

## LD4 Updated Site Condition Report

## **SITE CONDITION REPORT TEMPLATE**

For full details, see H5 *SCR guide for applicants* v2.0 4 August 2008

**COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION**

**DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7**

**AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.**

1.0 SITE DETAILS	
Name of the applicant	Equinix Inc
Activity address	2 Buckingham Avenue, Slough Trading Estate, Slough, SL1 4NB
National grid reference	NGR: 494720, 181390
Document reference and dates for Site Condition Report at permit application and surrender	ERM, Equinix LD4 Data Centre, Phase 1 Desk Study Report, December 2018. (Appendix E to Supporting Information Document)
Document references for site plans (including location and boundaries)	See the Environmental Permit application supporting information document <i>Figure 2.2</i> .

**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.

2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> <li>• geology</li> <li>• hydrogeology</li> <li>• surface waters</li> </ul>	<p><b><u>British Geological Survey (BGS) Onshore Geoindex Summary</u></b></p> <p>No Artificial Ground is indicated to be present onsite, although it is anticipated that Made Ground will be present (unknown thickness) due to the existing development on Site.</p> <p>The superficial deposits underlying the site are the 'Langley Silt Member', which is described as varying from silt to clay, commonly yellow-brown and massively bedded. It is indicated to have a thickness of 1-5m, with an average thickness of 3m.</p> <p>The bedrock geology underlying the site is the 'Lambeth Group', which is described as vertically and laterally variable sequences, silty and sandy clay, with some sands and gravels, minor limestones and lignites, with occasional sandstone and conglomerate. The geological unit is indicated to be up to 39m in thickness in the west of the London Basin, and is indicated to be underlain by the Upper Chalk.</p>

## **Borehole Logs**

### **Borehole SU98SW409 (Dated 2015)**

Located approximately 130m west of the site, it indicated a Made Ground of approximately 0.5m thickness, consisting of bricks and stone. Brown clay with sand, stone and gravel approximately 8.5m in thickness underlies the Made Ground to a depth of around 9m below ground level (bgl), below which is grey mudstone to a depth of approximately 11m bgl, at which point chalk and flint (Upper Chalk) is encountered and indicated to be present to a depth of 70 m bgl.

### **Boreholes SU98SW18 and SU98SW19 (Dated 1961)**

These boreholes are located approximately 175m and 215m to the south-east respectively. The boreholes indicates around 0.3m of topsoil, below which is sandy silty clay (brickearth) of around 1.2m thickness. Firm brown clayey silt with pockets of fine sand (brickearth) is found to a depth of around 3m bgl where it encounters the taplow Taplow deposits, which is described as very dense small to large flint gravel with occasional cobbles, and these deposits are indicated to extend to a depth of around 7m bgl. Below the taplow deposits lies mottled black, grey and brown clay, with pockets of sandy clay.

### **Borehole BH SU98SE363 (Dated 2015)**

This borehole is located approximately 420m to the east of the Site, and describes the underlying Chalk unit as yellowish white, slightly sandy gravelly silt with frequent chalk cobbles, with flint nodules occurring in bands. The Chalk is indicated to be present from 6m bgl to a depth of 168m bgl where the Upper Greensand formation is encountered.

## **Hydrogeology**

The superficial deposits are categorised as a 'Secondary A Aquifer', which is defined as 'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers'.

The Lambeth Group is categorised as 'Unproductive Strata', while the Upper Chalk is a 'Principal Aquifer'. A Principal Aquifer is described as 'These are layers of rock or drift

	<p>deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer'. Unproductive Strata is defined as 'These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow'.</p> <p>The groundwater body underlying the Site is titled the 'Twyford Tertiaries', and was classified overall in 2016 as 'good'<sup>1</sup>.</p> <p>The Site lies within a Zone III – Total Catchment Source-Protection Zone (SPZ). A Zone II – Outer Protection Zone begins approximately 100m to the north, and another approximately 960m to the south-east. The Zone I – Inner Protection Zones are located approximately 480m to the north, and approximately 2.5km to the south-east<sup>2</sup>.</p> <p>Borehole SU98SW409 indicated water was struck at 7 m bgl, with a resting water level on completion of the borehole of 7.5m bgl.</p> <p>The Envirocheck Report indicates that there are fifty-six registered groundwater abstractions within 2km of the Site, eleven of which are located within 500m of the Site. A majority of the abstractions do not have a permit end date supplied. Based on the individual license numbers the closest three groundwater abstractions are listed below;</p> <ul style="list-style-type: none"> <li>•'Clean Linen Services Ltd' located approximately 110m to the west.</li> <li>•'Slough Estates Plc' located approximately 185m to the north-west.</li> <li>•'Equinix (Uk) Limited' located approximately 415m to the east.</li> </ul> <p><b>Hydrology</b></p> <p>The nearest surface water to Site is Chalvey Ditch, located approximately 400m to the west. In 2009 the stream was given a General Quality Assessment (GQA) Grade for River Quality Biology of 'A - Very Good'.</p> <p>No surface water abstractions were identified within 1km of the Site.</p> <p>The Site is not indicated to be at risk of flooding by rivers or the sea. The perimeter of the Site is indicated to be at low-medium risk of surface water flooding, while the south-eastern corner is indicated to be at high risk</p>
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<sup>1</sup> <https://environment.data.gov.uk/catchment-planning/WaterBody/GB40602G602700> (accessed 15/11/2018)

