

# HEMEL HEMPSTEAD DATA CENTRES ENVIRONMENTAL PERMIT VARIATION HH4 PHASE 2

## **Environmental Risk Assessment**

Prepared for: NTT Global Data Centres EMEA UK Ltd

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SLR 

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### APPENDICES

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## 1.0 Introduction

SLR Consulting Ltd (SLR) has been instructed by NTT Global Data Centres EMEA UK Ltd (the Operator) to prepare an Environmental Risk Assessment (ERA) in support of an application for a substantial variation of the Environmental Permit (EP) for the NTT owned and operated quartet of data centre facilities located in Hemel Hempstead:

- Campus data centre;
- Centro data centre;
- Maylands data centre; and
- Hemel Hempstead 4 (HH4) data centre (Phase 1).

The EP variation will not alter the operations at three of the sites (Campus, Centro and Maylands) and is related specifically to:

- HH4 data centre, Prologis Park, Hemel Hempstead, HP2 7EQ.

The EP variation application relates to HH4 Phase 2 which will involve the installation and operation of an additional 13 x 4.76MWth diesel-fired generators alongside the 15 generators (Phase 1) installed on site under the original EP application.

This ERA is an update of the ERA prepared for the original EP application (SLR report reference: *Hemel Hempstead Datacentres Environmental Permit Application, Environmental Risk Assessment, 413.05391.00002, Final, July 2020*), which now also includes HH4 Phase 2. This ERA has been undertaken in accordance with the Environment Agency (EA) guidance Risk Assessments for your Environmental Permit.

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## 2.0 Environmental Risk Assessment

This Environmental Risk Assessment (ERA) is an assessment of the risks to the environment and to human health that may be associated with the proposed operations at the Installation.

The assessment has been completed in accordance with the Environment Agency (EA) Technical Guidance '*Risk Assessments for your Environment Permit*' dated March 2021. The aim of the assessment is to identify any significant risks and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

This ERA uses the following approach for identifying and assessing the risks from the proposed operation:

- **Step 1:** Identify and consider risks for your site, and the sources of the risks
- **Step 2:** identify the receptors (people, animals, property and anything else that could be affected by the hazard) at risk from your site.
- **Step 3:** Identify the possible pathways from the sources of the risks to the receptors.
- **Step 4:** Assess the risks relevant to your specific activity and check they are acceptable and can be screened out.
- **Step 5:** State what you will do to control risks if they are too high.
- **Step 6:** Submit your risk assessment as part of your permit application.

Section 3.0 of this document is a screening step to identify the risks requiring consideration as part of this assessment.

Sections 4.0 – 7.0 identify people or parts of the environment that could be harmed (at potentially significant risk) by the activity. The ERA for an EP application requires all receptors that are near the Installation and could reasonably be affected by the activities to be identified and considered as part of the assessment.

For the purposes of this ERA the following distances have been used to identify potentially sensitive receptors for each data centre site:

- A 10km radius has been adopted in reviewing potentially sensitive receptors of international ecological importance;
- A 2km radius has been adopted in reviewing potentially sensitive receptors of national cultural and ecological importance; and
- A radius of 500m has been adopted for all other potentially sensitive receptors (for example residential, commercial, industrial, agricultural and surface water receptors).

Section 8.0 of this document presents the environmental risk assessment and demonstrates that any risks of pollution or harm will be mitigated to manage the risk.

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## 3.0 Identifying the Risks

Step 1 of the ERA is a screening step to identify the potential risks to the environment from the Installation. The EA's guidance requires the following to be considered as 'Risks for your site':

- Any discharge, for example sewage or trade effluent to surface or groundwater;
- Accidents;
- Odour;
- Noise and vibration;
- Uncontrolled or unintended ('fugitive') emissions, including dust, litter, pests and pollutants that should not be in the discharge;
- Visible emissions, for example smoke or visible plumes; and
- Release of bioaerosols.

Further, for Installation and waste EP applications the EA guidance states that assessment of the following additional aspects is required, where applicable:

- Risks from air emissions;
- Risks to groundwater;
- Global Warming Impact;
- Risk to groundwater from landfill leachate;
- Risks to surface water from hazardous pollutants;
- Risks to surface water from sanitary and other pollutants; and
- Installations and waste operations must also decide how to treat, recycle or dispose of waste.

The Installation does/will not produce any process effluent or release bioaerosols, and there will be no point source emissions to groundwater, surface water or land from the application activities.

There will be several point source emissions to air associated with each diesel-fired generator stack and the potential for visible emissions from these stacks.

Therefore, only the following potential impacts are considered further in this risk assessment:

- Point source emissions to air;
- Accidents;
- Noise & vibration;
- Visible emissions, for example smoke or visible plumes;
- Fugitive emissions; and
- Global warming potential.



## 4.0 Campus Site Setting and Receptors

### 4.1 Site Setting

The Campus data centre site, centred at NGR TL 08008 08201, is located off Spring Way, Hemel Hempstead, HP2 7UP.

The surrounding area is predominantly industrial and commercial in use. A summary of the immediate environmental site setting is provided in Table 4-1.

The site location, local receptors and environmental site setting is shown on Drawings 001, 002A, 003A and 003B respectively.

**Table 4-1**  
**Campus Data centre: Surrounding Land Uses**

Boundary	Description
North	Maxted Road and commercial and industrial properties
East	Commercial and industrial properties
South	Commercial, industrial and residential properties
West	Industrial, commercial, residential and recreational properties and Maylands Woods

The immediate surrounding land use is described in further detail below.

#### 4.1.1 Industrial and Commercial Premises

The site is predominantly surrounded by industrial and commercial properties.

The closest industrial properties are a self-storage warehouse adjacent to the west; Vislink International Ltd (telecommunications provider) approximately 20m east; Smiths Detection (office), Land UK (video equipment and services) and Deyongs (home textiles supplier) which lie adjacent to the northern boundary; and to the south Schwarzkopf Professional UK (beauty product supplier) and Eposibility (software company).

#### 4.1.2 Residential Areas

There are two residential areas within a 500m radius of the site. The closest is a cluster of residential properties associated with Wood Lane End, approximately 185m south, followed by residential properties in the conurbation of Adeyfield, approximately 260m southwest.

#### 4.1.3 Transport Infrastructure

The site is accessed from Spring Way, to the south. In addition, there is an extensive network of roads to the north, east, south and west, with the A4147 located 60m west of the site, which runs in a north/south direction.

