BLOCK 4,UNION PARK

EIA Non-Technical Summary

April 2025

Prepared on behalf of

Ark UP4 Ltd

savills

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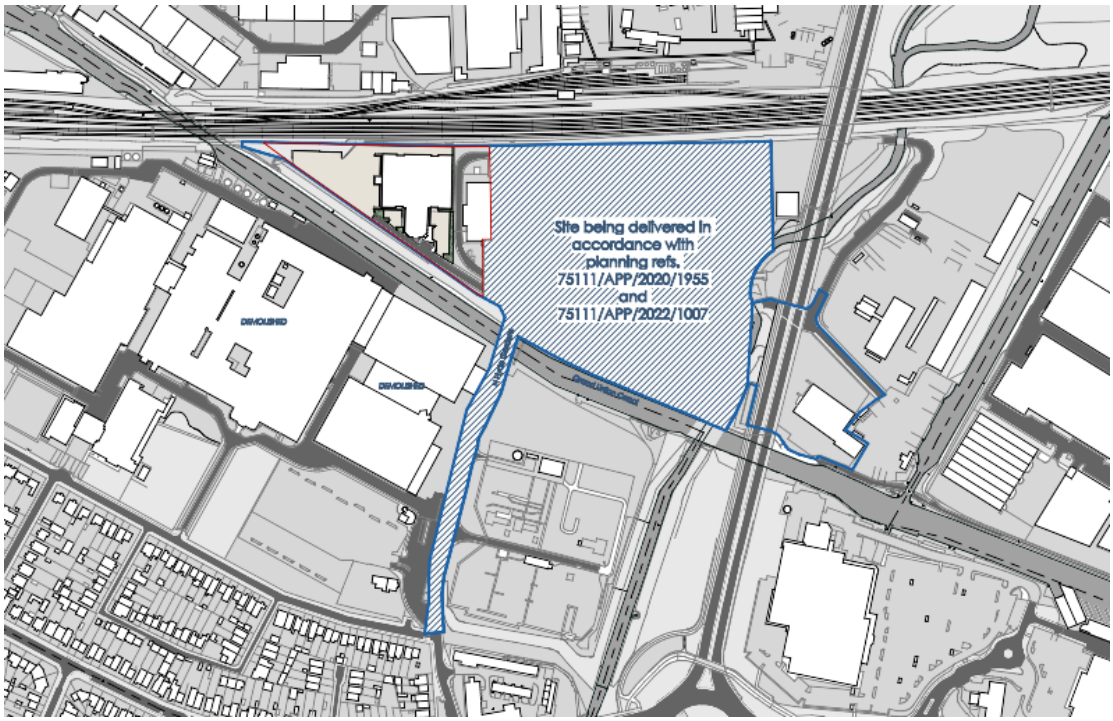
Non-Technical Summary

1. Introduction

1.1 Ark UP4 Ltd (the Applicants) have submitted a planning application to the London Borough of Hillingdon ('LBH') seeking full planning consent for the development of a data centre. The planning application is for the redevelopment of site to deliver extension to existing data centre campus consisting of (a) data centre building (b) energy, power, and water infrastructure (c) internal roads (d) site security arrangements (e) hard and soft, green landscaping and (f) other ancillary and auxiliary forms of development.

1.2 The location and extent of the Site is identified by the end line shown on **Figure 1** below (see separate Figure 2.1 to view full size drawing to scale). In total, the Site covers an area of 1.26 hectares.

Figure 1: Site Location Plan (Not to Scale)



1.3 There is an existing building on site, which has a total area of circa 3,500sqm of floorspace and was formerly occupied by Addison Lee for the repair, maintenance, and replacement of private hire vehicles, sits centrally within the Site. Addison Lee has vacated the site and the building is currently used by Ark and their contractors as a construction base whilst the adjacent permitted scheme is being delivered. Prior approval has been granted for the demolition of this building under ref. 56402/APP/2025/235 and it is anticipated that this building will be demolished whilst the application is being considered.

1.4 Savills has coordinated the preparation of the Environmental Impact Assessment (EIA) including the preparation of the ES and Non-Technical Summary (NTS) (this document) to support the planning application. The NTS sets out the key issues and findings of the ES in accessible format for a wider audience.