<sup>2</sup> <https://magic.defra.gov.uk/MagicMap.aspx> (accessed 16/11/2018)

	<p>of surface water flooding. A high risk means 'that each year this area has a chance of flooding of greater than 3.3%. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding'. A medium risk is defined as having an annual chance of flooding between 1% - 3.3%, while low is defined as having an annual chance of between 0.1 – 1% .</p>
<p>Pollution history including:</p> <ul style="list-style-type: none"> <li>• pollution incidents that may have affected land</li> <li>• historical land-uses and associated contaminants</li> <li>• any visual/olfactory evidence of existing contamination</li> <li>• evidence of damage to pollution prevention measures</li> </ul>	<p>The Envirocheck Report states five pollution incidents to controlled waters have occurred within 500m of the Site, two of which were 'Category 2 – Significant Incidents' and involved oils and an unknown pollutant. The most recent of the incidents occurred in 1995.</p> <p>The Envirocheck Report states two substantiated pollution register incidents have occurred within 500m of the Site.</p> <p>The first of these incidents occurred in 2008, approximately 350m to the west and involved the release of diesel causing a 'Category 2 – Significant Incident' for land and water. This event is believed to be linked to an overnight fuel leakage from the LD4 bulk fuel storage tank. The fuel ran onto the concrete slab and reached the site drainage system. The fuel interceptor was overwhelmed, therefore allowing the fuel to spill into the external drainage and to reach the water course. The problem was identified by Thames Water who reported the incident to the Environment Agency. Subsequently, a clean-up operation was undertaken by Thames Water. Any ground contamination from this incident is expected to have been off-site as the leak was channelled through the drainage system and is not thought to have penetrated the concrete slab. Following the event, a 110% bund was installed and no other leaks have occurred.</p> <p>The second incident occurred in 2009 approximately 50m to the west, and involved the release of surfactants &amp; detergents leading to a 'Category 1 – Major Incident' to water only. This event is not related to Equinix operations.</p> <p>The site and its surrounding have a history of industrial activity which include various engineering works, motor works, chemical works, battery works, plastic &amp; rubber works, dispersed pigments works, factories and warehouses.</p> <p>No site investigation reports or monitoring data were identified for the site.</p>

Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	None available/identified.
Baseline soil and groundwater reference data	None available/identified.
<b>Supporting information</b>	<ul style="list-style-type: none"> <li>ERM, Equinix LD4 Data Centre, Phase 1 Desk Study Report, December 2018. (Appendix E to Supporting Information Document of original permit application)</li> </ul>

<b>3.0 Permitted activities</b>	
Permitted activities	The Site requires the environmental permit under Schedule 1, Section 1.1 Part A(1) for the 'burning any fuel in an appliance with a rated thermal input of 50 or more megawatts' as the site has a number of emergency diesel generators which together have thermal input of over 50 megawatts.
Non-permitted activities undertaken	None identified.
Document references for: <ul style="list-style-type: none"> <li>plan showing activity layout; and</li> <li>Environmental risk assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Site layout - Supporting Information Document Figure 4.1</li> <li>ERM, Equinix LD4 Data Centre, Phase 1 Desk Study Report, December 2018. (Appendix E to Supporting Information Document to original permit application)</li> </ul>

**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.

4.0 Changes to the activity		
Have there been any changes to the activity boundary?		No, the boundary of the installation remains the same.
Have there been any changes to the permitted activities?		This updated SCR is to support the Campus Permit variation application. Three additional generators are being installed. No additional bulk fuel storage is being added however, three associated day tanks of 5063L are being added.
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?		No
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Site Layout – Figure 4.1 of Supporting Information Document</li> <li>• Description of changes – Section 4 of Supporting Information Document</li> <li>• Raw Materials – Section 9 of Supporting Information Document</li> </ul>

5.0 Measures taken to protect land
<p>Diesel fuel is stored in two bulk storage tanks with a capacity of 55,000 litres that are indicated to be fitted with level alarms, and seven day tanks with a capacity of 4,470 litres. The variation application is adding an additional 3 5063L day tanks to the additional 3 generators being added on-site. The bulk storage tanks are situated within a bund that has an area of 143m<sup>2</sup> and 110% storage capacity of the largest tank. Each day tank is double-skinned. Any water that accumulates in external bunds is tested prior to discharge into rainwater drains. The location of the tanks and bunding are shown in figure 'AI-LD4-0-SPACE' attached to this SCR. Photos of the diesel tanks and bunding are shown in the attachment to this SCR.</p> <p>The diesel filling procedure is defined and set out in Appendix B to the Permit Application Supporting Information Document – Diesel filling procedure.</p> <p>The generators are stored in shipping containers over hardstanding.</p> <p>The Site consists of hardstanding in generally good condition both inside and outside of the building.</p> <p>The current and new site drainage systems are detailed in Appendix G to the Permit application Supporting Information Document, Drawing LD4 – Drainage. This shows a 'Condor' oil/water separator present south of the generators. There is also a separate foul water drainage system. Details of dimensions, construction, manholes and soakaways are also shown on the drawing.</p> <p>Any oil and oily water will be removed using a vacuum pump, and recycled or disposed using an appropriate waste disposal company.</p> <p>Equinix has emergency response procedures in place in the event of a release of oil or diesel, processes for the planning for such eventualities and checklists to audit the response in case such an event occurs. These are provided in Appendix C to the Permit Application Supporting Information Document – Emergency Response Oil Spill Response.</p>



Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Drawing AI-LD4-0-SPACE (attached to this SCR)</li> <li>• Photos (attached to this SCR)</li> <li>• ERM, Equinix LD4 Data Centre, Phase 1 Desk Study Report, December 2018. (Appendix E to Supporting Information Document)</li> <li>• Emergency Response Planning (Appendix G of Permit Application Supporting Information Document)</li> <li>• Diesel Filling Procedure (Appendix H of Permit Application Supporting Information Document)</li> </ul>
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#### **6.0 Pollution incidents that may have had an impact on land, and their remediation**

As described in Section 2.0, one pollution incident has happened on-site, but the contamination is believed to have been off-site. The event involved the release of diesel causing a 'Category 2 – Significant Incident' for land and water 350m away from LD4.

Checklist supporting information	of	<ul style="list-style-type: none"> <li>• ERM, Equinix LD4 Data Centre, Phase 1 Desk Study Report, December 2018. (Appendix E to Supporting Information Document of original application)</li> </ul>
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#### **7.0 Soil gas and water quality monitoring (where undertaken)**

No ongoing monitoring is proposed due to the low risk of a pollution incident occurring as a result of site activities. The identified preventative measures in place which are outlined in Section 5.

Checklist supporting information	of	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
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### 8.0 Decommissioning and removal of pollution risk

Not applicable at this stage.

Checklist of supporting information	<ul style="list-style-type: none"><li>• Site closure plan</li><li>• List of potential sources of pollution risk</li><li>• Investigation and remediation reports (where relevant)</li></ul>
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### 9.0 Reference data and remediation (where relevant)

Not applicable at this stage.

Checklist of supporting information	<ul style="list-style-type: none"><li>• Land and/or groundwater data collected at application (if collected)</li><li>• Land and/or groundwater data collected at surrender (where needed)</li><li>• Assessment of satisfactory state</li><li>• Remediation and verification reports (where undertaken)</li></ul>
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### 10.0 Statement of site condition

- Not applicable at this stage.

**PHOTOS:**



**LD4 Bulk Tanks**



**LD4 Bulk Tank Bunding**



**LD4 Day Tanks (Double Skinned)**

## LD5 Updated Site Condition Report

# **SITE CONDITION REPORT TEMPLATE**

For full details, see H5 *SCR guide for applicants* v2.0 4 August 2008

**COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION**

**DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7**

**AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.**

V2.0 4 August 2008

1.0 SITE DETAILS	
Name of the applicant	Equinix Inc
Activity address	8 Buckingham Avenue, Slough Trading Estate, Slough, SL1 4RY
National grid reference	NGR: 495197, 181243
Document reference and dates for Site Condition Report at permit application and surrender	WSP Environmental – Phase I and II Geo-Environmental Assessment. Building 8, Buckingham Avenue and 246 Bedford Avenue, Slough. Report dated January 2009. Ref: 12041360/001
Document references for site plans (including location and boundaries)	See the Environmental Permit supporting information document.

**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.

2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> <li>• geology</li> <li>• hydrogeology</li> <li>• surface waters</li> </ul>	<p>Published mapping indicated the following geological sequence underlies the site: River Brickearth, Taplow Gravels (Major Aquifer), Lambeth Group and the Upper Chalk (Major Aquifer).</p> <p>During ground investigation, the general ground conditions encountered on site comprised Concrete slab, Made Ground, Brickearth, Taplow Gravels (Major Aquifer) and the Lambeth Group.</p> <p>Groundwater was recorded between 5.1 and 5.26m below ground level (bgl).</p> <p>The only surface water feature in the vicinity of the site is the Haymill Stream, approximately 700 m to the West. There are no known surface water abstractions within 1 km of the site.</p>
Pollution history including:	There is one recorded pollution incident, located at 230m southwest concerning

