SDC | M40 CAMPUS

Slough Holdings UK Limited

Community Consultation Environmental Report

September 2026

Slough Holdings UK Limited is a wholly-owned subsidiary of affiliated investment funds managed by SDC Capital Partners, LLC.

CONTENTS

KEY TERMS AND DEFINITIONS

A number of key terms are used throughout this report and definitions for these terms are provided below.

Term	Definition
PA 2008	The Planning Act 2008
Applicant	The organisation that submits an application for a Development Consent Order (DCO). Slough Holdings UK Limited is the Applicant for the Project. Slough Holdings UK Limited is a wholly-owned subsidiary of affiliated investment funds managed by SDC Capital Partners, LLC.
Biodiversity Net Gain	A legal requirement, from November 2026, for an Applicant for a DCO to deliver a minimum of 10% gain in biodiversity compared to baseline (i.e. pre-development) levels.
Central Substation	A 132kV step-down substation which is required under both power supply scenarios in order to reduce the voltage from the Energy Centre under Scenario 1, or the 400 kilovolt (kV) substation under Scenario 2. This will be located in the Main Development Area.
Critical National Infrastructure	According to the UK government, this is those critical elements of infrastructure (namely assets, facilities, systems, networks or processes and the essential workers that operate and facilitate them), the loss or compromise of which could result in: Major detrimental impact on the availability, integrity or delivery of essential services – including those services whose integrity, if compromised, could result in significant loss of life or casualties – taking into account significant economic or social impacts; and/or Significant impact on national security, national defence, or the functioning of the state.
Data Centre Campus	A data centre campus of up to three hyperscale data centre buildings (including server halls and cooling infrastructure, either water or air based), designed for an IT load of up to approximately 300MW across the three buildings (approximately 100MW each).
Decarbonisation	The requirement (subject to exemptions) for new-build and substantially refurbishing combustion power plants to be ready to convert to low carbon operation, including potential hydrogen conversion.
Development Consent Order (DCO)	A statutory order granting development consent for a project, which is made by the Secretary of State following the examination of a DCO application.
Draft Order Limits	The boundary of the Project for which development consent from the Secretary of State is being sought under the PA 2008.
Energy Centre	An integrated on-site energy generation facility (designed to be decarbonisation-ready) which would comprise power generation infrastructure with a capacity of up to 200 megawatts (MW). The facility would utilise an existing on-site gas pipeline, which has an indicative connection capacity of up to c.900MW.
Main Development Area	The main parcel of proposed development land within the Draft Order Limits that will contain the Data Centre Campus and the main elements of the supporting energy infrastructure. This covers approximately 22.3 hectares of land and is located within the southeast of the Site boundary.
Power Supply Scenario 1	Provision of an on-site gas-powered Energy Centre with generating capacity of approximately 200MW (designed to be decarbonisation-ready). In due course, the intention is to connect the Data Centre Campus to the grid, which would require an on-site substation. A number of technologies for the Energy Centre are under consideration
Power Supply Scenario 2	A direct supply from the existing overhead transmission lines that run along the northeast of the Site, through provision of an on-site 400kV substation and up to two new pylons.
the Project	SDC M40 Campus, which is the proposed development that will be the subject of the Applicant's DCO application.
the Site	The site in Buckinghamshire, immediately north of the M40 motorway, and to the south of the A40 Oxford Road, where the Project is proposed to be developed. The extent of the Site reflects the Draft Order Limits.
Wider Site Area	The Site, and an area of land outside of the Site (denoted by the blue line on Figure 2 - Draft Order Limits and Wider Site Area of this report) which could potentially be used to facilitate the delivery of Biodiversity Net Gain. The total area covers approximately 165.5 hectares.

INTRODUCTION AND OVERVIEW OF THE PROPOSALS

Purpose of This Report

Slough Holdings UK Limited ('the Applicant') is bringing forward proposals for a new data centre campus with supporting energy infrastructure near the M40 in Buckinghamshire. The data centre campus comprises up to three hyperscale data centre buildings, designed for an IT load of up to approximately 300MW across the three buildings (the 'Data Centre Campus'). Two potential scenarios for power supply to the Data Centre Campus are being considered: either an on-site energy centre of around 200MW followed by a future grid connection, or a direct connection to the existing 400kV overhead power lines that run along the northeast of the site. The proposals also include extensive landscaping, with improved habitat and biodiversity. The proposals are referred to throughout this report as 'the Project'.

On 16 March 2026, the Secretary of State gave a direction confirming that the Data Centre Campus is a project of national significance and is to be treated as development for which development consent is required under the Planning Act 2008 ('PA 2008'). The energy infrastructure forming part of the Project also includes a scenario for the construction of an energy centre that would be a nationally significant infrastructure project under the PA 2008 in its own right.

The Applicant is therefore preparing an application for an order granting development consent (a 'DCO') for the Project under the PA 2008. The DCO application will be determined by the Secretary of State.