1.5 The ES and this NTS accompany a suite of documents that together support the outline planning application submitted to the Local Planning Authority (LPA), London Borough of Hillingdon (LBH).

Environmental Impact Assessment

1.6 Environmental Impact Assessment (EIA) is a process that formally considers the construction and operational aspects of a proposal that may have significant effects on the environment. The findings of an EIA are described in a written report known as an Environmental Statement (ES). An ES provides environmental information about the scheme, including a description of the development, its predicted environmental effects and the measures proposed to mitigate adverse effects: information that is taken into account in the planning decision.

1.7 This document is the ES submitted with the planning application for the Proposed Development and sets out the results of the EIA undertaken. This ES is prepared in accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations'). This document is the Non-Technical Summary (NTS), which provides a summary of the main findings of the ES, including the significant environmental effects, mitigation and residual effects predicted to result from the Proposed Development.

1.8 Subsequently, when the Council is deciding whether to grant planning permission, it can do so in the full knowledge of any significant effects predicted, and take this into account in the decision making process.

Scoping and EIA Consultation

1.9 A formal scoping exercise is not being undertaken, however through discussions with the LPA, a clear steer has been provided on the required scope. Notwithstanding this, separate technical discussions have been held as part of the pre-application consultation to confirm the assessment scope for the topics scoped into the EIA. The technical chapters to be included in the ES are:

- Air Quality
- Climate change

2. Site and Local Context

2.1 The Application Site, identified on drawing reference is located within the Bulls Bridge Industrial Estate, a well-established multi-let industrial estate covering some 1.26ha positioned to the south of Hayes Town and less than 1km from Junction 3 of the M4 motorway. It lies approximately 3.2km to the north east of the closest part of the northern runway at Heathrow Airport.

2.2 The Site is triangular in shape, bound along its northern boundary by the Paddington to Swansea railway line, its southwestern boundary by the Grand Union Canal and associated towpath, and to the east by the wider Bulls Bridge Industrial Estate site which Ark is currently redeveloping.

2.3 The northern boundary of the site is formed by the GWR London Paddington to Swansea main line, which is situated behind a galvanised steel palisade fence. Hayes and Harlington railway station is located approximately 500m to the west. Land uses on the northern side of the railway line are industrial in nature, with Tarmac operating a large asphalt plant, a cash and carry, and various small industrial and warehouse units.

2.4 The west of the application site is bound by mature trees and shrubbery. Beyond that is the Western View Railway Bridge.

2.5 The southern and southwestern boundary of the site is formed by the Grand Union Canal. The Grand Union Canal is connected to the Paddington Arm Canal approximately 400m to the east and is maintained by the Canal & River Trust. Further south is National Grid's North Hyde substation and the Former Nestlé site where planning permission for a major redevelopment scheme has been granted. This scheme includes 1,386 new homes focused on a cluster of apartment blocks, a local centre and commercial floorspace (which includes a data centre) (Ref. 1331/APP/2017/1883). This development, referred to as Hayes Village, adjoins the existing suburb of Cranford Park to the south and is currently under construction.

2.6 There is an existing building on site, which has a total area of circa 3,500sqm of floorspace and was formerly occupied by Addison Lee for the repair, maintenance, and replacement of private hire vehicles, sits centrally within the Site. Addison Lee has vacated the site and the building is currently used by Ark and their contractors as a construction base whilst the adjacent permitted scheme is being delivered.

2.7 The Site is largely flat at around 33 m AOD with a very shallow fall from west to east towards the shallow valley of the River Yeading which runs through the south eastern corner of the Union Park re-development campus.

2.8 There are no on-site public rights of way (PRoW) or rights of access to the Site. A PRoW follows the towpath. A canal access ramp from the towpath to North Hyde Gardens has been created as part of the re-development scheme. The canal towpath forms part of the London Loop, a circular walk around the capital and the Grand Union Canal Trail. To the east of the Parkway the canal splits with towpaths following both the northern and southern branches of the canal. The Hillingdon Trail follows the line of the River Yeading. There is more extensive open access the land within Minet Country Park to the north east.