<ul style="list-style-type: none"> <li>• pollution incidents that may have affected land</li> <li>• historical land-uses and associated contaminants</li> <li>• any visual/olfactory evidence of existing contamination</li> <li>• evidence of damage to pollution prevention measures</li> </ul>	<p>general/agricultural pollutants classed as Category 3 – Minor Incident.</p> <p>The site has been previously utilised for a variety of commercial and industrial uses, including several works. There is no information on contaminants associated with those works.</p> <p>Elevated soil concentrations of TPH with respect to Controlled Waters, has been detected in soil within at a depths between 2.7 m and 2.9 m bgl. It is possible this contamination may migrate vertically through the unsaturated soil zone within the Taplow Gravels until it reaches the surface of the water table, recorded at the site between depths of approximately 5.1 – 5.25 m bgl. Although, leachate analysis has not recorded concentrations considered to present a risk to Controlled Waters i.e. the soils have a low risk of migrating into the aquifer, the contamination is localised and the areas will be covered by hardstanding upon completion of the development, reducing the potential for migration. In addition, no elevated concentrations of TPH have been identified within the groundwater.</p> <p>Groundwater samples were analysed for a range of contaminants; with the exception of slightly elevated concentrations of phenolic compounds within two samples, the groundwater samples did not exceed the screening levels for any contaminants of concern.</p> <p>Asbestos insulating boards and cementaceous asbestos were found in the Made Ground during site investigation works. An hydrocarbon odour was also noticed within the Taplow Gravels stratum between 2.5 and 2.9 m bgl.</p>
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	See site investigation reported in report Phase I and II Geo-Environmental Assessment dated January 2009.
Baseline soil and groundwater reference data	See site investigation reported in report Phase I and II Geo-Environmental Assessment dated January 2009.
<b>Supporting information</b>	<ul style="list-style-type: none"> <li>• Source information identifying environmental setting and pollution incidents</li> <li>• Historical Ordnance Survey plans</li> <li>• Site reconnaissance</li> <li>• Historical investigation / assessment / remediation / verification reports</li> <li>• Baseline soil and groundwater reference data</li> <li>• Ground investigation</li> </ul>



3.0 Permitted activities	
Permitted activities	See the Environmental Permit – supporting information, for a full description of the site including permitted activities and wider ancillary activities undertaken across the Equinix site. Environmental Permitting Regulations Schedule 1 References: Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts (Section 1.1 Part A(1)(a))
Non-permitted activities undertaken	Data centre
Document references for: <ul style="list-style-type: none"> <li>• plan showing activity layout; and</li> <li>• Environmental risk assessment.</li> </ul>	See the Environmental Permit supporting information document.

**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.

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	No, the boundary of the installation remains the same.
Have there been any changes to the permitted activities?	This updated SCR is to support the Campus Permit variation application. Eight additional generators are being installed. Two bulk fuel storage tanks with a 68,000 L capacity are being. Each new generator also has a 4,000L day tank.
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	No
Checklist of supporting information	<ul style="list-style-type: none"> <li>• Site Layout – Figure 4.2 of Supporting Information Document</li> <li>• Description of changes – Section 4 of Supporting Information Document</li> <li>• Raw Materials – Section 9 of Supporting Information Document</li> </ul>

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5.0 Measures taken to protect land	
<p>The variation application will change the permit to add an additional 8 generators. The LD5 site will contain two new bulk fuel tanks at a 68,000L capacity and 8 x 4000L day tanks additional to the gas oil stored in the 3 original internal bulk storage tanks with a capacity of 66,000 litres, and 14 day tanks (one per generator) with a capacity of 4,000 or 4,500 litres, which each have an associated sump. The bulk storage tanks are situated within a concrete bunded area sized to contain 110% of the largest tank. The location of the tanks, generators and a bulk fuel pump house are shown in figure 'AVK Jn300351-001E_Site_Layout' attached to this SCR.</p> <p>The Site consists of hardstanding in generally good condition both inside and outside of the building.</p> <p>Construction details for the Site are provided in the Health &amp; Safety File, while further information on the systems on Site are provided in the 'Site Facts LD5' document.</p> <p>Any oil and oily water in bunds will be removed using a vacuum pump, and recycled or disposed using an appropriate waste disposal company.</p> <p>The diesel filling procedure is defined and set out in Appendix H to the Permit Application Supporting Information Document – Diesel filling procedure.</p> <p>Equinix has emergency response procedures in place in the event of a release of oil or diesel, processes for the planning for such eventualities and checklists to audit the response in case such an event occurs. These are provided in Appendix G to the Permit Application Supporting Information Document – Emergency Response Oil Spill Response.</p>	
Checklist of supporting information	<ul style="list-style-type: none"> <li>• Site photographs.</li> <li>• SEGRO. Health &amp; Safety File. 2 Buckingham Avenue Slough Trading Estate Slough SL1 4NB (W0121).</li> <li>• Site Facts LD5 – Updated 2017</li> </ul>

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#### 6.0 Pollution incidents that may have had an impact on land, and their remediation

One recorded pollution incident was identified, located at 230m south-west concerning general/agricultural pollutants classed as Category 3 – Minor Incident.

The site had previously been used for a number of different works, including a chemical works and an adhesive works; these former land uses are a potential source of contamination.

Correspondence with the Environment Agency confirmed that specific remediation with regards to Controlled Waters was not required. Remediation of the asbestos impacted materials beneath Unit 8B was undertaken by Moss Construction and Sanctus Ltd (specialist Asbestos removal contractor). The purpose of the remedial works was to carry out the controlled excavation of asbestos contaminated demolition rubble and soils from the infilled basement areas.

