# Hayes Digital Park Data Centre Campus, Building LON6

## Utility Statement

## COLT DCS

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| Signed by: Olaye Igah | Signed by: j.knight | Signed by: b.florek |

# Contents

# 1.0

# Introduction

# 1.0 Introduction

This “Utility Statement” has been prepared by Cundall and on behalf of Colt Data Centre Services, hereafter referred to as ‘Colt’ and/or the ‘Applicant’. The statement supports the hybrid planning application to Hillingdon Council (‘the Council’), that envisages the construction of the Hayes Data Park (HDP) at Heathrow Interchange and Hayes Bridge Retail Park.

The main redevelopment of the site will consist of a hybrid planning permission. Seeking full planning permission for a data centre building (to be known as LON06) and outline planning permission for two further data centre buildings (to be known as LON07 and LON08) and the Innovation Hub.

LON06, LON07, and the Innovation Hub are to be located on the site of Hayes Bridge Retail Park with LON08 (and the substation for which there is a separate application for full planning permission for) to be located on the site of Heathrow Interchange.

The Metro Bank building and use in the northeast corner of the Site will be retained.

This document summarises the capacity requirements and delivery strategy for the supply of utility services to the site.

# 2.0

# Overarching Strategy

# 2.0 Overarching Strategy

## 2.1 Overview

New services that are to be routed into and around the site comprise the following:

- High Voltage (HV) Electricity
- Medium and Low Voltage (MV & LV)
- Comms
- Potable water Fire Hydrant Main
- District Heating
- Foul Water Drainage
- Surface Water Drainage

## 2.2 High Voltage (HV)

The campus will be served by 2No (N+N) 150MW 66kV connections via Bullsbrook road at Substation 2. This supply will serve the LON 6, LON 7 and LON 8 transformers via the Hayes Bridge Retail park Road within the site . LON 6, LON 7 and LON 8 each will be provided with 2No (N+N) 66/11kV transformers where the supply will be stepped down from 66kV to 11kV. Refer to section 3.0 for further details.

## 2.3 Medium Voltage (MV)

MV cables (11kV) will be routed from the new 66/11kV substation to incoming MV switchrooms within the building via dedicated belowground ducts. This will generally be beneath the roads and general landscaping. Drawpits will be provided as necessary along the ducting route(s) for maintenance and to accommodate the cable bends. Spare ducts complete with draw wires, will be provided future installation of new cables as required.

Dedicated duct will be provided for controls to and from the substations.

## 2.4 Low Voltage (LV)

Low voltage ducts will be provided in dedicated duct around the site with associated drawpits around the site to serve the external lighting and to provide power to other remote equipment on the site e.g. cameras, EV chargers, Waste Heat recovery pumps, drainage pumps etc.

An SSE 1000kVA supply will be located at the north of the site to provided 720kVA to Hayes Digital Park including the Innovation hub. All LV cabling shall be below ground and coordinated with existing services along the Uxbridge road.

## 2.5 Telecommunications

Telecoms cabling will enter the site from separate entry points via Uxbridge Road and Bullsbrook Road. A site fibre ring network will be provided to route cables from the site entry points to each data centre building using diverse pathways. The telecoms routes comprise belowground duct banks and chambers to accommodate cable bends and pull new cables through in the first instance with spare ducts for future provisions to minimise disruptive Civils works.

## 2.6 Potable Water

An incoming water connection will be made at the site boundary (location TBC) either on Uxbridge Road or Bullsbrook Road. The below ground supply will branch off to serve LON6, LON7 and LON8. A separate supply will be provided for the Innovation Hub. Each branch will connect into a booster tank package skid in a domestic water plantroom before serving each building.

## 2.7 Fire Hydrant

A separate water supply will enter the site adjacent to the potable water supply for firefighting purposes. In the most part it will run in parallel with the potable water supply around the site feeding building fire suppression systems as well as a set of fire hydrants where required.

## 2.8 Heat Recovery

A waste heat recovery system will extract waste heat from the data halls for LON6, LON7 and LON8. The waste heat will be used to provide heating to the admin blocks within each data centre as well as the Innovation Hub being provided by LON6 alone, this will be achieved via water-to-water heat pumps.

## 2.9 Foul Water Drainage

Foul water drainage serves each of the buildings and will be a gravity system. Foul water from the development will discharge to the Thames Water public sewerage system. Existing connections from the development site to Thames Water public sewers in Bullsbrook Road and Uxbridge Road will be used.

## 2.10 Surface Water Drainage

A sustainable drainage system (SuDS) features have been incorporated into the development where possible. Permeable surfaces have been provided to external areas where traffic loading and operational requirements allows. Brown roofs have been provided to buildings where rooftop plant allows for biodiversity. Traditional drainage systems will be required in some locations due the operational requirements of the site. Full retention separators have been provided at the downstream extent of the new drainage systems.