2.9 The majority of the Site currently consists of hardstanding, with areas of overgrown shrubs and trees around the northern, western, and southern boundaries. There are small areas of ornamental planting in the south-east of the site.

2.10 At the time of writing, none of the trees mentioned above are covered by a tree preservation order (TPO). Most individuals within the site are of low landscape value due to being of small-size, whereas the off-site belt of trees and scrub adjacent to site contains larger individuals of greater age.

2.11 The Environment Agency's indicative flood maps show that the site is located within Flood Zone 1, which is deemed to have less than a 1 in 1000 (0.1%) chance of river or tidal flooding in any one year.

2.12 The site is within an Air Quality Management Area (AQMA), which was declared in 2003, and covers the southern two thirds of LBH, therefore including the site. The AQMA is designated based on the levels of Nitrogen Dioxide (NO2).

2.13 The Nestlés (Botwell) Conservation Area is located on the southwestern side of the Grand Union Canal. The Bulls Bridge Conservation Area is located to the east of the site. The conservation area was designated in 1973 and comprises a stretch of the Grand Union Canal Paddington Branch. The Conservation Area also includes the Grade II Listed Bulls Bridge and the locally listed Toll House.

2.14 There are no statutory designations of nature conservation value within the site, with the nearest statutory designation being Yeading Meadows Local Nature Reserve, approximately 2.5km to

the north. The Grand Union Canal and associated towpath along the southern site boundary is within the London Canals Site of Metropolitan Importance (SMI), a local non-statutory ecological designation that covers an area of 188ha.

3. Proposed Development

The Development Proposals

3.1 The description of development applied for and covered by this ES is:

Redevelopment of site to deliver extension to existing Union Park data centre campus consisting of (a) free standing data centre building (b) energy, power, and water infrastructure (c) site access and internal roads (d) site security arrangements (e) hard and soft, green landscaping and (f) other ancillary and auxiliary forms of development

Data Centre Buildings

3.2 A data centre is a physical facility that stores and processes data generated from the internet and the cloud. It is essentially an intensive climate controlled space for the continuous operation of computer servers and is supported by complex mechanical and electrical infrastructure to support its hardware and software. This includes power subsystems, uninterruptible power supplies (UPS), ventilation and cooling systems, network racks, server rooms and ancillary office and technical space for staff and security. Ancillary buildings, standby or back-up generators (which will only be used if the electrical grid fails) and substations are also required.

3.3 Data centres enable the delivery of shared applications and data, which is optimised for reliability, security and energy efficiency. However, data centres are not just stores, they are places where the latest technology is deployed to accelerate data processing and data management. They are critical facilities that bring data transmission, storage and management, together with the supporting networks, into general or conventional definitions of infrastructure.

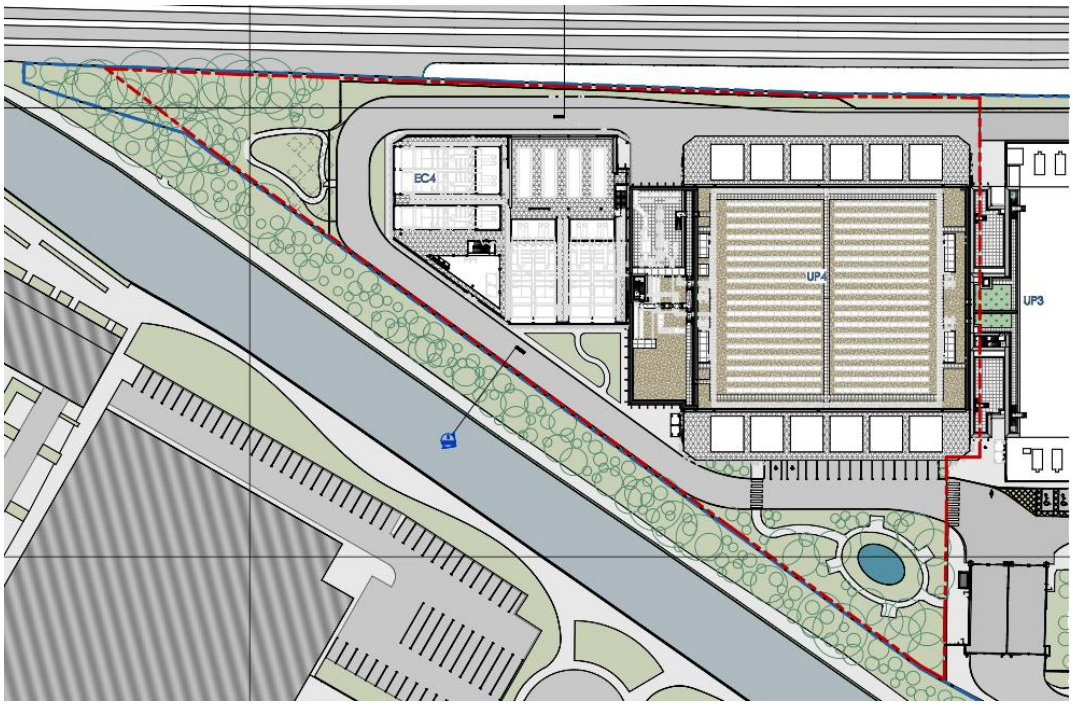
3.4 Further, detailed information about the role and importance of data centre development is provided in the Planning Statement which accompanies this application.