Checklist of supporting information	<ul style="list-style-type: none"><li>• WSP. 2009. Phase I and II Geo-Environmental Assessment. Building 8, Buckingham Avenue and 246 Bedford Avenue, Slough, Slough Trading Estate Limited</li><li>• WSP. 2010. Post Construction Environmental Audit Building 8, Buckingham Avenue, Slough Slough Trading Estate Limited</li></ul>
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#### 7.0 Soil gas and water quality monitoring (where undertaken)

The Geo-Environmental Investigation completed by WSP comprised of trial pits, window sampling, boreholes, dynamic probing, with subsequent ground gas, soil and groundwater monitoring. The investigation identified the following impacts;

- Visual and olfactory contamination was recorded in soil in WS6 as a hydrocarbon odour within the Taplow Gravels (a Major Aquifer and thus a controlled water receptor) at a depth of 2.5 to 2.9m bgl. Although none of the hydrocarbon bandings exceeded the relevant screening criteria, the total hydrocarbon value of 4700mg/kg detected in the unsaturated zone soil may be potentially significant with regard to impacting groundwater within the Taplow Gravel (although the absence of impact in the groundwater been observed). Delineation works in this area indicate that the hydrocarbon contamination is a localised 'hotspot', largely confined to the immediate area surrounding WS6 at approximately 2.7m to 3.5m bgl.
- Phenolic contamination in groundwater was detected at concentrations marginally exceeding guideline values in two samples. The remaining groundwater sample results from BH1-6 did not exceed the screening levels for any contaminants of concern. No soil sources of phenolic compounds were identified, and as the detection is in only two of the six groundwater monitoring wells, it is not considered that there is a significant risk to Controlled Waters.
- Ground gas concentrations have not been observed in significantly elevated concentrations and the classification based on the available data for the site is Gas Characterisation 2; (Low Risk) indicating that special gas protection measures may be required.
- WSP consider that no significant risks have been identified in regard to human health and the continued use of the site for commercial use; with the exception of significant volumes of asbestos containing cementaceous material and some asbestos insulating board was observed within the building rubble 'pit' within Building 8b, in the western section of the site. The area comprises approximately 700m<sup>3</sup> of asbestos contaminated rubble.

Checklist  
supporting  
information

of

- WSP. 2009. Phase I and II Geo-Environmental Assessment. Building 8, Buckingham Avenue and 246 Bedford Avenue, Slough, Slough Trading Estate Limited

8.0 Decommissioning and removal of pollution risk		
Not applicable at this stage.		
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Site closure plan</li> <li>• List of potential sources of pollution risk</li> <li>• Investigation and remediation reports (where relevant)</li> </ul>

9.0 Reference data and remediation (where relevant)		
Not applicable at this stage.		
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Land and/or groundwater data collected at application (if collected)</li> <li>• Land and/or groundwater data collected at surrender (where needed)</li> <li>• Assessment of satisfactory state</li> <li>• Remediation and verification reports (where undertaken)</li> </ul>

10.0 Statement of site condition		
Not applicable at this stage.		

**PHOTOS:**



**LD5 Bulk Tanks**



**LD5 Bulk Tank Bunding**



**LD5 Day Tank (Double Skinned)**

## LD6 Updated Site Condition Report

# **SITE CONDITION REPORT TEMPLATE**

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**COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION**

**DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7**

**AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.**



1.0 SITE DETAILS	
Name of the applicant	Equinix Inc
Activity address	352 Buckingham Avenue, Slough Trading Estate, Slough, SL1 4PF
National grid reference	NGR: 494751, 181453
Document reference and dates for Site Condition Report at permit application and surrender	WSP – 352 Buckingham Avenue, Slough: Geoenvironmental assessment. Report dated August 2013. Ref: 00038054/002
Document references for site plans (including location and boundaries)	See the Environmental Permit supporting information document.

**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.
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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.

2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> <li>• geology</li> <li>• hydrogeology</li> <li>• surface waters</li> </ul>	<p>Published mapping indicated the following geological sequence underlies the site: Made Ground, Langley Silt, Taplow Gravel (Principal Aquifer), Lambeth Group and the Seaford and Newhaven Chalk (Principal Aquifer).</p> <p>During ground investigation, the general ground conditions encountered on site comprised Concrete slab, Made Ground, Alluvium, Langley Silt, Taplow Gravel, Lambeth Group and the Seaford and Newhaven Chalk.</p> <p>Groundwater was recorded between 3.94 and 4.94 m below ground level (bgl).</p> <p>The only surface water feature in the vicinity of the site is the Chalvey Ditch, approximately 220 m to the West. There are no known private water supplies within a 500 m radius of the Site and no surface water abstractions within 1 km of the site, but there are five licences for groundwater abstractions within 1 km of the site.</p>