#### 4.1.4 Recreational Areas and Open Land

The nearest dedicated recreational area is the recreation ground 470m west of the site. Furthermore, there are areas of open land for public use in the vicinity including Maylands wood, approximately 330m west.

## 4.2 Geology, Hydrogeology and Hydrology

### 4.2.1 Geology

British Geological Survey<sup>1</sup> (BGS) data indicates the site is underlain by a bedrock of Lambeth Group Clay, Silt and Sand, formed in the Palaeogene Period approximately 48-59 million years ago. There are no recorded superficial deposits beneath the site.

### 4.2.2 Hydrogeology

A search of the Multi Agency Geographical Information for the Countryside<sup>2</sup> (MAGIC) revealed that the bedrock beneath the site is classified as a Secondary A Aquifer which is defined as “permeable strata 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”.

### 4.2.3 Hydrology

The MAGIC map revealed that the nearest surface water feature to the site is a pond approximately 360m to the east of the site, followed by another pond 410m east.

The Flood Map for Planning<sup>3</sup> identifies the site as lying within a Flood Zone 1, defined by the website as having a less than 1 in 1,000 annual probability of river or sea flooding.

## 4.3 Ecology and Cultural Heritage

### 4.3.1 Ecology

#### European/International Sites

There is one designated European or International site of ecological importance located within 10km of the site boundary: Chiltern’s Beechwoods Special Area of Conservation (SAC), located approximately 7.7 km northwest of the site boundary. The location of this site is shown on Drawing 003B Environmental Site Setting.

The EA Nature and Heritage Conservation Screening Report, included as Appendix 01, from 31<sup>st</sup> January 2019 confirms that there are none of the following within a 10km radius of the site:

- Special Protection Areas; and
- Ramsar Sites.

#### Local Ecological Sites

There are numerous national sites of ecological importance located within 2km of the site boundary. The sites are shown on Drawing 003B Environmental Site Setting as well as the EA Nature and Heritage Screening report included as Appendix 02. These sites include:

- Howe Grove Wood Local Nature Reserve (LNR), located approximately 1.7km northwest;
- 11 Local Wildlife Sites located approximately 350m west at their closest point; and
- Ancient Woodland:

<sup>1</sup> British Geological Survey, available at [www.bgs.ac.uk](http://www.bgs.ac.uk), accessed October 2018

<sup>2</sup> Multi Agency Geographical Information for the Countryside Map, available at [www.magic.gov.uk](http://www.magic.gov.uk), accessed October 2018

<sup>3</sup> Flood Map for Planning, available at <https://flood-map-for-planning.service.gov.uk/>, accessed in October 2018

- 420m west
- 550m northwest
- 1,040m northwest
- 1,385m northwest
- 1,730m northwest.

A review of the MAGIC map reveals that there are none of the following national ecological receptors within 2km of the site:

- Sites of Special Scientific Interest (SSSI);
- National Nature Reserves (NNR);
- Areas of Outstanding Natural Beauty (AONB); and
- Biosphere Reserves.

### Priority Habitats

Priority habitats are 'habitats of principle importance for the conservation of wildlife in England' and include:

- protected or priority species;
- nationally and internationally protected species; and
- species of principle importance for conservation of wildlife in England.

The EA Nature and Heritage Conservation Screening Report, included as Appendix 01, has not identified priority habitats on the Campus site. The closest such habitat is the River Gade located circa 2.9km to the north west and is identified as being a migratory route for the European eel.

### 4.3.2 Cultural Heritage

There are several features of cultural heritage within a 2km radius of the site. These are illustrated on Drawing 003A Environmental Site Setting and include:

- Scheduled Monuments:
  - *Romano-Celtic temple complex at Wood Lane End, 250m southeast*
  - *High Street Green Roman barrow, 255m northwest.*
- Listed Buildings:
  - Multiple within 2km of the site, with the closest one, Crab Tree Inn, located 770m southwest. Searches of MAGIC confirm that none of the following are within 2km of the application site:
- Registered Parks and Gardens;
- Registered Battle Fields; and
- World Heritage Sites.

## 4.4 Receptors

Table 4-2 details receptors that could potentially be affected by the Campus data centre site.

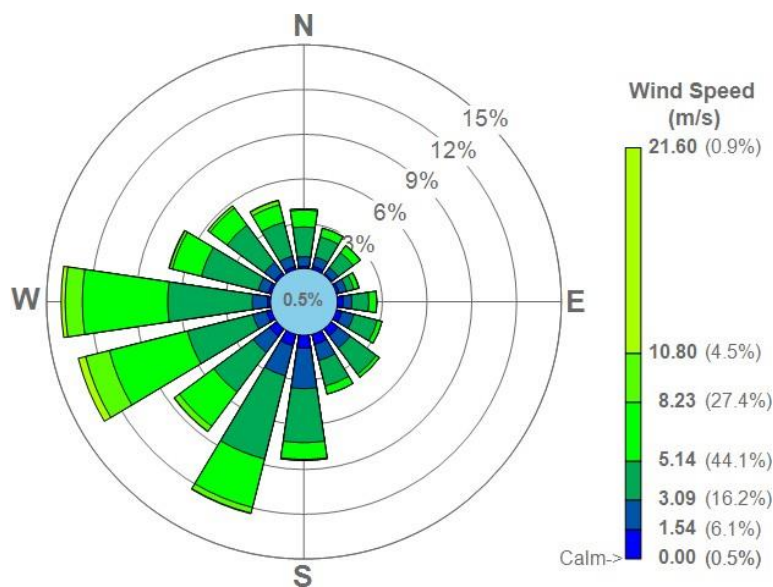
**Table 4-2**  
**Campus Data centre: Identified Receptors**

Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
<b>Local Receptors within 500m, as illustrated on Drawing 003 Sources Pathways and Receptors</b>			
Smith's Detection	Commercial	North	Adjacent
Lang UK	Commercial	North	Adjacent
Deyongs	Commercial	North	Adjacent
Roads	Local transport network	North, East, South, West	Adjacent
Self-storage warehouse	Industrial	West	15
Vislink International Ltd	Industrial	East	15
Europcar Hemel Hempstead	Commercial	East	15
Dixons Group Plc	Commercial	South	15
Eposibility	Commercial	South	15
Schwarzkopf Professional UK	Commercial	South	40
Open Land	Open land/recreational	South	145
NTT Centro data centre	Commercial	North east	150
Residential Properties associated with Wood Lane End	Residential	South	185
Adeyfield	Residential	West	260
Place of Worship	Religious	South	270
Maylands Wood	Open land/recreational	West	330
Developing Land	Industrial	South	345
NTT Maylands data centre	Commercial	Northwest	460
Recreation Ground	Recreational	West	470
<b>Ecological and Cultural Heritage Receptors as shown on Drawing 004 Environmental Site Setting</b>			
Romano-Celtic temple complex	Scheduled monument	Southeast	250
High Street Green Roman barrow	Scheduled monument	Northwest	255
Local Wildlife Sites	Local Wildlife Site	North, South and West	350
Ancient Woodland	Ancient woodland	North, Northwest	420
Listed Buildings	Listed building	North, East, South and West	770

Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
Howe Grove Wood	LNR	Northwest	1,700
River Gade	Protected Habitat (chalk river)	North West	2,900
River Gade	Protected Species (migratory route for European eel)	North West	2,900
Chiltern’s Beechwood	SAC	Northwest	7,670

#### 4.4.1 Wind Rose

A wind rose from Luton Airport Meteorological Station, approximately 13.7km northwest of the site, is provided in Figure 4-1 for 2017. It shows that wind is predominantly from a west and south-westerly direction, with winds from the north and east relatively infrequent.



**Figure 4-1**  
 Wind Rose, Luton Airport Meteorological Station using 2017 Data

## 5.0 Centro Site Setting and Receptors

### 5.1 Site Setting

The Centro site, centred at NGR TL 08132 08443, is located at 3 Centro, Boundary Way, Hemel Hempstead, HP2 7SU.

The surrounding area is predominantly industrial and commercial in use, with agricultural land further afield to the north and east, and residential areas to the north, southwest and further afield to the south. A summary of the immediate environmental site setting is provided in Table 5-1.

The site location, local receptors and environmental site setting is shown on Drawings 001, 002B, 003A and 003B respectively.

**Table 5-1**  
**Centro Data centre: Surrounding Land Uses**

Boundary	Description
North	Hemel Hempstead Industrial Estate, agricultural land and residential properties
East	Hemel Hempstead Industrial Estate, Buncefield Oil Terminal, with agricultural land and the M1 motorway further afield
South	Hemel Hempstead Industrial Estate, residential properties associated with Wood Lane End then further commercial/industrial properties
West	Hemel Hempstead Industrial Estate, playing fields and residential housing

### 5.1.1 Industrial and Commercial Premises

The Centro data centre site is located within Hemel Hempstead Industrial Estate and as such there are many industrial and commercial receptors within a 500m radius of the site. The nearest industrial receptors are UTC Aerospace Systems adjacent to the east and DHL Service Point adjacent to the west.

### 5.1.2 Residential Areas

The nearest residential properties are those to the south of the site, associated with Wood Lane End at a distance of approximately 470m.

### 5.1.3 Transport Infrastructure

The site is bound by several roads including Boundary Way to the north and Centro to the south.

### 5.1.4 Surface Water

The nearest surface water feature (pond) is located approximately 300m east of the site.

### 5.1.5 Health and Public Service

There are two health services located within 500m of the site, West Hertfordshire Ambulance Station approximately 35m west and Harts Valley Clinical Commissioning Group 190m east.

### 5.1.6 Agricultural

The nearest agricultural receptors are fields located approximately 475m north of the site.

## 5.2 Geology, Hydrogeology and Hydrology

### 5.2.1 Geology

The BGS map reveals that the site is underlain by Lambeth Group Clay, Silt and Sand, formed in the Palaeogene period approximately 48 to 59 million years ago. There are no recorded superficial deposits beneath the site.

### 5.2.2 Hydrogeology

MAGIC identifies the bedrock under the site as a Secondary A aquifer, defined as “permeable strata 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”.

### 5.2.3 Hydrology

The nearest surface water feature to the site is a pond approximately 300m east of the site.

The site lies within a Flood Zone 1, identified by the Flood Map for Planning as land having less than a 1 in 1000 annual probability of river or sea flooding.

## 5.3 Ecology and Cultural Heritage

### 5.3.1 Ecology

#### European/International Sites

There is one designated site of European/international ecological importance within 10km of the site, the Chilterns Beechwoods SAC, located approximately 7.8km northwest of the site.

The EA Nature and Heritage Conservation Screening Report from 31<sup>st</sup> January 2019 confirms that there are none of the following within a 10km radius of the site:

- Special Protection Areas; and
- Ramsar Sites.

### 5.3.2 Local Ecology

There are numerous sites of national importance within 2km of the site. These are illustrated Drawing 003B Environmental Site Setting as well as the EA Nature and Heritage Screening report included as Appendix 02 and include the following:

- Howe Wood Grove LNR, 1.9km west;
- 11 Local Wildlife Sites located approximately 625m west at their closest point; and
- Ancient Woodland:
  - 635m southwest
  - 645m west
  - 1.1km northwest
  - 1.3km north
  - 1.8km north
  - 1.9km north.

A review of the MAGIC map reveals that the following ecological receptors are not located within 2 km of the site:

- SSSI;
- AONB;
- NNR;
- National Park; and
- Biosphere Reserves.

### 5.3.3 Priority Habitats

Priority habitats are ‘habitats of principle importance for the conservation of wildlife in England’ and include:

- protected or priority species;
- nationally and internationally protected species; and
- species of principle importance for conservation of wildlife in England.

The EA Nature and Heritage Conservation Screening Report, included as Appendix 01, has not identified priority habitats on the Centro site. The closest such habitat is the River Gade located circa 2.9km to the north west and is identified as being a migratory route for the European eel.

### 5.3.4 Cultural Heritage

There are several features of cultural heritage within a 2km radius of the site. These are illustrated on Drawing 003A Environmental Site Setting and include:

- Scheduled Monuments:
  - *Romano-Celtic temple complex at Wood Lane End, 500m south; and*
  - *High Street Green Roman barrow, 920m west.*
- Listed Buildings:
  - Numerous within 2km of the site, with the closest, Barn Immediately north east of Little Farmhouse, located 1.1km west; and
- Gorhambury Registered Park and Garden, 2km east.

Searches of MAGIC confirm that none of the following are within 2km of the application site:

- Registered Parks and Gardens;
- Registered Battle Fields; and
- World Heritage Sites.

## 5.4 Receptors

Table 5-2 details receptors that could potentially be affected by the site.



