QUALITY ASSURANCE

Internal Reference: UK0029541.0848

Completed by: 100105738

Authorised by: 100103947

SUMMARY

From here onwards the red line boundary of the Proposed Development is referred to as ‘the Site’. The party submitting the planning application is referred to as ‘the Applicant’.

Based on the information provided for the Site, potential ecological constraints requiring further consideration are limited to designated sites, badger/otter, bats, birds and biodiversity net gain (BNG).

DOCUMENTS REVIEWED

ECOLOGICAL IMPACT ASSESSMENT- P/10076/013(009)

BIODIVERSITY NET GAIN CALCULATIONS - P/10076/013(023)

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN - P/10076/013(030)

SHADOW HABITAT REGULATIONS ASSESSMENT (SHRA) - P/10076/013(018)

VALIDITY OF ECOLOGICAL INFORMATION

Ecological information reviewed as provided by the Applicant includes a Phase 1 Habitat survey undertaken in October 2023, supplemented by a UKHab survey undertaken in August 2024 to cover the full Site. The data is considered to remain valid, i.e. in-date according to relevant guidance (12-18 months). The surveys undertaken followed accepted methodologies and guidance, as referenced within the ecological reports.

DESIGNATED SITES

A shadow Habitats Regulations Assessment (sHRA) to inform the competent authority’s assessment was undertaken which identified that the Site lies within the zone of influence of South West London Waterbodies Special Protection Area (SPA) and Ramsar and Windsor Forest and Great Park Special Area of Conservation (SAC). Wraysbury Reservoir and Staines Moor Site of Special Scientific Interest (SSSI) are constituent parts of the larger SPA, Ramsar and SAC sites with comparable qualifying features.

The sHRA included individual air quality, noise and transport assessments and concluded no likely significant effects on relevant designated sites from the identified impact pathways; this includes on the SSSI. The information provided on the levels of noise and air quality during construction and operation should not be exceeded.

The Applicants sHRA states there will be no Likely Significant Effects relating to noise during either construction or operation (para. 5.2.1). The sHRA relies on the study by Sharps Redmore to confirm this. A review of the acoustic report which is in the sHRA appendix does not appear to provide the construction noise assessment/threshold that is being relied on. SBC should clarify the source of this modelled data.

It is noted that in combination effects were discounted in Table 5.2 of the sHRA, however, the Applicant does not seem to provide the rationale for this in main body of the report. Whilst the conclusion seems

reasonable, it would be appropriate to ask for this rationale this to be provided (why are there no in combination effects?).

As competent authority under the Habitat Regulations it necessary for SBC to provide a screening decision based on information provided by the Applicant in the sHRA. We advise you to confirm the position on in combination effects before doing so.

HABITATS & FLORA

The ecological information provided details the habitats present on Site; a combination of urban and semi-natural habitats which are accurately geo-referenced. From photographs provided, these are all considered to have been accurately assessed against their relevant UKHab category.

No further information is therefore required about habitats and flora present on Site.

SPECIES

The ecological information provided notes that the Site has the potential to support protected and or notable species, and specific assessments were undertaken for bats and breeding birds. Other protected and notable species were scoped out of further assessment. This approach was considered largely suitable; however, prior to commencement of works on Site a further check should be undertaken for badger setts and otter holts, due to the mobility of the species and time elapsed between the initial survey and likely commencement of development. Evidence of this check should be provided to the planning authority. Furthermore, precautionary methods of working with regard to mammal species, e.g. covering excavations overnight, should be included within a suitably worded Construction Environmental Management Plan (CEMP).

Bats

Bat activity surveys (transects and static detectors) were undertaken across the Site, which identified multiple species utilising linear features for commuting and foraging. As per the current post-development landscape design, it is considered that these features should be retained to maintain accessibility for the species. The Site was assessed to be of local significance for bats, which is considered appropriate based on the information provided.

Trees and buildings on Site were identified as having Potential Roosting Features (PRFs). These features were mapped and subsequently surveyed with no confirmed roosts recorded. No further information on the status of bat activity within the Site is required.

Under provisions in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Species and Habitats Regulations 2017 (as amended), it is a criminal offence (among other offences) to: damage or destroy a place used by a bat for breeding or resting; intentionally or recklessly disturb a bat occupying a structure or place used for shelter or protection; and/or Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by bats.

Should post-development plans change to result in loss of linear features identified as important for commuting bats, the impact of the development should be reassessed, and any mitigation or compensation then included within the design. As specified by the Applicant’s consultant a lighting strategy of low impact

to bats should to be implemented prior to commencement. SBC should seek to secure this by condition. Guidance is available from the Institute of Lighting Engineers[1].