<p>Pollution history including:</p> <ul style="list-style-type: none"> <li>• pollution incidents that may have affected land</li> <li>• historical land-uses and associated contaminants</li> <li>• any visual/olfactory evidence of existing contamination</li> <li>• evidence of damage to pollution prevention measures</li> </ul>	<p>The closest reported pollution incident occurred ~150 m southwest of the Site in September 2009, and related to surfactants and detergents being released. The incident was classified as a Category 1 'Major Incident' for water impact, however was classified as a Category 4 'No Impact' to air or land. The second incident occurred ~425 m to the west of the Site in January 2008; and involved the release of diesel. The incident was classified as a Category 2 'Significant Incident' for impact to water and land; and a Category 3 'Minor Incident' for impact to air.</p> <p>There are no records of any specific environmental issues with the site itself.</p> <p>GE Medical was the most recent tenants of the property who constructed medical equipment whilst occupying the site. Prior to that, the site was used for general industrial and commercial activities.</p> <p>No significant soil or groundwater contamination was detected onsite as none of the soil and groundwater samples analysed reported contaminant concentrations exceeding the relevant Soil Guideline Value (SGV) or Generic Assessment Criteria (GAC).</p> <p>Asbestos was identified in four of the nine samples analysed for asbestos. Loose fibres of white and brown asbestos, as well as asbestos cement and AIB debris were identified;</p>
<p>Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)</p>	<p>See site investigation reported in report Geoenvironmental assessment dated August 2013.</p>
<p>Baseline soil and groundwater reference data</p>	<p>See site investigation reported in report Geoenvironmental assessment dated August 2013.</p>
<p><b>Supporting information</b></p>	<ul style="list-style-type: none"> <li>• Source information identifying environmental setting and pollution incidents</li> <li>• Historical Ordnance Survey plans</li> <li>• Site reconnaissance</li> <li>• Historical investigation / assessment / remediation / verification reports</li> <li>• Baseline soil and groundwater reference data</li> <li>• Ground investigation</li> </ul>

### 3.0 Permitted activities

<p>Permitted activities</p>	<p>See the Environmental Permit – supporting information, for a full description of the site including permitted activities and wider ancillary activities undertaken across the Equinix site. Environmental Permitting Regulations Schedule 1 References: Burning</p>
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	any fuel in an appliance with a rated thermal input of 50 or more megawatts (Section 1.1 Part A(1)(a))
Non-permitted activities undertaken	Data centre
Document references for: <ul style="list-style-type: none"> <li>• plan showing activity layout; and</li> <li>• Environmental risk assessment.</li> </ul>	See the Environmental Permit supporting information document.

**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.

4.0 Changes to the activity		
Have there been any changes to the activity boundary?	No, the boundary of the installation remains the same.	
Have there been any changes to the permitted activities?	This updated SCR is to support the Campus Permit variation application. One additional generator is to be installed on LD6 land but will serve LD7 installation. Three bulk tank of 63,000L capacity are also to be installed on LD6 land to serve the LD7 site. There will be one 1,500 L day tanks associated with the generator.	
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	No	
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Site Layout – Figure 4.3 of Supporting Information Document</li> <li>• Description of changes – Section 4 of Supporting Information Document</li> <li>• Raw Materials – Section 9 of Supporting Information Document</li> </ul>

5.0 Measures taken to protect land		
<p>There are three internal above ground storage tanks with double skin and concrete bunding located in a tank storage area. The above ground storage tanks have capacities of 80,000 litres. The bunding along with a sump provide 110% storage capacity of one storage tank. Tanks are indicated to have low-low, low, high and high-high level alarms.</p> <p>All external pipework is indicated to be insulated and trace heated with cladding to provide protection from damage. All pipework outside of the bunded area to be double-skinned with leak detection and drain points at low points.</p> <p>The Site consists of hardstanding in generally good condition both inside and outside of the building.</p> <p>The diesel filling procedure is defined and set out in Appendix H to the Permit Application Supporting Information Document – Diesel filling procedure.</p> <p>Equinix has emergency response procedures in place in the event of a release of oil or diesel, processes for the planning for such eventualities and checklists to audit the response in case such an event occurs. These are provided in Appendix G to the Permit Application Supporting Information Document – Emergency Response Oil Spill Response.</p>		
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Site photographs</li> </ul>

6.0 Pollution incidents that may have had an impact on land, and their remediation

The closest controlled waters pollution incident was recorded as a category 3 'Minor Incident', ~220 m to the west of the Site. The cause of incident, pollutant and receiving water were however not given. Of the five controlled water pollution incidents between 250 and 500 m from the Site, two were category 2 (Significant incidents); and 3 were category 3 incidents. The 2 category - Significant incidents (~280 m northwest, and ~420 m west of the Site) had no information on the cause of incident or receiving water. Oil was the reported pollutant from the incident ~280 m north-west of the Site. All incidents occurred prior to the year 2000.

The closest reported substantiated pollution incident occurred ~150 m south-west of the Site in September 2009, and related to surfactants and detergents being released. The incident was classified as a Category 1 'Major Incident' for water impact, however was classified as a Category 4 'No Impact' to air or land. The second incident occurred ~425 m to the west of the Site in January 2008; and involved the release of diesel. The incident was classified as a Category 2 'Significant Incident' for impact to water and land; and a Category 3 'Minor Incident' for impact to air.

The site had previously been used for a number of different works, including a printing works and a plastic works; these former land uses are a potential source of contamination.