**Table 5-2**  
**Centro Data centre: Identified Receptors**

Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
<b>Local Receptors within 500m, as illustrated on Drawing 003 Sources Pathways and Receptors</b>			
Roads	Local transport network	North, east, south and west	Adjacent
UTC Aerospace Systems	Commercial/industrial	East	Adjacent
DHL Service Point	Commercial and industrial	West	Adjacent
KLR	Commercial	North	20
Charles Simpson Organisation	Commercial	North	20
QubicaAMF UK	Commercial	North	20
Aspin Group	Commercial	North	20
Synergy Construction	Commercial and industrial	South	30
Vislink International Ltd	Commercial	South	35
West Hertfordshire Ambulance Station	Health/public service	West	35
Yazaki Europe	Commercial	East	40
Wanted Clothing	Commercial	North	60
NTT Campus data centre	Commercial	South west	150
Industrial Land	Industrial	North	190
Harts Valley Clinical Commissioning Group	Health/public service	East	190
Ponds	Surface water	East, south	300
Residential Properties associated with Wood Lane End	Residential	South	470
Agricultural land	Agricultural	East	475
Buncefield Terminal (Oil)	Industrial	Northwest, east	485
<b>Ecological and Cultural Heritage Receptors as shown on Drawing 004 Environmental Site Setting</b>			
Romano-Celtic temple complex	Scheduled monument	South	505
Local Wildlife Sites	Local Wildlife Site	North, south and west	625
Ancient Woodland	Ancient woodland	North, west, southwest	635
High Street Green Roman barrow	Scheduled Monument	West	920

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Listed Buildings	Listed Building	West	1,100
Howe Wood Grove	Local Nature Reserve	West	1,900
Gorhambury	Registered Park and Garden	East	1,990
River Gade	Protected Habitat (chalk river)	North West	2,900
River Gade	Protected Species (migratory route for European eel)	North West	2,900
Chilterns Beechwoods	Special Area of Conservation	Northwest	7,800

#### 5.4.1 Wind Rose

A wind rose from Luton Airport Meteorological Station, approximately 13.7km northwest of the site, is provided in Figure 4-1 for 2017 (refer to section 4.4.1). It shows that wind is predominantly from a west and south-westerly direction, with winds from the north and east relatively infrequent.

## 6.0 Maylands Site Setting and Receptors

### 6.1 Site Setting

The Maylands site, centred at NGR TL 07541 08485, is located off Maylands Avenue, Hemel Hempstead, HP2 7BZ.

The surrounding area is predominantly industrial and commercial in use, with areas of open and recreational land to the west and residential properties further afield. A summary of the immediate environmental site setting is provided in Table 6-1.

The site location, local receptors and environmental site setting is shown on Drawings 001, 002C, 003A and 003B respectively.

**Table 6-1**  
**Maylands Data centre: Surrounding Land Uses at**

Boundary	Description
North	Commercial and industrial properties, the local road network and Widmore Wood
East	Local road network, commercial and industrial properties
South	Commercial and industrial properties, Maylands Wood
West	Commercial and industrial properties, allotments, Widmore Wood, recreation ground, local road network and residential properties.

The immediate surrounding land use is described in further detail below.

#### 6.1.1 Industrial and Commercial Premises

The Maylands data centre site is located within Hemel Hempstead Industrial Estate and as such there are numerous commercial and industrial receptors within a 500m radius of the site. The closest receptor is EBB Paper (paper distributor) and a warehouse adjacent to the site's southern boundary.

#### 6.1.2 Residential Areas

The nearest residential areas are located approximately 250m west of the site and 320m south.

#### 6.1.3 Transport Infrastructure

The site is bound by Maylands Avenue to the east, Hall Road to the south and Mark Road to the north and west.

#### 6.1.4 Recreational Areas

The nearest recreational areas in the vicinity of the site are the allotments and a recreation ground approximately 115m to the south west.

#### 6.1.5 Woodland

There are two woods located within 500m of the site, Widmore Wood approximately 90m north and Maylands Wood 250m south.

## 6.2 Geology, Hydrogeology and Hydrology

### 6.2.1 Geology

The BGS map identifies the bedrock underlying the site as Lambeth Group Clay, Silt and Sand formed in the Palaeogene period approximately 48 to 59 million years ago. There are no recorded superficial deposits beneath the site.

### 6.2.2 Hydrogeology

A review of MAGIC reveals that the bedrock underlying the site is a secondary A aquifer, defined as “permeable strata 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”.

### 6.2.3 Hydrology

The nearest surface water feature to the site is a pond approximately 140m north of the site boundary. Numerous ponds and larger natural pools like north, east and south of the site. These are visible on Drawing 003 Sources, Pathways and Receptors.

The site lies within a Flood Zone 1, identified by the Flood Map for Planning as land having less than a 1 in 1000 annual probability of river or sea flooding.

## 6.3 Ecology and Cultural Heritage

### 6.3.1 Ecology

### 6.3.2 European/International Sites

A radius of 10km was employed for the review of European and international sites of ecological importance. One site was identified within 10km: Chilterns Beechwoods SAC, approximately 7.1km northwest of the site.

The EA Nature and Heritage Conservation Screening Report from 31<sup>st</sup> January 2019 confirms that there are none of the following within a 10km radius of the site:

- Special Protection Areas; and
- Ramsar Sites.

#### Local Ecology

There are numerous sites of national importance within 2km of the site. These are illustrated on Drawing 003B Environmental Site Setting as well as the EA Nature and Heritage Screening report included as Appendix 02 and include the following:

- Howe Wood Grove LNR, 1.2km west;
- Local Wildlife Sites located approximately 93m north at the closest point; and
- Ancient Woodland:
  - 95m north
  - 255m south
  - 505m north
  - 1040m north

- 1.2km northwest
- 1.7km north
- 1.7km north.

The MAGIC mapping site revealed that the following ecological receptors are not located within 2 km of the site:

- SSSI;
- AONB;
- NNR;
- National Park; and
- Biosphere Reserves.

### Priority Habitats

Priority habitats are 'habitats of principle importance for the conservation of wildlife in England' and include:

- protected or priority species;
- nationally and internationally protected species; and
- species of principle importance for conservation of wildlife in England.

The EA Nature and Heritage Conservation Screening Report, included as Appendix 01, has not identified priority habitats on the Maylands site. The closest such habitat is the River Gade located circa 2.4km to the north west and is identified as being a migratory route for the European eel.

