></tr>
<tr><td>Supporting information</td><td>
• Appendix 01: RSK Geosciences, Geo-Environmental Factual and Interpretive Report (1922546 R01), at Westgate Estate, Feltham, TW14 8RS, November 2022, available in Appendix A.
• Drawing 003A Local Receptors
• Drawing 003B Natural & Cultural Heritage.
</td></tr>
</table>

1.3 Permitted Activities

Table 1-5: Permitted Activities

PERMITTED ACTIVITIES	
Permitted activities	The site will be permitted under Schedule 1, Part A1 of the Environmental Permitting (England and Wales) Regulations (EPR) 2016 (as amended), as follows: • Section 1.1 Part A(1)(a) – burning any fuel in an appliance with a rated thermal input of 50 or more megawatts. Directly Associated Activities include: • Selective Catalytic Reduction (SCR) abatement to reduce oxides of nitrogen (NO_x) emissions from the generators; and • Storage and handling of generator fuel (diesel and/or hydrogenated vegetable oil (HVO)) and AdBlue (circa 35% urea in water).
Non-permitted activities undertaken	• No non-permitted activities to be undertaken.
Document references for: • plan showing activity layout; and • environmental risk assessment.	• Drawing 002 - Site Layout Plan and Emission Points • Environmental Risk Assessment – 410.064891.00001_ERA.

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (Environmental Risk Assessment - EPR H1) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as ‘dangerous’ under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater, we may need to request further information from you or even refuse your permit application.

Appendix A Westgate Estate, Feltham Geo-environmental Factual and Interpretive Report – 1922546 R01 (00), RSK Geosciences, November 2022.

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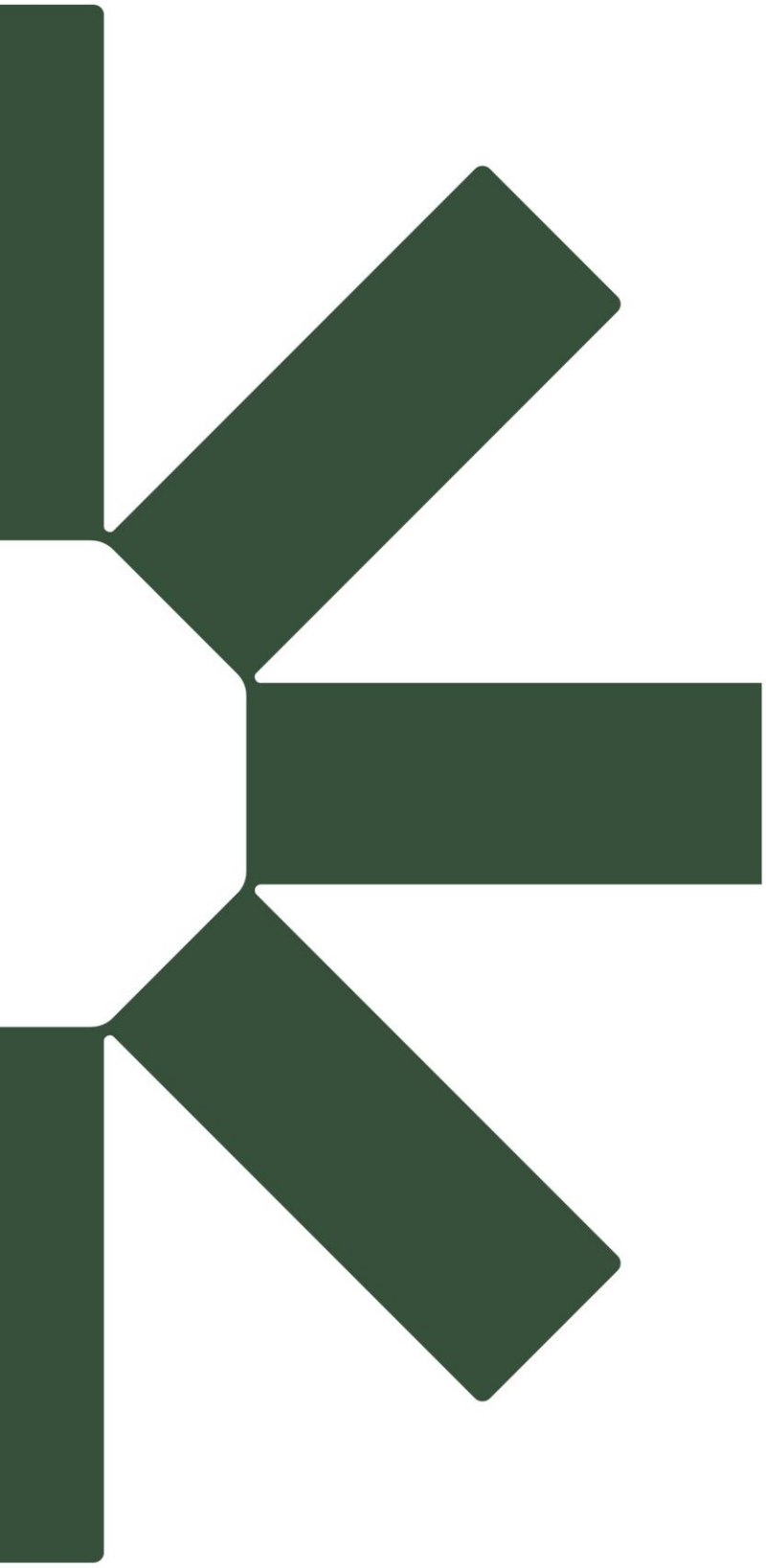
Environmental Permit Application

SF LHR Limited

SLR Project No.: 410.064891.00001

4 March 2024



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