A DCO grants development consent and consolidates the powers and consents, including compulsory acquisition of land and temporary possession of land and rights, and authority for highway, street and environmental mitigation works.

Pre-application consultation and engagement is an important part of the process for preparing a DCO application. The value of engagement and consultation with relevant stakeholders (i.e. individuals, groups or organisations who may be affected by or have an interest in a project) is recognised by government[1] as an important part of developing proposals for a scheme. It allows these groups to be made aware of the proposals early on, to understand the key issues associated with a project and to have the opportunity to contribute to its evolution. This can be done, for example, through providing feedback on the Project which the Applicant will have regard to as part of the ongoing design development, in advance of the DCO application being made.

The Applicant recognises that engagement and consultation provides a valuable opportunity to identify opportunities, risks and issues early in the preparation of the DCO application, enabling design options to be tested and refined ahead of submission.

This report has been prepared as part of the consultation being undertaken between 15 September 2026 to 27 October 2026 to provide information on the potential environmental impacts anticipated at this stage of the design process, to enable a good understanding of the Project and its impacts for local communities. This report also sets out the measures currently being considered to mitigate negative environmental effects, and enhance positive effects that could be realised through the Project. The basis upon which the assessment of effects and the identified measures to avoid and minimise (also referred to as 'mitigation measures') their impact have been determined at this stage is explained further in the *Basis of Environmental Information Within this Report* section.

Reference is also made in this report to various 'Management Plans' which will contain some of the mitigation measures referenced. As part of the DCO application, these Management Plans will be presented in outline and the DCO will include requirements for the Applicant to submit detailed versions of the Management Plans for subsequent approval. In this way, the mitigation measures set out in the Management Plans will be secured through the DCO..

Alongside this consultation, engagement with the regulatory bodies, such as the Environment Agency, Historic England, Natural England, and with the local authority Buckinghamshire Council, is also ongoing.

Project Location and Current Uses

The Project site is located in Buckinghamshire, immediately north of the M40 motorway, and to the south of the A40 Oxford Road (referred to throughout this report as 'the Site'). It has an existing vehicular access taken from the A40 Oxford Road to the north. The Site is located approximately 1.1 kilometres (km) to the east of Beaconsfield, and approximately 1.1km to the west of Gerrards Cross. The village

[1] *As set out in the latest Government guidance relating to preparation of a DCO application, accessed here: Planning Act 2008: Guidance on preparing an application: Part 1 - Pre-application steps - GOV.UK*

of Hedgerley is located to the south of the Site, beyond the M40. *Figure 1* shows the location of the Site on a broad geographic scale.

The Site covers an area of approximately 85.01 hectares and is indicated by the red line shown on *Figure 2*, which denotes the boundary of the Project for which development consent from the Secretary of State is being sought. This area is referred to as the 'Draft Order Limits' and represents the current understanding of the area in which the proposed development would be carried out. The blue line shown on *Figure 2* indicates the Wider Site Area. There is a possibility that some land within the blue line (but outside of the red line) ultimately will be included within the Draft Order Limits at DCO application. This would be to facilitate the delivery of Biodiversity Net Gain. Ongoing work is taking place to establish whether the Draft Order Limits will need to be modified for this purpose. The extent of the Wider Site Area is approximately 165.5 hectares.

The Site is bound by:

- The A40 Oxford Road, the Beaconsfield Household Recycling Centre, Wapseys Wood Caravan Site and the Crowne Plaza Hotel, beyond which are open fields and vegetation to the north;
- Open fields, vegetation, the Scheduled Monument of the Templars' site at Moat Farm, with the farm beyond comprising a Grade II listed farmhouse (Moat Farmhouse), and a listed range of ancillary barns (also listed at Grade II) are located to the east;
- The M40, beyond which are open fields, vegetation and Slade Farm Quarry to the south; and
- The Grade II listed buildings[2] (Hyde Farm House and Hyde Farm Barn), open fields and vegetation to the west.

The 'Main Development Area' (shown on *Figure 2*) is the main parcel of development land which will contain the Data Centre Campus and the main elements of the power supply and supporting infrastructure, excluding the wider landscape, biodiversity measures and access arrangements. This Main Development Area covers approximately 22.3 hectares of land and is located within the southeast of the Site boundary.

The Site comprises a portion of the broader Wapseys Wood landfill site, operated by Veolia, which stopped accepting landfill waste in 2017. There are still existing activities on-site associated with the ongoing maintenance and management requirements of the landfill permit, which remains active to enable these management activities.

The Site and Wider Site Area are subject to an approved landscape restoration programme as part of the existing landfill permit. A planning application to amend the restoration programme has been submitted to Buckinghamshire Council by Veolia and is currently in the process of being determined.

Additional permitted waste activities are conducted on-site associated with the generation of energy from landfill gas, and from the Quattro Waste Management facility, a non-hazardous soil, stone and materials recycling facility. A leachate[3] treatment plant also exists on-site.