### 6.3.3 Cultural Heritage

There are several features of cultural heritage within a 2km radius of the site. These are illustrated on Drawing 003A Environmental Site Setting and include:

- Scheduled Monuments:
  - *High Street Green Roman barrow*, 250m west; and
  - *Romano-Celtic temple complex at Wood Lane End*, 835m southeast.
- Listed Buildings:
  - Numerous within 2km of the site, with the closest being immediately north east of Little Farmhouse, located 490m southwest.

Searches of MAGIC confirm that none of the following are within 2km of the application site:

- Registered Parks and Gardens;
- Registered Battle Fields; and
- World Heritage Sites

## 6.4 Receptors

Table 6-2 details receptors that could potentially be affected by the Maylands data centre site.

**Table 6-2**  
**Maylands Data centre: Identified Receptors**

Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
<b>Local Receptors within 500m, as illustrated on Drawing 003 Sources Pathways and Receptors</b>			
Roads and paths	Local transport network	North, east, south, west	Adjacent
Warehouse	Commercial/industrial	South	Adjacent
EBB Paper	Commercial/industrial	South	Adjacent
City Sprint Hemel Hempstead	Commercial	West	15
3D Systems	Commercial	West	15
Tenancy Deposit Scheme	Commercial	North	20
Mentor Group	Commercial	North	20
Hemel Van Hire	Commercial	West	20
Ramida	Commercial	West	20
Texcel	Commercial	North west	20
Royal Mail Group	Commercial	East	40
Sir Robert McAlpine Ltd	Commercial	East	40
Amanda's Café Selco	Commercial	East	40
CEF	Commercial	South	40
Magnet Kitchen	Commercial	North	45
STS Tyre Pros	Commercial	North	45
Multi distribution Ltd	Commercial/industrial	South	60
Widmore Wood	Woodland	North	90
Allotments	Recreational	South west	115
Recreation ground	Recreational	South west	115
Ponds and Pools	Surface water	North, east, south	140
Water tower	Industrial	West	160
Hemel Hempstead Industrial Estate	Industrial	North, east	205
Maylands Wood	Woodland	South	250
Residential Area	Residential	West	250
Residential Area	Residential	South	320

Open land	Open land	North	325
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Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
<b>Ecological and Cultural Heritage Receptors as shown on Drawing 004 Environmental Site Setting</b>			
High Street Green Roman barrow	Scheduled Monument	West	250
Listed buildings	Listed building	North, east, south, west	490
Romano-Celtic temple complex	Scheduled Monument	South east	835
Howe Grove Wood	LNR	West	1,200
River Gade	Protected Habitat (chalk river)	North West	2,400
River Gade	Protected Species (migratory route for European eel)	North West	2,400
Chilterns Beechwoods	SAC	North west	7,150

#### 6.4.1 Wind Rose

A wind rose from Luton Airport Meteorological Station, approximately 13.7km northwest of the site, is provided in Figure 4-1 for 2017 (refer to section 4.4.1). It shows that wind is predominantly from a west and south-westerly direction, with winds from the north and east relatively infrequent.

## 7.0 HH4 Site Setting and Receptors

### 7.1 Site Setting

The HH4 data centre site, centred at NGR TL 08525 07644, is located in Prologis Park off Blossom Way, Hemel Hempstead, HP2 7EQ.

The surrounding area to the north and west is predominantly industrial and commercial in use, whilst land to the east is predominantly agricultural and to the south predominantly residential. A summary of the immediate environmental site setting is provided in Table 7-1.

The site location, local receptors and environmental site setting is shown on Drawings 001, 002D, 003A and 003B respectively.

**Table 7-1**  
**HH4 Data centre: Surrounding Land Uses**

Boundary	Description
North	Blossom Way and commercial and industrial properties.
East	Buncefield Lane and Woodwells Cemetery.
South	Shell petrol garage, Breakspear Way (A414), open land (recreational) and Marchmont Pond, and commercial, industrial and residential properties.
West	Industrial and commercial properties beyond which is residential housing.

The immediate surrounding land use is described in further detail below.

#### 7.1.1 Agricultural

There are multiple agricultural fields to the east and south east of the site, with the closest located approximately 300m east.

#### 7.1.2 Cemetery

Woodwells Cemetery lies approximately 25m east of the EP boundary.

#### 7.1.3 Educational

One educational facility lies within 500m of the site: Jack and Jill's Nursery 120m northeast.

#### 7.1.4 Industrial and Commercial Premises

The site is located within the Hemel Hempstead Industrial Estate and is surrounded by industrial and commercial properties to the north and west.

The closest industrial properties are the Hermes warehouse adjacent to the west and the Shell Garage adjacent to the south. Further industrial buildings are under construction to the north and west.

The nearest commercial properties are Holiday Inn Hemel Hempstead, 65m south and Breakspear Park, 75m southeast.



### 7.1.5 Open Land and Woodland

The nearest parcel of open land is 20m east of the site, possibly part of Woodwells Cemetery, and recreational land 30m south.

Woodland is located 30m south associated with the open recreational land and 120m north.

### 7.1.6 Religious

The only religious receptor within 500m of the Site is Adeyfield Free URC Church approximately 500m northwest.

### 7.1.7 Residential

There are a number of residential areas within a 500m radius of the site. The closest is within Hemel Hempstead 115m northwest, followed by residential properties in the conurbation of Leverstock Green, approximately 175m south.

### 7.1.8 Transport Infrastructure

There is an extensive network of roads to the north, east, south and west, with the A414 located adjacent to the south, which runs in an east/west direction. The site itself will be accessed from Blossom Way, to the north.

## 7.2 Geology, Hydrogeology and Hydrology

### 7.2.1 Geology

BGS data indicates the site is underlain by two bedrock types. The northern section of the site is underlain by the Lambeth Group - Clay, Silt and Sand, formed in the Palaeogene Period approximately 48-59 million years ago. The southern part of the site is underlain by Lewes Nodular Chalk Formation and Seaford Chalk Formation formed approximately 84-94 million years ago in the Cretaceous Period. The overlying superficial deposits are identified as Clay-with-flints Formation Clay, Silt, Sand and Gravel, formed up to 23 million years ago in the Quaternary and Neogene Periods.

### 7.2.2 Hydrogeology

A search of the MAGIC map revealed that the Lambeth Group bedrock beneath the site is classified as a Secondary A Aquifer which is defined as 'permeable strata 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'. The Lewes and Seaford bedrock is classified as a Principal Aquifer, which is defined as 'layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage'.