The Site Layout

3.5 The site is a challenging one to develop for a data centre three primary reasons. Firstly, it is triangular in shape when generally data centres and their various components most comfortably sit as rectangles or squares. Secondly, it is the closest part of the former Bulls Bridge Industrial Estate to sensitive residential receptors. Thirdly, being the last part of the former Bulls Bridge Industrial Estate to be developed, it needs to be able to be constructed with the already permitted data centre in place

3.6 The proposed Site Layout Plan is shown below in Insert 3.1.

Insert 3.1: Enlarged Site Plan (ref.NWA-0474-SW-ZZ-DR-A-900001-B4)



3.7 The data centre element of UP4 is proposed to connect to the Ancillary Building (AB4) of the adjacent consented UP3 project. This allows flexibility of use if the two data centres are taken on by the same occupier but can also be used if UP3 and UP4 are occupied by independent tenants. The data centre is the largest element of the proposal and locating it adjacent to AB4 maximises the distance from the residential Hayes Village development whilst the triangular nature of the site also precludes locating the data hall to the west.

3.8 The ancillary building (AB5) for UP4 is proposed to run north south and adjoin the west elevation of the data centre block. This follows the pattern of the Union Park campus, using set-back ancillary buildings to break up the elevation of the neighbouring data centres. AB5 is the building with the most active façade in the proposal, using it to add interest and separate the more introverted data centre and energy centre has good compositional advantages.

3.9 The energy centre (EC4) is proposed to be located immediately to the west of, and conjoining with, AB5. This minimises the overall footprint and keeps the building as far from the residential Hayes Village development as possible. This arrangement also minimises the extent of façade and limits cable run distances.

3.10 Arranging the buildings in this order means that they step down in height moving west towards the residential development.

3.11 A link road is designed to run from the southeast corner of the site, connecting to the primary entrance of the Union Park Campus at the north side of North Hyde Gardens Bridge, and run clockwise around the proposed buildings, before turning east and connecting with the access route to the rear of the adjoining UP3 development. Running the access round around the outside of the buildings maximises the distance between the buildings and the site boundaries. This has advantages for construction, plant replacement and in protecting trees beyond the site

Data Centre Building (UP4)

3.12 The overall height of UP4 is 32.25m. This is the same height as for UP1, UP2, and UP3 and is compliant with Aviation threshold.

3.13 The gantries of UP1 and UP3 express the structure of the gantry supporting frame with large scale perforated panels recessed within this framing. In contrast UP2 has been designed with tapering vertical fins that sit in front of the gantry framing. UP4 belongs to this family of buildings in form and arrangement so has been designed in a similar design language. To establish an 'A,B,A,B' pattern UP4 follows the expression of UP2, using vertical fins as screening rather than expressing the frame.

3.14 The fins on UP2 are vertical and taper, being wider at the top and narrower at the bottom. As UP4 will be viewed form a variety of angles the fins were designed to be three dimensional, consisting of two flat vertical aluminium panels meeting to form a triangle. The southern elevation of the building is shown in Figure 3.2 below.