Checklist of supporting information

- WSP. 2013. 352 Buckingham Avenue, Slough: Geoenvironmental Assessment SEGRO

## 7.0 Soil gas and water quality monitoring (where undertaken)

WSP completed a Geo-Environmental Assessment of the Site in 2013, which included the completion of trial pits, window sampling and boreholes, with subsequent ground gas and groundwater monitoring. Their findings included;

- No significant soil or groundwater contamination was detected onsite. The Site has not been designated as Contaminated Land, or identified for inspection or further review as part of the Council's Contaminated Land Strategy.
- No contaminant concentrations were recorded in soils which exceed available General Assessment Criteria (GAC) for a commercial end use.
- The most likely source for any ground gas identified on the Site was from the clinker noted at 0.5 m bgl in WS104. Concentrations of carbon dioxide were recorded between 1.4 and 5.1% in this borehole. Laboratory results reported low concentrations of TPH and BTEX from the clinker material in the borehole; however the elevated carbon dioxide concentrations may be due to its presence. The only other likely source of ground gas onsite; will be any organic inclusions within the Made Ground. No specific area of organic waste deposition has been identified onsite and the clay based strata (Langley Silt Member) is of low permeability so as to mitigate significantly the potential for migration of ground gas from an off-site source. It is considered that the Made Ground represents a low source generation potential based on the limited organic material present. The proposed redevelopment is for an industrial use and therefore is a low sensitivity development.
- No exceedances of the relevant 'Groundwater/ Drinking Water Receptor' Water Quality Standards (WQS) were detected from the six water samples taken from groundwater monitoring wells across the Site. It was considered appropriate to apply the Drinking Water Receptor WQS values on the basis that no surface water in the vicinity of the site is likely to be affected, due to distance from the Site, and the location of the Site is within Source-Protection Zone (III).
- Chromium VI was detected on previous site investigation on neighbouring site 9 & 100 Cambridge Avenue, in the Slough Trading Estate. Although no exceedances were present; the groundwater sampled in WS105 reported a concentration of 31 µg/l (the

WQS screening value was 50 µg/l). All other groundwater samples reported below detection limit concentrations.

- Asbestos was identified in four of the nine samples analysed for asbestos. Loose fibres of white and brown asbestos, as well as asbestos cement and AIB debris were identified. Risks to construction and maintenance workers from asbestos in the Made Ground can be mitigated by using appropriate management procedures as part of a health and safety risk assessment for working with Made Ground materials. Risks to future site users can be mitigated through the specification of a clean cover barrier in areas where hard standing is not present.
- The removal of asbestos containing materials (ACMs) was completed by Sanctus, which comprised the breaking out the existing tarmac, concrete and brick paving surfacing, followed by the controlled excavation of the backfill material. All excavated materials were stockpiled and tested for the presence of ACM, and material visually contaminated with ACM was passed through a hand picking station to remove ACM's for off-site disposal where possible. All works were carried out in accordance with the Health and Safety at Works Act 1974 and the Control of Asbestos Regulations 2012.
- There are records of identified contamination and remediation on other sites located within 500m of the Site.

Checklist  
supporting  
information

of

- WSP. 2013. 352 Buckingham Avenue, Slough: Geoenvironmental Assessment SEGRO
- Sanctus. 2014. Contract Completion Report 352 Buckingham Avenue, Slough

### 8.0 Decommissioning and removal of pollution risk

Not applicable at this stage.

Checklist  
supporting  
information

of

- Site closure plan
- List of potential sources of pollution risk
- Investigation and remediation reports (where relevant)

### 9.0 Reference data and remediation (where relevant)

Not applicable at this stage.

Checklist  
supporting  
information

of

- Land and/or groundwater data collected at application (if collected)
- Land and/or groundwater data collected at surrender (where needed)
- Assessment of satisfactory state
- Remediation and verification reports (where undertaken)

### 10.0 Statement of site condition

Not applicable at this stage.

**PHOTOS:**



**LD6 Bulk Tanks**



**LD6 Day Tank**



## LD7 Updated Site Condition Report

# **SITE CONDITION REPORT TEMPLATE**

For full details, see H5 *SCR guide for applicants* v2.0 4 August 2008

**COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION**

**DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7**

**AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.**

1.0 SITE DETAILS	
Name of the applicant	Equinix Inc
Activity address	Building 1, Banbury Avenue, Slough Trading Estate, Slough, SL1 4LN
National grid reference	NGR: 494840, 181566
Document reference and dates for Site Condition Report at permit application and surrender	Concept Site Investigations – Site Investigation Report, LD7 Data Centre. Report dated April 2017. Ref: 16/2936 - FR 01
Document references for site plans (including location and boundaries)	See the Environmental Permit supporting information document.