The superficial deposits are classified as unproductive.

### 7.2.3 Hydrology

The MAGIC map revealed that the nearest surface water feature to the site is Marchmont Pond approximately 180m to the southwest of the site, followed by another pond 260m north.

The Flood Map for Planning identifies the site as lying within a Flood Zone 1, defined by the website as having a less than 1 in 1,000 annual probability of river or sea flooding.

## 7.3 Ecology and Cultural Heritage

### 7.3.1 Ecology

#### European/International Sites

There is one designated European or International site of ecological importance located within 10km of the site boundary: Chiltern's Beechwoods SAC, located approximately 8.3 km northwest of the site boundary. The location of this site is shown on Drawing 003B Environmental Site Setting as well as the EA Nature and Heritage Screening report included as Appendix 02.

The EA Nature and Heritage Conservation Screening Report, dated 31<sup>st</sup> January 2019, confirms that there are none of the following within a 10km radius of the site:

- Special Protection Areas; and
- Ramsar Sites.

#### Local Ecological Sites

There are numerous national sites of ecological importance located within 2km of the site boundary. The sites are shown on Drawing 003B Environmental Site Setting as well as the EA Nature and Heritage Screening report included as Appendix 02. These sites include:

- Ancient Woodland:
  - Maylands Wood 875m northwest
  - Widmore Wood 1265m northwest
  - Unnamed Wood, 1705m northwest
  - Blackwater Wood 1930m southeast
- Local Wildlife Sites, with the nearest located 800m northwest.

A review of the MAGIC map reveals that there are none of the following national ecological receptors within 2km of the site:

- SSSI;
- NNR;
- AONB; and
- Biosphere Reserves.

### 7.3.2 Cultural Heritage

There are several features of cultural heritage within a 2km radius of the site. These are illustrated on Drawing 003A Environmental Site Setting and include:

- Scheduled Monuments:
  - *Romano-Celtic temple complex at Wood Lane End*, 175m northwest; and
  - *High Street Green Roman barrow*, 1.4km northwest.
- Listed Buildings:
  - Multiple within 2km of the site, with the closest one, Breakspears, located 685m east.

- Registered Parks and Garden:
  - Gorhambury, 1.6km east

Searches of MAGIC confirm that none of the following are within 2km of the application site:

- Registered Battle Fields; and
- World Heritage Sites.

## 7.4 Receptors

Table 7-2 details receptors that could potentially be affected by the HH4 data centre site.

**Table 7-2**  
**HH4 Data centre: Identified Receptors**

Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
<b>Local Receptors within 500m, as illustrated on Drawing 003A Environmental Site Setting</b>			
Blossom Way	Transport Infrastructure	North	Adjacent
Buncefield Lane	Transport Infrastructure	North and East	Adjacent
Shell Garage	Industrial	South	Adjacent
Breakspear Way A414	Transport Infrastructure	South	Adjacent
Hermes Warehouse	Industrial	West	Adjacent
Hemel Hempstead Industrial Estate (various)	Industrial and Commercial	North, South and West	Adjacent
Prologis Park	Industrial	North and West	Adjacent
Open Land	Open Land	South and East	20
Woodwells Cemetery	Cemetery	Northeast	25
Holiday Inn Hemel Hempstead	Commercial	South	65
Breakspear Park	Commercial	Southeast	75
Hemel Hempstead	Residential	Northwest	115
Woodland	Woodland	South	30
Jack and Jill's Nursery	Educational	Northeast	120
Woodwells Caravan Park	Commercial	Northeast	160
Leverstock Green	Residential	South and Southwest	175
Marchmont Pond	Surface Water	Southwest	175
Pond	Surface Water	North, East and West	180

Agricultural Land	Agricultural	East and Southeast	300
Green Lane	Transport Infrastructure	East	315

Receptor Name	Receptor Type	Direction	Approximate Distance at Closest Point (m)
Adeyfield Free URC Church	Religious	Northwest	500
<b>Ecological and Cultural Heritage Receptors as shown on Drawing 003B Environmental Site Setting</b>			
Romano-Celtic temple complex at Wood Lane End, 280m SW of Woodwells Farm	Scheduled Monument	Northwest	175
Listed Buildings	Listed Building	North, East, South and West	685
Local Wildlife Sites	Local Wildlife Site	North, South and West	800
Maylands Wood	Ancient Woodland	Northwest	875
Widmore Wood	Ancient Woodland	Northwest	1,265
High Street Green Roman Barrow	Scheduled Monument	Northwest	1,405
Gorhambury	Registered Parks and Gardens	East	1,600
Unnamed Wood	Ancient Woodland	Northwest	1,705
Blackwater Wood	Ancient Woodland	Southeast	1,930
Chilterns Beechwoods	SAC	Northwest	8,300

#### 7.4.1 Wind Rose

A wind rose from Luton Airport Meteorological Station, approximately 13.7km northwest of the site, is provided in Figure 4-1 for 2017 (refer to section 4.4.1). It shows that wind is predominantly from a west and south-westerly direction, with winds from the north and east relatively infrequent.

## 8.0 Environmental Risk Assessment

The following tables in this section assess the potential risk to receptors from the following hazards, taking into account the measures proposed to reduce those risks:

- Point source emissions to air;
- Accidents;
- Noise & vibration;
- Fugitive emissions; and
- Global warming potential.

The probability of exposure is the likelihood of the receptors being exposed to the hazard, and is defined as low, medium or high. These terms are qualified as follows:

- Low: exposure is unlikely, barriers in place to mitigate against exposure;
- Medium: exposure is fairly probable, barriers to exposure less controllable; and
- High: exposure is probable, direct exposure likely with few barriers.

The methodology outline in Section 2.0 of this report is the basis on which it is determined whether the proposed operations will lead to significant impacts on the surrounding environment. Where a conclusion of 'not significant' has been reached, it is proposed that the mitigation and management measures that will be in place at the Installation will be sufficient to ensure that there will be no impact at the surrounding environment.