Figure 4.2 South Façade 3D View (ref. studioNWA)

3.15 PV panels and brown roofing are proposed at roof level.

Energy Centre (EC4)

3.16 The Energy Centre provides back up power and consists of 14 generator sets as well as control rooms to host switchgear and other electrical equipment were required. There are certain requirements around adjacencies, stacking, plant replacement, and CFD modelling that defines the relationship between all of these elements and, of all elements of the site, this is arguable the element where form and design must follow function.

3.17 The façade is conceived as a series of triangular fins with a similar design to UP4. In contrast to UP4, these fins will be in dark grey powder coated aluminium (RAL 7016) whilst a waved approach is incorporated into the façade to add variety and allow visibility through the façade and into the building from various views.

3.18 To further soften EC4, in addition to the functional lighting required, it is proposed to include feature lighting to this building. This is discussed further below in the lighting section.

Ancillary Block (AB5)

3.19 The ancillary building ('AB5'), which sits between UP4 and EC4, contains the office space for the development, as such it has the most transparent façade. This office accommodation overlooks the canal, providing views out for the occupants and a more human-scale, active façade for those looking at the building from across the canal.

3.20 The external fins provide practical solar shading and draw on the design of AB1 which book ends the Union Park development at the east end. The colour of AB5 is dark grey powder coated aluminium to match EC4 and provide a contrast to UP4.

Construction Process

3.21 Subject to planning and other approvals, it is anticipated that work will begin on the campus at the beginning of 2026 and will take approximately 28 – 30 months to complete.

3.22 An outline Construction Environmental Management Plan (oCEMP) has been prepared to provide details of measures to protect the environment during the construction phase and to set out the controls that will need to be in place to ensure that impacts during construction can be managed to acceptable levels. These measures include hours of working, noise, vibration, dust, site logistics, traffic, and waste management. It is anticipated that the implementation of the CEMP will be a condition of the planning permission.

4. Development Alternatives Considered

4.1 The 2017 Regulations do not require the full assessment of all potential alternatives, only a reasonable account of those actually considered prior to the submission of the planning application. Given the nature and purpose of the Proposed Development, the assessment of reasonable alternatives to the development presented in the ES considers options within the following categories:

- **Do Nothing:** Under the 'do nothing' scenario, the Site would remain in its current condition. Data centre are becoming key infrastructure required to enable the functioning of a modern economy and there is strong demand for services generated by data centres. Under a 'do nothing' scenario the economic benefits of the Proposed Development, through the construction and operational phases, would not be realised. Furthermore, it is considered that the existing uses on site would continue to be underutilised.
- **A Different Design**: Through an iterative design process evolution of the illustrative masterplan and the parameters of the Proposed Development, including building layout, height and land use were informed through consultation with the key stakeholders. Design comments were taken on board at each stage in the consultation with these bodies.

4.2 The Design and Access Statement, submitted as part of the suite of planning application documents, explains the scheme's evolution.

5. Findings of the EIA

Air Quality

5.1 An air quality assessment has been carried out to consider the air quality effects associated with the Proposed Development, considering emissions of dust from demolition and construction activities, and emissions from planned and unplanned operation of the proposed standby generators.

5.2 The assessment followed relevant methodologies prescribed for the assessment of air quality. The air quality consultants established the base levels of existing and future air quality and set the parameters against which any significant effects were assessed.

5.3 The impacts of demolition and construction activities were assessed using the IAQM's risk-based approach, to consider the risk of dust emissions on statutory nuisance, human health, and ecological sites. In the absence of any mitigation, construction dust emissions were considered to present a Medium Risk of dust soiling effects during demolition and construction. This was due primarily to the scale of the development and proximity to existing residences. The demolition and construction phases were considered to present a Low Risk to PM10 health effects. The construction phase was considered to present a Negligible Risk to ecological sites. Mitigation measures proposed to address the construction impacts are set out in Appendix 6.5 and include various measures to be included in the Construction Environmental Management Plan (CEMP). Following the implementation of these measures, it is anticipated that the proposed development's dust-related effects would be reduced to Negligible, which is not significant.