**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.

2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> <li>• geology</li> <li>• hydrogeology</li> <li>• surface waters</li> </ul>	<p>During ground investigation, the general ground conditions encountered on site comprised Made Ground, Langley Silt, Taplow Gravels, Lambeth Group and Seaford Chalk Formation.</p> <p>The only surface water feature in the vicinity of the site is the Chalvey Ditch, approximately 200 m to the West. There are no known private water supplies within a 500 m radius of the Site and no surface water abstractions within 1 km of the site, but there are five licences for groundwater abstractions within 1 km of the site.</p>
Pollution history including: <ul style="list-style-type: none"> <li>• pollution incidents that may have affected land</li> <li>• historical land-uses and associated contaminants</li> <li>• any visual/olfactory evidence of existing contamination</li> <li>• evidence of damage to pollution prevention measures</li> </ul>	<p>The site has been previously utilised for a variety of commercial and industrial uses.</p> <p>Soil and groundwater were sampled and measured within the Site Investigation Report dates April 2017.</p>

Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	See site investigation reported in Site Investigation Report dates April 2017.
Baseline soil and groundwater reference data	See site investigation reported in Site Investigation Report dates April 2017.
<b>Supporting information</b>	<ul style="list-style-type: none"> <li>• Source information identifying environmental setting and pollution incidents</li> <li>• Historical Ordnance Survey plans</li> <li>• Site reconnaissance</li> <li>• Historical investigation / assessment / remediation / verification reports</li> <li>• Baseline soil and groundwater reference data</li> <li>• Ground investigation</li> </ul>

<b>3.0 Permitted activities</b>	
Permitted activities	See the Environmental Permit – supporting information, for a full description of the site including permitted activities and wider ancillary activities undertaken across the Equinix site. Environmental Permitting Regulations Schedule 1 References: Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts (Section 1.1 Part A(1)(a))
Non-permitted activities undertaken	Data centre
Document references for: <ul style="list-style-type: none"> <li>• plan showing activity layout; and</li> <li>• Environmental risk assessment.</li> </ul>	See the Environmental Permit supporting information document.

**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.

4.0 Changes to the activity		
Have there been any changes to the activity boundary?		No, the boundary of the installation remains the same.
Have there been any changes to the permitted activities?		This updated SCR is to support the Campus Permit variation application. Twelve new generators are being installed, though one is on LD6 land. Additional bulk storage (three 63,000 L tanks) are being added but on LD6 land. Also, eleven 1,900 L day tanks are being added next to the generators. One 1,500 L day tank is being added but on LD6 land (with the corresponding generator).
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?		No
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Site Layout – Figure 4.4 of Supporting Information Document</li> <li>• Description of changes – Section 4 of Supporting Information Document</li> <li>• Raw Materials – Section 9 of Supporting Information Document</li> </ul>

5.0 Measures taken to protect land		
<p>The variation application will change the permit to add an additional 12 generators. The LD7 Site will contain an additional 3x 21,000L bulk tanks and 3x 63,00L bulk tanks and associated day tanks ranging from 1500 to 1900 litres in addition to the original permitted site which included:</p> <p>Slide 55 of the Design Narrative indicates there are three fuel oil storage tanks with capacities of 81m<sup>3</sup> located in bunding with 110% capacity of the largest tank. The fuel supply is via a pipe-in-pipe to the generator enclosure (five generators indicated to be present). The fuel storage, delivery and distribution activities are carried out in the generator gantry compound.</p> <p>The diesel filling procedure is defined and set out in Appendix B to the Permit Application Supporting Information Document – Diesel filling procedure.</p> <p>Equinix has emergency response procedures in place in the event of a release of oil or diesel, processes for the planning for such eventualities and checklists to audit the response in case such an event occurs. These are provided in Appendix C to the Permit Application Supporting Information Document – Emergency Response Oil Spill Response.</p>		
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Equinix. 2017. LD7.1 Phase 1 Basis of Design Narrative</li> </ul>

6.0 Pollution incidents that may have had an impact on land, and their remediation		
No information on pollution incidents and their subsequent investigation/remediation was available.		
Checklist supporting information	of	<ul style="list-style-type: none"> <li>• Records of pollution incidents that may have impacted on land</li> <li>• Records of their investigation and remediation</li> </ul>

## 7.0 Soil gas and water quality monitoring (where undertaken)

The Site Investigation involved 21 boreholes (17 by dynamic probing), monitoring and laboratory analysis.

The asbestos surveys identified a number of containing materials (ACMs) across the different units, with the highest risk being 'medium'. It was recommended that all identified items be removed under asbestos controlled conditions.

Checklist  
supporting  
information

of

- Concept. 2017. Site Investigation Report. LD7 Data Centre
- CWE Services Ltd. 2016. Asbestos Survey Report

### 8.0 Decommissioning and removal of pollution risk

Not applicable at this stage.

Checklist of supporting information	<ul style="list-style-type: none"><li>• Site closure plan</li><li>• List of potential sources of pollution risk</li><li>• Investigation and remediation reports (where relevant)</li></ul>
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### 9.0 Reference data and remediation (where relevant)

Not applicable at this stage.

Checklist of supporting information	<ul style="list-style-type: none"><li>• Land and/or groundwater data collected at application (if collected)</li><li>• Land and/or groundwater data collected at surrender (where needed)</li><li>• Assessment of satisfactory state</li><li>• Remediation and verification reports (where undertaken)</li></ul>
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### 10.0 Statement of site condition

Not applicable at this stage.