Birds

All British birds' nests and eggs (with certain limited exceptions) are protected by Section 1 of the Wildlife & Countryside Act 1981, as amended.

Breeding bird transect surveys were undertaken in-line with best practice with the breeding bird assemblage assessed to be of local importance only.

A pre-works check should be undertaken for nesting birds (including in buildings and boundary features) and, where nesting birds are recorded, a 10m buffer should be maintained until the young are fledged. Further detail has been provided within the outline CEMP, where suitable measures to mitigate against disturbance of nesting birds has been provided.

BIODIVERSITY NET GAIN

A proposed net gain in biodiversity of 115.53% for habitat units and 10.07% for hedgerow units is recorded, this is to be achieved through the creation of on-site habitats. The mandatory biodiversity gain target of 10% and the applicable trading rules within the Statutory Metric have been satisfied for habitat and hedgerow units. However, Ordnance Survey mapping identifies a ditch within the Site which has not been identified within reporting and as such may if present result in the requirement to deliver BNG for watercourses.

Further information regarding the presence or absence of this potential watercourse should be provided to the local authority, in the form of an updated BNG assessment with Statutory Metric if required to demonstrate the updated baseline and post-development units.

Following a resolution to the above, documents required to discharge the Biodiversity Gain Condition should be provided to local authority prior to commencement of the Proposed Development.

As per the BNG Planning Practice Guidance[2], significant on-site gains must be maintained for at least 30 years through planning conditions or legal agreements. In this instance the on-site units should be secured by the condition, Section 106 agreement or Conservation Covenant, where they comprise significant enhancements. It is a matter of planning practice which route for securing the gains SBC wishes to take.

[1] Institute of Lighting Engineers (2023). Guidance Note 8 Bats and Artificial Lighting [on-line] https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/
[2] Ministry of Housing, Communities and Local Government (MHCLG) and Department for Levelling Up, Housing and Communities (DLUHC) (2024) *Understanding biodiversity net gain*. Available at: https://www.gov.uk/guidance/understanding-biodiversity-net-gain

London & South East Region

1:250 000 Series Agricultural Land Classification

1:250,000 at A0

0 5 10 20 30 40 50

Kilometers

0 5 10 20 30 40 50

Miles

Grade	Description
1	Excellent
2	Very Good
3	Good to Moderate
4	Poor
5	Very Poor

Non-Agricultural Land

- Other land primarily in non-agricultural use
- Land predominantly in urban use

This map represents a generalised pattern of land classification grades and any enlargement of the scale of the map would be misleading. This map does not show subdivisions of Grade 3 which are normally mapped by more detailed survey work.

1:250 000 at A0

Further information

Details of the system of grading can be found in: Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land. **www.defra.gov.uk**

For further information about the availability of Agricultural Land Classification data, including more detailed local surveys, please contact the Natural England Enquiry Service on 0845 600 3078 or e-mail **enquiries@naturalengland.org.uk**

Map produced by SWRGIU 05/08/2010 Map Reference 10-111g

www.naturalengland.org.uk

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MEP ENGINEERING

MANOR FARM - ESTIMATED WATER USAGE FOR PROCESS/ COOLING AND DOMESTIC WATER

REVISION P03 – 11 SEPTEMBER 2025

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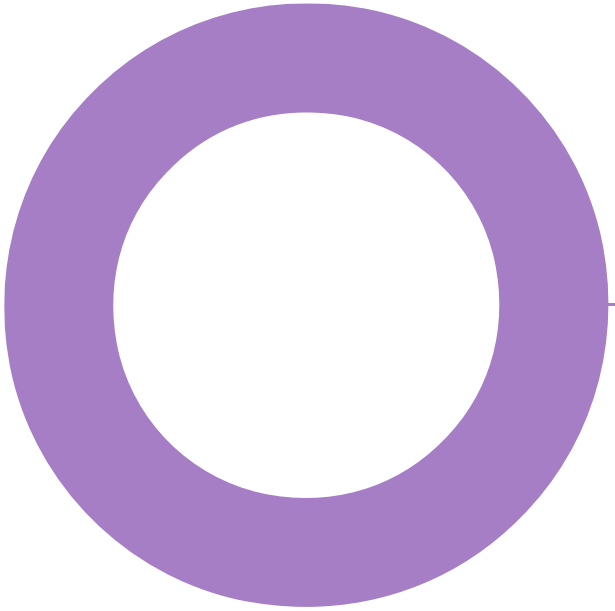

Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
P01	03/09/2025	Issued for information	MJ	JG	DC
P02	04/09/2025	Updated to comments	JG	JG	DC
P03	11/09/2025	Updated to comments	JG	JG	DC

Project number: 07/10881
Document reference: Manor Farm - Estimated Water Usage.docx

Contents.