5.4 The operational phase of the completed development was assessed quantitatively for the predicted air quality impacts caused by the planned and unplanned operation of the Proposed Development's standby generators, using detailed atmospheric dispersion modelling. The assessment has indicated that the Proposed Development will lead to incremental increases in annual mean NO2, PM10 and PM2.5 concentrations across the local area; all annual mean increases were considered to be Negligible, which is not significant. The Proposed Development was also assessed against the hourly NO2 AQS (200 µg.m-3 not to be exceeded more than 18 times per year), with results indicating that no sensitive receptor in the local area would experience more than 3 breaches of this AQS (out of an allowable 18) due to the Proposed Development's operation; this is the case even if an unlikely 24-hour power outage occurred each year. As all modelled receptors are predicted to experience considerably fewer than 18 breaches of the hourly NO2 AQS per year, the Proposed Development can be considered to have a Negligible impact on hourly NO2 concentrations, which is not significant.

5.5 Cumulative effects have been considered and are deemed to have no material influence on the conclusions of insignificance drawn in this assessment.

5.6 Following the incorporation of suitable mitigation measures it is anticipated that there will be no significant residual effects in relation to air quality, during both the construction and operational phases of the proposed development.

Climate Change

Approach to the assessment

5.7 The climate change chapter has assessed the potential effect on climate change due to greenhouse gas emissions from the Proposed Development.

5.8 Emission of primarily carbon dioxide with some other greenhouse gases would be caused by the Proposed Development during its construction and operation. The total emissions have been expressed as carbon dioxide equivalents based on the global warming potential of each gas. Together they are often referred to as 'carbon' as a shorthand (e.g. when speaking of 'low-carbon power' or 'carbon reduction targets').

5.9 The climate is expected to change over the course of the Proposed Development's lifetime. Climate risks to the development were discussed with the planning authority, London Borough of Hillingdon, and agreed not likely to be significant due to the Applicants approach to sustainability by design and controls in the planning system. Climate risks were therefore not assessed further.

5.10 The significance of greenhouse gas emission effects has been determined by using professional judgement, following guidance from the Institute of Environmental Management and Assessment and using the context of climate change legislation, policy and expert body recommendations.

5.11 The UK has a binding requirement under the Climate Change Act 2008 to reduce greenhouse gas emissions to a net zero level by 2050. In the meantime, five-yearly carbon budgets define a trajectory of reduced emissions over time to meet that goal. Under the 2015 Paris Agreement the UK has made a commitment internationally to reduce greenhouse gas emissions by at least 68% by 2030 and 81% by 2035 (from the 1990 baseline).

5.12 The UK's legislated Sixth Carbon Budget for the period 2033-2037 currently requires a 78% reduction by 2035, and further reductions in the subsequent Seventh Carbon Budget have been recommended (due to be considered by the government this year). This requires action to reduce greenhouse gas emissions from sources both large and small, all of which contribute to the cumulative effect on climate change.

5.13 National and local policy recognises a declared "*climate emergency*" requiring "*radical reductions in greenhouse gas emissions*" and climate risk adaptation through the planning system. Policy and delivery gaps to achieve this are noted by the government's advisory bodies on infrastructure and climate change, particularly around industrial decarbonisation, building sector energy efficiency, low-carbon electricity, heating and cooling, and sustainable transport. Significant risks in the UK from a changing climate are also highlighted in national and local policy, requiring resilience and adaptation actions to be delivered through development planning.

Baseline

5.14 The current physical baseline condition of the Site with regard to greenhouse gas emissions is brownfield land in temporary use as a construction compound for nearby developments, previous buildings on the Site having been demolished. There are therefore no significant baseline greenhouse gas emission sources nor significant carbon stocks in vegetation and soil on the Site.

Greenhouse gas effects and mitigation

5.15 Building the Proposed Development would cause greenhouse gas emissions from manufacturing the materials used (the 'embodied carbon'), delivering them to the Site, and from construction machinery. In addition, manufacturing the computer equipment that tenants will install in the datacentre will also cause greenhouse gas emissions.

5.16 In operation, the Proposed Development would cause greenhouse gas emissions from the energy used, particularly for the computer equipment and for keeping it cool. A smaller amount

of greenhouse gas emissions would also be caused by refrigerant gas leaks and by transport for the workforce.