# 3.0

# Power/Electricity

# 3.0 Power/Electricity

## 3.1 Introduction

The campus shall have a dedicated onsite 66/11kV substation supplied by an IDNO via a series of belowground cable routes to meet the high resilience requirements inherent in data centre facilities. The connection point to each of the datacentre buildings will be the at the associated dedicated 66/11kV substations.

## 3.2 Delivery Strategy

The IT demand and associated peak electrical demand for the site is as follows:

| Building | Total Load (MW) | Total Load (MVA) | Diversified Total Load (MW) | Diversified Total Load (MVA) | iDNO Substation Tx Rating (MVA) |
|---|---|---|---|---|---|
| **LON6** | 45.0 | 47.5` | 42.2 | 44.6 | 66/11.5kV 50MVA ONAF |
| **LON7** | 89.0 | 94.0 | 90.7 | 95.6 | LON7N: 66/11.5kV 30MVA ONAF<br>LON 7S: 66/11.5kV 60MVA ONAF |
| **LON8** | 29.2 | 30.7 | 28.7 | 30.2 | 66/11.5kV 56MVA ONAF |
| **Total supply required** | **163.2** | **172.2** | **161.6** | **170.4** | |

This includes auxiliary and support services for the site e.g. cooling equipment, lighting, power, electric vehicle charging etc.

Electricity will be delivered to site via 2No 150MW 66kV supplies by the IDNO via below ground cables from the grid substation (Substation 2). Each incoming supply is sized to support the full electrical demand of the site. From the grid substation, 66kV cabling will distribute power to individual transformer compounds associated with LON6 and LON7.

The controls for the 66/11kV transformers serving LON 6, LON 7 and LON 8 will be located within the Substation 2's control room. The cables from the control room will be routed to the transformers via dedicated below ground ducts.

The Innovation hub will be served off a different network provided by SSEN at the north of the site along the Uxbridge road. This is a separate reinforced supply to (720kVA) for COLT. Of the 720kVA 400V 3P provided by SSEN, 470kVA has been allocated for the Innovation Hub.

## 3.3 Onsite Transformer compounds

LON6 and LON7 buildings will be provided with transformer compound (s); to house the 2No 66/11kV transformers serving the associated buildings. The transformers serving each building will be segregated by blast-proof walls and distribution into the associated building will be diverse; segregated along its path.

The transformers are designed to be concurrently maintainable such that one transformer could be taken offline for maintenance or repair with the substation still supporting the full site load.

The onsite distribution to the proposed data centres shall be via 11kV underground cables with local 11/0.4kV transformers to supply the final load in each data centre at low voltage.

# 4.0

# Potable Water

# 4.0 Potable Water

## 4.1 Introduction

Wholesome water will be provided to new buildings within the site boundary for domestic and non- domestic purposes from the Affinity Water (AW) network. A connection will be made at the site boundary (location TBC) either on Uxbridge Road or Bullsbrook Road.

## 4.2 Assessment of Capacity

Confirmation on available capacity of the local network is to be confirmed. A pre-development enquiry has been sent to Affinity Water to determine whether they can supply the demand for LON6. A dry cooling system and rainwater recycling for greywater is proposed for LON6, it is therefore anticipated that mains water demand will be low. LON7 and LON8 will adopt a similar strategy.

A separate water connection will be made for the Innovation Hub.

## 4.3 Delivery Strategy

A connection will be made at the site boundary either on Uxbridge Road or Bullsbrook Road. Water will be delivered to the site by means of a suitably sized communication pipe laid in the public highway by Affinity Water. Provision is to be made for isolation valves, washout, backflow prevention device and metering point within a suitable pit and cover at the site boundary.

To reduce water consumption and to meet BREEAM targets, a rainwater harvesting system has been introduced within the data centre buildings. Rainwater will be collected in a series of underground tanks from roof areas and will be pumped back to an intermediate day tank within each building. From the day tank it will be boosted around the building to serve flushing of all WC's and urinals on all floors. A mains water back-up will be provided to the day tank with appropriate air gap protection to safeguard the wholesome supply.

The site will be provided with a network of fire hydrants in accordance with BS 9990:2015. These hydrants will be either be supplied from the mains network or a boosted tank supply if the mains pressure is inadequate. A separate mains water connection will be provided for sprinkler tank filling in the event of a fire.

The hydrants should be included as part of a ring main system which are supplied from at least two positions. Isolating valves should be incorporated so that sections of the ring main can be isolated for repairs. Branches off the mains supply should also have an isolating valve and a non-return valve to suit the water undertaker's requirement.

The fire hydrants will be located no more than 90m from the entry of any building and no more than 90m apart. They will be located adjacent to roadways or hard-standing facilities but no closer than 6m to the building it is intended to serve to mitigate risk of harm from falling debris, etc. Hydrants shall be positioned such that parking, loading and unloading of vehicles is unlikely to obstruct access.