**Table 8-1**  
**Campus, Centro, Maylands and HH4 Data centres: Air Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Emissions from generator stacks: - planned maintenance and testing - emergency outage	All receptors identified in drawings 003A and 003B	Air	<p>A detailed risk assessment of the impact on air quality of emissions of combustion products from the four existing data centres, including HH4 Phase 2 is presented in this EP application (410.05391.00011 HH4 Phase 2 AERA). The findings of the assessment for routine testing and maintenance operations and commissioning are that significant impacts are considered unlikely.</p> <p>In the highly unlikely event of a 36 hour 'electrical grid outage' there is potential for impacts on human and ecological receptors. NTT, in accordance with the Environmental Permit, will develop and implement an Air Quality Emergency Action Plan (AQEAP) which details the management actions to be taken in the event of an emergency outage that could result in the prolonged usage of the generators which could potentially result in adverse impacts on local air quality. NTT will liaise with the Local Authority and the Environment Agency to agree actions to be taken in the event of a prolonged outage situation.</p> <p>Planned preventative maintenance (PPM) is in place for the maintenance and testing of the generators; maintenance will be conducted in accordance with the manufacturer requirements.</p>	Low due to management measures and limited operational hours	Pollution, Harm to environment and human health	Low

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).			
Visible emissions from the diesel fired generator stacks, typically on start-up of the generators.	All receptors identified in drawings 003A and 003B	Air	Planned preventative maintenance (PPM) is in place for the maintenance and testing of the generators; maintenance will be conducted in accordance with the manufacturer requirements.  Complaints relating to visible emissions from the generator stacks have not been received at any of the existing data centre sites to date.  NTT has implemented visual checks for visible emissions from the generators during start up.	Low due to maintenance measures and limited operational hours	Pollution, Harm to environment and human health	Low

**Table 8-2**  
**Campus, Centro, Maylands and HH4 Data centres: Noise Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Noise from vehicular movements (fuel deliveries)	Industrial, commercial and residential receptors identified in drawings 003A and 003B	Air (Propagation)	<p>A Noise Assessment has been undertaken for the four existing data centres, including HH4 Phase 2 (413.05391.00002 NTT Hemel Hempstead HH4 Phase 2 Noise Assessment). The assessment concluded that operation of the Hemel Hempstead generators, including HH4 Phase 2, is unlikely to cause an adverse impact on the nearby noise-sensitive receptors.</p> <p>On-site vehicles are required to adhere to a considerate speed limit.</p> <p>Fuel oil deliveries will only be carried out during daytime hours (typically between 7am – 6pm) except in the case of emergency outage situations where more frequent deliveries may be required.</p> <p>Due to the distance of residential receptors, it is not expected that noise from vehicles will impact the local vicinity in a detrimental way.</p> <p>Noise complaints have not been received at any of the existing data centre sites or during the operation of HH4 Phase 1.</p> <p>Any noise complaint received will be reported and investigated. An appropriately designated person will investigate the complaint</p>	Low	Nuisance	Low



What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>and will take action to identify the source of the noise and implement remedial measures where appropriate.</p> <p>Site access and operational areas are maintained and repaired to minimise emissions of noise due to uneven and poor surfacing.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).</p>			
Noise from operation of the generators	Residential, industrial and commercial receptors identified in drawings 003A and 003B	Air (Propagation)	<p>The existing generators are housed within bespoke container units fitted with noise attenuation. The additional Phase 2 generators to be installed at the HH4 site will benefit from the same containment.</p> <p>All equipment will be maintained and operated in accordance with the manufacturer's guidance and maintained in good working order.</p> <p>The planned maintenance and testing of the generators is not predicted to result in excessive levels of noise that could adversely impact identified sensitive receptors.</p> <p>Noise complaints have not been received at any of the existing data centre sites or during the operation of HH4 Phase 1.</p> <p>Any noise complaint received will be logged. An appropriately designated person will investigate the complaint and will take</p>	Low due to mitigation measures in place	Nuisance	Low

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>action to identify the source of the noise and implement remedial measures where appropriate</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).</p>			

**Table 8-3**  
**Campus, Centro, Maylands and HH4 Data centres: Fugitive Emissions Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
<b>To Air</b>						
Emissions during the transfer of substances in and out of storage (filling and emptying). Emissions during tank breathing.	Residential, industrial and commercial receptors identified in drawings 003A and 003B	Air	<p>Best practices will be adhered to for all fuel loading/unloading activities. Such measures will not remove potential for emissions but will limit the duration of such releases.</p> <p>Bulk deliveries of diesel are from NTT approved suppliers. The delivery of diesel is undertaken in accordance with procedure <i>HS12-P02 Diesel oil delivery procedure</i>. This procedure requires a NTT engineer to escort the fuel tanker to the relevant delivery tank, to unlock and open the tank fill point, to test the tank's high-level alarm is working, prior to delivery of the fuel. Following delivery of the fuel the tanker driver is required to ensure that the delivery hose is 'blown down' to remove any residual diesel in the hose and thus avoid fuel spillage on disconnection. The fuel supplier is required to ensure that a fuel spill kit is available on the fuel delivery vehicle.</p> <p>Areas where fuel is stored will be subject to daily visual inspections as part of the daily operational activities.</p>	Low	Pollution, Harm to Environment and Human Health	Low

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).			
<b>To Water</b>						
Runoff from potentially contaminated areas (i.e. external areas where the generators and bulk diesel tanks are located). Percolation of contaminated water.	Land, groundwater See drawings 003A and 003B	Overland percolation through the ground	<p>The generator belly tanks and bulk diesel storage tanks are provided with suitable secondary containment at the existing four sites. The belly tanks for the new generators to be installed as part of the HH4 Phase 2 will be provided with the same containment to BS799 Part 5 1987 standard, with the capacity to store 110% (there is no bulk diesel storage at the HH4 data centre).</p> <p>Leak/spill protection measures include fill points located in lockable cabinets provided with a drip trays, tank level gauges, level alarms, pressure delivery over-fill prevention valves and leak detection alarms connected to the BMS. Fuel delivered directly to the belly tanks will be via fill points which will be located on the generator container units.</p> <p>The integrity of diesel tanks and secondary containment will be subject to daily visual inspection by site personnel as part of daily operations. Any defects or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable.</p>	Low	Pollution, Harm to Environment	Low

			Site surfacing in the external areas where the generators and bulk diesel storage tanks are located comprises hardstanding with kerbing to retain surface water run-off and direct this to drain. This safeguard will also be implemented at HH4 Phase 2.			
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What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence

			<p>Surface water runoff from these areas at:</p> <ul style="list-style-type: none"><li>- the Campus data centre is directed to the on-site surface water drainage system via suitably sized oil interceptors to municipal sewer.</li><li>- the Centro data centre is directed directly to the municipal sewer.</li><li>- the Maylands data centre is directed to municipal sewer via interceptors.</li><li>- the HH4 data centre is directed to the on-site surface water drainage system via a suitably sized oil interceptor to the Thames Water surface water sewer.</li></ul> <p>The delivery of diesel is undertaken in accordance with procedure <i>HS12-P02 Diesel oil delivery procedure</i>.</p> <p>Interceptors are subject to regular emptying and maintenance by an appointed specialist contractor.</p> <p>All interceptor oil/sludge is removed by suitably licensed contractors.</p> <p>No oily water is permitted to leave the site under normal operating conditions.</p>			
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**Table 8-4**  
**Campus, Centro, Maylands and HH4 Data centres: Accident Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Leak from on-site fuel oil storage	Land, groundwater See drawings 003A and 003B	Over land, Water	<p>Fuel will be stored within above ground sealed tanks, which benefit from bunding capable of storing 110% of the fuel tank capacity.</p> <p>The generator belly tanks and bulk diesel storage tanks are provided with suitable secondary containment at the existing four sites. The new HH4 Phase 2 generators will be provided with the same containment i.e. designed to the BS799 Part 5 1987 standard, with the capacity to store 110%.</p> <p>Leak/spill protection measures include fill points located in lockable cabinets provided with a drip trays, tank level gauges, level alarms, pressure delivery over-fill prevention valves, leak detection alarms connected to the BMS.</p> <p>Pipework will be painted or constructed of corrosion resistant material to minimise corrosion.</p> <p>Fuel will be delivered directly to the belly tanks via fill points which will be located on the generator container units.</p>	Low	Pollution, Harm to Environment and Human Health	Low

			<p>HH4 Phase 2 generator diesel belly tanks, bunding and associated pipework integrity will be visually inspected daily by site personnel for signs of defects as part of standard daily operations as is undertaken at the existing four permitted Hemel Hempstead data centres. Any identified defects or weaknesses will be repaired as soon as practicable.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).</p>			
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What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Discharge of fuel oil outside bunded or kerbed area	Commercial/Industrial, land, groundwater See drawings 003A and 003B	Over Land, Water	<p>Best practices will be adhered to for fuel unloading and loading activities which will limit the duration of potential emission releases.</p> <p>Bulk deliveries of diesel are from NTT approved suppliers. The delivery of diesel is undertaken in accordance with procedure <i>HS12-P02 Diesel oil delivery procedure</i>, as described previously.</p> <p>Diesel fuel suppliers will be required to adhere to the current Carriage of Dangerous Goods (ADR) Regulations.</p> <p>Storage areas will be kept sealed and secured at all times.</p> <p>Operational areas, roads and external surfacing benefit from impermeable surfacing to prevent percolation of any spilt/leaked fuel or potentially contaminated runoff to soil and groundwater.</p>	Low	Pollution, Harm to Environment and Human Health	Low



			<p>Any spillage that does occur will be cleaned up/contained immediately using absorbent material in the spill kits provided on-site and on fuel delivery vehicles. All spills will be removed from site by a suitably licensed waste contractor.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 410.05391.00011/BATOT).</p>			
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What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Fire	Commercial/ industrial, residential, recreational areas, land, groundwater. See drawings 003A and 003B	Air (smoke)	<p>Each site benefits from a fire alarm system and associated fire suppression systems inside the data centre buildings. The generator containment units themselves do not have fire suppression systems (this will also be the case for the HH4 Phase 2 generators). Emergency procedures are in place detailing the actions to be taken in the event of a fire.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).</p>	Low	Pollution, Harm to Environment and Human Health	Low

Security and Vandalism	Commercial/Industrial, residential, land, groundwater See drawings 003A and 003B	Air/Land	<p>The following security measures are in place at the four Hemel Hempstead data centres:</p> <ul style="list-style-type: none"> <li>• 24/7 security;</li> <li>• Site access control system for the Campus, HH4 and Maylands data centres;</li> <li>• Site perimeter security fencing; and</li> <li>• CCTV monitored by a security firm.</li> </ul> <p>A minimum of 5 (Campus), 4 (Maylands), 6 (Centro) and 12 (HH4) site personnel will be present on each site 24/7.</p> <p>All visitors to the sites are required to sign in and out of the site, to prevent unauthorised access.</p>	Low	Pollution, Harm to Environment and Human Health	Low
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What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 410.05391.00011/BATOT).			
Flooding	Commercial/Industrial, residential, recreational areas, land, groundwater, surface water (ponds),	Land, Water	<p>The data centre sites lie within a Flood Zone 1, defined as an area with a low probability of flooding.</p> <p>Operational areas, roads and external surfacing benefit from impermeable surfacing to prevent percolation of any potentially contaminated water to soil and groundwater.</p> <p>The data centre sites benefit from sealed drainage systems which</p>	Low	Pollution, Harm to Environment and Human Health	Low

	woodland See drawings 003A and 003B		<p>discharge to the municipal sewer system.</p> <p>The four data centre sites have not been subject to flooding since operation by NTT. Evacuation procedures will be implemented in the event of flooding.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.05391.00011/BATOT).</p>			
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**Table 8-5**  
**Campus, Centro, Maylands and HH4 Data centres: Global Warming Potential (GWP)**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Generation of CO <sub>2e</sub> emissions	National and global air quality and climate change	Air	<p>Operation of the generators involves the combustion of diesel fuel to generate electricity for use at the data centres in the event of an emergency outage of the National Grid supply of electricity. The generators are subject to planned maintenance and testing. This results in the generation of CO<sub>2e</sub> emissions.</p> <p>NTT is a participant to a Climate Change Agreement, (CAA) for the data centre sector (agreement reference DATC/T00015). Energy management techniques have been implemented to monitor, record and track energy consumption at the data centres.</p> <p>To achieve the reductions required under the CCA energy reduction targets are established in the ISO14001 Environmental Management System (EMS).</p> <p>The HH4 data centre is included on the CCA agreement; the CCA will be updated to include HH4 Phase 2, and energy reduction initiatives and targets are managed via the organisation's ISO14001 EMS.</p> <p>Energy consumption has been considered in the BATOT document (ref. 410.05391.00011/BATOT).</p>	Medium	Harm to environment, Harm to human health	Medium

## APPENDIX 01

# EA Nature and Heritage Conservation Screening Report 31<sup>st</sup> January 2019

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