5.17 A whole-life carbon assessment for the development has predicted that around **41,187 tonnes of carbon dioxide equivalent (tCO_2e)** would be caused by construction of the buildings and mechanical plant and construction traffic. It has recommended design changes to reduce this by about 2% compared to the initial design. Its embodied carbon intensity per m^2 of floorspace is substantially higher than all relevant performance target benchmarks considered, although the published benchmarks used are not directly equivalent to it.

5.18 The greenhouse gas emissions from manufacturing the computer equipment to be installed in the datacentre are difficult to predict, because the choice of equipment will be for tenants and because there is limited reliable published information about the carbon intensity of manufacturing this equipment. Computer equipment is also likely to be upgraded or replaced a number of times in the development's lifetime. As a best estimate, this is likely to cause greenhouse gas emissions at least as substantial as construction of the buildings, and possibly much greater.

5.19 On the assumption of a broadly business-as-usual approach to the design and construction, with very little committed mitigation of embodied carbon, the Proposed Development may not include measures to reduce its construction-stage impacts and make a necessary contribution to achieving the UK's net zero carbon trajectory. Taking into consideration the policy context, the magnitude of greenhouse gas emissions compared to local carbon budgets, the necessary rate of reductions to stay on track with the UK's trajectory towards net zero by 2050, and the recommendations of expert bodies on greenhouse gas emissions reduction, the construction-stage impact is therefore judged to cause a **major adverse** effect that is **significant** prior to further mitigation.

5.20 Once it is completed and occupied, energy use predicted for the Proposed Development would cause greenhouse gas emissions of around **41,043 tCO_2e per year**, although this may become lower further into the future as the carbon intensity of electricity generation in the UK is reduced. Solar panels are included in the design but can only meet around 0.04% of the predicted energy demand. A carbon offset payment into the London Borough of Hillingdon fund is proposed, equivalent to around 0.5% of the energy use emissions.

5.21 The Applicant targets a low Power Use Effectiveness (PUE) ratio. This is the ratio of total power demand to IT equipment demand, i.e. measuring the efficiency of the building's non-IT systems, particularly cooling, so a lower ratio is better. For datacentre developments that start construction in 2026, a PUE of no greater than 1.2 is recommended by the UK Green Building Council (UKGBC). The Applicant considers that a PUE of 1.2 will be achievable for the Proposed Development based on the typical operating temperature range for IT equipment in its existing facilities, which is around 28–32°C. The temperature at which IT equipment must be kept affects the amount of energy required by the heat rejection system to achieve the target IT equipment temperature. The greater the differential between target IT equipment temperature and ambient temperature the more energy required to achieve it. Therefore, if tenant IT equipment cooling needs were to change, for example requiring an operating temperature in the range of around 20–24°C as was common in the past, then the Applicant considers that a PUE of <1.2 may not be achievable.

5.22 Testing and using the standby generators, refrigerant gas leaks from the cooling system and workforce commuting are together predicted to cause greenhouse gas emissions of around a further **275 tCO_2e per year**. These would be minimised, as committed mitigation, through use of HVO for the standby generators and through requiring only a small refrigerant gas charge

due to the evaporative cooling system, subject to no significant changes to the target IT equipment temperature.

5.23 The mitigation measures in the Proposed Development's design and operational commitments described above would provide some reduction in the greenhouse gas emissions from energy use through the PUE target, compared to an unmitigated design. It would minimise emissions from standby generators and refrigerant gas leaks. Taking into account the context as listed above, the operational-stage impact overall is judged to cause a **moderate adverse** effect that is **significant** prior to further mitigation.

5.24 Further mitigation measures have therefore been recommended for construction and operation, which would be in line with the National Planning Policy Framework requirement for the planning system to *"shape places in ways that contribute to radical reductions in greenhouse gas emissions"* and with London Borough of Hillingdon Local Plan policy EM11 that *"The Council will ensure that climate change mitigation is addressed at every stage of the development process by: … – Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market…"*.

5.25 The main further mitigation measure that has been recommended for the construction stage is carbon management following the UKGBC's Net Zero Carbon Buildings standard, launched in 2024, which sets staged targets for reducing embodied carbon in line with the UK's net zero trajectory. The embodied carbon performance target is ≤705 $kgCO_2e/m^2$ for development begun in 2026, or as may be updated in future years.