# 5.0

# Foul Water Drainage Strategy

# 5.0 Foul Water Drainage Strategy

## 5.1 Existing Foul Drainage

The proposed development will comprise a separate foul and surface water drainage strategy to serve the new buildings and surrounding landscape areas.

There is existing foul water drainage to the north of the site which discharges to the Thames Water public sewerage system on Uxbridge Road. There is also existing foul water drainage to the south of the site which discharges to the Thames Water public sewerage system on Bullsbrook Road.

There is an existing storm water drainage route to the east of the site which will be retained.

## 5.2 Proposed Foul Water Drainage

It is proposed that the HDP Masterplan development discharges storm water to Yeading Brook via the existing private storm water outfalls serving Hayes Bridge Retail Park and Heathrow Interchange.

SuDS features have been incorporated into the development where possible. Permeable surfaces have been provided to external areas where traffic loading and operational requirements allows. Green roofs have been provided to buildings where rooftop plant allows. Traditional drainage systems will be required in some locations due the operational requirements of the site. Full retention separators have been provided at the downstream extent of the new drainage systems.

Storm water storage has been provided in the form of geocellular tanks which will be distributed around the development to suit utility coordination. An allowance of 40% increased rainfall intensity has been incorporated into the design to account for potential climate change. Foul water from the development will discharge to the Thames Water public sewerage system. Existing connections from the development site to Thames Water public sewers in Bullsbrook Road and Uxbridge Road will be used.

Full details of the drainage strategy can be found in the Drainage Strategy report produced by ARUP.

# 6.0

# Gas

# 6.0 Gas

## 6.1 Introduction

To meet the clients' ambitions of working towards net carbon zero, no gas connection required for the proposed development. Any existing gas connections will be removed.

# 7.0

# District Heating

# 7.0 District Heating

## 7.1 Introduction

The Energy and Sustainability Statement submitted as part of the application details the heating strategy for different buildings on-site. Data centres produce significant amounts of heat which is often rejected into the atmosphere. As such the building design utilises waste heat to provide heating throughout the winter to the internal spaces. The innovation Hub will also utilise waste heat from the data centre buildings. No connection to local district heating networks is therefore planned, due to lack of a district heating network in the area. The development does however plan to be a source of heat export in the future and a capped connection at the site boundary will be provided.

## 7.2 Delivery Strategy

For LON6, LON7 and LON8 a dedicated waste heat recovery plant room has been allocated within the building. This is sized to incorporate all the equipment necessary to export heat to the admin blocks, Innovation Hub and future district heating.

The export of heat will be designed to the following parameters:

- Initial capacity available to export
  - LON6 ~13.5 MW*
  - LON7 ~24 MW*
  - LON8 ~10 MW*
  - *Note that the actual total heat exported will be subject to real-time data centre operations, depending on factors including but not limited to IT load, system efficiency and operating temperatures. Therefore, the exported heat demand will fluctuate with the data centre's operation.
- Water supplied to boundary at ~28°C
- Data centre building plant room to contain plate heat exchangers, pumps and pipework headers

# 8.0

# Telecommunications

# 8.0 Telecommunications

## 8.1 Introduction

In accordance with Greater London Authority (GLA) and Ofcom policy the Proposed Development shall be provided with full fibre connectivity to all plots.

## 8.2 Delivery Strategy

The site's telecommunication delivery strategy will involve the provision of fibre ducting infrastructure to ensure customers have a high bandwidth connectivity from a choice of service providers using resilient cable pathways.

The applicant is committed to working with various carriers/service providers such as Openreach, Vodafone, Colt Technology Services, and Virgin Media (VM02) to deliver high-quality communication services to our customers. These carriers/service providers have established network interconnects and points of presence in the area, which enable them to offer a range of solutions for voice, data, and internet connectivity.

The site will have diverse and independent internet connections to enhance its resilience in case of a failure. Each data centre building will have the option of multiple high-bandwidth internet connections with different paths.

Wide Area Network (WAN) communications will be enabled to provide a reliable and high-performance corporate WAN solution for connecting the data centre buildings with the applicants' corporate offices and remote locations.

The site will have a robust fibre ring duct network interconnecting the buildings on the site using diverse pathways. The duct network will consist of multiple below ground ducts and chambers. Each building on the site connects to the duct network from four separate building Point of Entry (POE) rooms. The provision of the ducts within the fibre network has been sized to meet the future demands of the site.

Carriers/service providers will access the site via four physically diverse site entry points to provide resilient pathways to customers. The site entry points are located along Uxbridge Road and Bullsbrook Road.

**Cundall Johnston & Partners LLP**
One Carter Lane London EC4V 5ER
Tel:+44 (0)20 7438 1600
Asia Australia Europe MENA UK and Ireland
www.cundall.com

ZERO CARBON DESIGN 2030