Introduction.

The proposed development at Manor Farm involves the construction of a base building shell comprising a three-storey Data Centre equipped with external plant gantries, alongside office accommodation and associated external site works. This development is designed to provide a flexible and robust infrastructure to meet the operational needs of future occupiers while adhering to high standards of sustainability and performance.

This report has been produced for the purpose of providing an overview of the water usage of the Manor Farm Data Centre facility for both process water and domestic water use. Water consumptions noted for the process/cooling of the Data Centre facility is based on the use of closed loop cooling systems typically deployed in these developments.

Location

The site is located along Poyle Road, Slough, SL3 0BL, England.

The development is a mix of Brownfield/Greenfield and currently accommodates industrial use buildings in the northeast quadrant but otherwise is vacant empty fields. The development area is bordered by the Hilton Hotel serving Heathrow Airport Terminal 5 to the north, Poyle Road to the east and Stanwell Road to the south. Arthur Jacob Nature Reserve lies to the west.

Development description.

The Data Centre site comprises of the Data Halls, Gantry Areas, Storage, Office Allocation and Gate House. Within the site, water is expected to be utilised for process/cooling requirements and domestic water usage for the occupants.

The peak occupancy within the building has been designed for 121 people. Using the British Council of Offices (BCO) utilisation rate of 80%, the average occupancy is likely to be 97 people.

Process/Cooling Water Requirements.

Concerns regarding high water consumption in data centres are often based on experiences from the United States, where open-loop cooling systems incorporating cooling towers are commonly employed. Such systems can result in significant water losses through evaporation, blow-down (the controlled discharge of water to remove dissolved solids), and drift (water droplets carried out of the tower by exhaust air).

The cooling systems proposed for the Manor Farm facility will operate as sealed (closed-loop) systems. This design substantially reduces water losses, as the same water is continuously recirculated within the system, with only minimal top-up required to replace small incidental losses.

According to *TechUK*'s report *Understanding Data Centre Water Use in England* (August 2025), closed-loop systems typically consume less than 0.001 litres per kilowatt-hour (kWh) of IT load. In contrast, open-loop cooling systems can consume approximately 1.8 litres per kWh.

The closed-loop consumption figure includes intermittent process water usage for activities such as:

- Cleaning of cooling coils
- Replenishment of sprinkler systems following testing
- Other minor operational requirements

For Manor Farm, with an installed IT load of 72 megawatts (MW) operating continuously (24 hours per day, 365 days per year), the theoretical worst case annual energy is calculated as:

72,000 kW × 24 hours/day × 365 days/year = 630,720,000 kWh/year

Applying the closed-loop consumption rate:

630,720,000 kWh/year × 0.001 litres/kWh = 630,720 litres/year

This is equivalent to approximately 630.72 cubic metres per year. For context, this volume of water is comparable to the annual domestic water consumption of an office with an average occupancy of around 44 people.

Domestic Water Usage.

Domestic (non-process) water consumption for the facility has been estimated in accordance with the Chartered Institute of Plumbing and Heating Engineering (CIPHE) Design Guide and the Chartered Institution of Building Services Engineers (CIBSE) Guide G. Both references recommend an allowance of 40 litres per person per day for typical office-type occupancy.

For the Manor Farm facility, with an assumed average daily occupancy of 97 persons, the theoretical worst case annual domestic water demand is calculated as follows:

97 persons × 40 litres/person/day × 365 days/year = 1,416,200 litres/year

This is equivalent to approximately 1,416.2 cubic metres per year. This figure represents water used for activities such as:

- Handwashing and personal hygiene
- Kitchen and catering facilities
- Toilet flushing
- General cleaning within office and welfare areas

This does not include water used for process purposes, which is detailed within the Process Water Requirements section above.

Summary.

The Manor Farm Data Centre will utilise industry best practice, employing closed-loop cooling systems that significantly minimise water consumption. These systems are expected to use approximately 0.055% of the water required by conventional open-loop cooling systems.

Based on *TechUK* data from operational data centres in the United Kingdom, the Manor Farm Data Centre facility is projected to consume approximately 630.72 cubic metres of water per annum for process and cooling purposes. With the exception of the initial fill, testing, and commissioning phases.

Domestic (non-process) water consumption is estimated at 1,416.2 cubic metres per annum, based on standard design guidance for office-type occupancy. This demand is expected to be spread across the year with daily usage fluctuating according to actual occupancy levels.

The total water consumption for the data centre space equating to an area of 34,593.6m^2 Is less than the domestic water consumption for the office space equating to and area of 6792.70m^2

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