5.26 While it is not possible to control tenants' choice of computer equipment, there is an opportunity for tenants to be made aware of this impact and to engage with their suppliers about the energy and carbon intensity of products. It is therefore recommended that notice is given to tenants about the embodied carbon of computer equipment prior to occupation, explaining that this was estimated to be at least equivalent to a year's energy use.

5.27 With full implementation of the recommended further mitigation measures, the Proposed Development's GHG emissions from embodied carbon in the construction phase could be reduced to **minor adverse** and **not significant**.

5.28 Even with the additional mitigation outlined above, 'fit-out' of the data centre with computer equipment specific to the needs of the tenants is considered likely still to result in at least a **moderate adverse** and **significant** effect. This is because the embodied carbon of the IT equipment in datacentres is an emerging area of research, with relatively high uncertainty, and mitigation would be dependent on tenants' choices, which can be nudged but not controlled.

5.29 The purpose of a datacentre development is to provide the physical infrastructure for high-performance computing, which by its nature is very energy intensive. The electricity supply connection and standby generators of the Proposed Development are sized to meet this high energy demand, which is not within the Applicant's control to mitigate, being dependent on datacentre tenants' computing needs. It is not feasible within the Site or nearby to install low/zero carbon generation sources to meet a meaningful fraction of this energy demand. As such, no further direct mitigation is considered feasible to recommend for energy use in the operational phase. The residual effect would therefore remain **moderate adverse** and **significant**.

5.30 However, the Applicant procures 'green' electricity and has an aspiration to more directly support investment in low/zero carbon electricity supply for its developments in future by entering into half-hourly matched Power Purchase Agreements (PPAs) with low/zero carbon generator developers, such as for small modular nuclear reactors. Supporting additional

investment in half-hourly matched off-site low/zero carbon baseload generation sources via a bankable PPA offers a means to not only obtain 100% zero carbon energy 100% of the time for the facility but also to help reduce the carbon intensity of grid-supplied electricity to the benefit of the datacentre sector, and a means to reduce the risk that additional demand from datacentres compromises the UK's policy goal to decarbonise grid electricity by the early 2030s.

5.31 As a commercial matter not secured through design or the planning permission, and being dependent on third parties' activities, this has not been treated as an EIA mitigation measure that can be relied upon when determining the significance of effects. Nevertheless, it should be acknowledged that there is potential for the carbon emissions arising from energy consumption by the Proposed Development to be significantly reduced or potentially eliminated in future.

6. Conclusion

6.1 The ES has considered how the environment and the local community would be affected by the Proposed Development.

6.2 A range of likely effects have been predicted to occur as a result of the Proposed Development, both beneficial and adverse, and mitigation measures have been identified either within the scheme design or additionally to minimise or offset identified adverse effects where possible.

6.3 In relation to air quality, the assessment for the proposed development indicates that, with the implementation of recommended mitigation measures, there will be no significant residual effects on air quality during both the construction and operational phases. The assessment, which followed established methodologies, found that construction dust emissions could be reduced to negligible levels, and operational emissions from standby generators would have a negligible impact on NO2 concentrations. Cumulative effects were also considered and found to have no material influence on these conclusions.

6.4 In terms of climate change, while the recommended mitigation measures can significantly reduce the GHG emissions from embodied carbon during the construction phase to minor adverse and not significant, the 'fit-out' of the data centre with tenant-specific computer equipment is likely to result in moderate adverse and significant effects due to high uncertainty in embodied carbon and tenant choices. Operational GHG emissions from standby diesel generators and refrigerant gas leakage can be mitigated to minor adverse and negligible levels, respectively. However, the residual effect of operational energy use emissions remains moderate adverse and significant, highlighting the need for ongoing efforts to address these impacts.

Next Steps

6.5 The ES has been submitted alongside other documents in a planning application to the Council. Prior to making a decision, the Council will consult with relevant statutory and non-statutory bodies for advice on the proposals. Members of the general public are also welcome to make comments on the application during this time. The feedback from these consultations will be taken into account by the Council in reaching their decision.

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