Currently, the generation of energy from landfill gas occurs through the capture and processing of methane emissions (which arise from the decay of organic waste in the landfill) within an existing on-site energy centre. This comprises of four reciprocating engines which have capacity to produce up to 10 megawatts, but currently produce approximately 4 megawatts of biogas electricity (as the methane emissions deplete over time) which is exported to the electricity distribution network.

The sections below address a number of key questions relating to the Project, including why the Project is needed (*Why is this Project Needed?*), why it is needed on immediate timescales (*Why Now?*), and why the Site has been selected for the Project (*Why This Site?*).

Why is this Project Needed?

UK Government policy emphasises the importance of secure and reliable digital infrastructure (of which data centres are a key part) to ensure the effective functioning of the economy and maximise its growth prospects. Data centres are now explicitly identified as a critically important part of national economic infrastructure (being classed as 'Critical National Infrastructure' through a Written Ministerial Statement[4] in September 2024), and their role is recognised in both national planning policy and national industrial policy. Data centres also have a

[2] *Listed buildings are buildings of special architectural or historic interest with legal protection. Grade I buildings are of exceptional interest. Grade II* buildings are particularly important buildings of more than special interest. Grade II buildings are of special interest.*

[3] *Leachate refers to the liquid which drains from landfill waste.*

[4] *Designation of UK Data Infrastructure as Critical National Infrastructure and the Telecoms Supply Chain Diversification Advisory Council Report, 12 September 2024*

specific and important role to play in ensuring the UK grasps the opportunities created by Artificial Intelligence.

Why Now?

To meet the overwhelming and urgent demand for data centre capacity in a timely manner (specifically within the Slough Availability Zone within the London Availability Region[5]), the Data Centre Campus needs to be supported by its own energy source. This would enable the Data Centre Campus to become operational significantly ahead of any procurement of connection to the electricity distribution network, and alleviate the burden of data centres on the National Grid.

The National Grid does not currently have sufficient capacity to power the Data Centre Campus, and upgrades to existing substations may not be available until 2040. By providing a power source for the Data Centre Campus through the Energy Centre or a direct connection to the existing overhead power lines, the Applicant is avoiding placing more pressure on the National Grid and ensuring speedy delivery of Critical National Infrastructure. Although a connection to the electricity distribution network at a future date is being explored, the Project proposals allow the timely delivery of much-needed data centre capacity and present a unique and rare proposal for a power-sufficient data centre campus.

Why this Site?

The Site comprises a closed landfill and former quarry site which have yet to be fully restored, has excellent transport connections given its proximity to the M40 and A40 Oxford Road, and is located within the Slough Availability Zone. The Slough Availability Zone is recognised as the largest and most important zone for the location of digital infrastructure, such as data centres, due to its proximity to digital infrastructure and clustering of existing data centres, comprising approximately 65% of total data centre capacity across the London Availability Region. The data centres in the Slough Availability Zone play a critical role both within the UK and as a global service.

The Project therefore offers a prime opportunity to redevelop an existing landfill site to contribute to meeting the overwhelming need for data centre infrastructure.

The Site lies within the Metropolitan Green Belt, the purpose of which is to prevent urban sprawl by keeping land permanently open. National Green Belt policy is set out in Chapter 13 of the National Planning Policy Framework (NPPF), as updated in August 2026. The NPPF defines "grey belt" as previously developed land and/or other land within the Green Belt that does not strongly contribute to the purposes of checking the unrestricted sprawl of large built-up areas, preventing neighbouring towns from merging or preserving the setting and special character of historic towns. The NPPF also establishes a sequential approach to the release of Green Belt land through the plan-making process, whereby priority should be given to previously developed land, followed by non-previously developed grey belt land, before considering other Green Belt locations.

The Buckinghamshire Green Belt Assessment, prepared as part of the evidence base for the emerging Buckinghamshire Local Plan, concludes that the area of Green Belt within which the Site lies comprises "provisional grey belt". The Assessment finds that the area does not make a strong contribution to Green Belt purposes (a) or (d) and makes only a limited contribution to purpose (b), namely preventing the merging of Beaconsfield and Gerrards Cross. The Assessment also concludes that the area is influenced by existing infrastructure, landform and features which limit its contribution to the strategic purposes of the Green Belt.

The Buckinghamshire Green Belt Assessment identifies a number of environmental and heritage considerations within the wider assessment area, including areas of ancient woodland and priority habitat, and potential sensitivities associated with the historic environment. These matters will require detailed consideration as part of any future planning application and will be informed by specialist ecological, heritage and environmental assessments. Since the Buckinghamshire Green Belt Assessment was prepared, national planning policy has evolved and the August 2026 NPPF has amended the definition of grey belt. In light of the Council's evidence that the wider assessment area does not make a strong contribution to the relevant Green Belt purposes, and having regard to the updated national policy framework, there is a strong basis for the Site to be identified as a grey belt location. Any future development proposals would nevertheless be expected to demonstrate that environmental and heritage considerations can be appropriately addressed through design, mitigation and enhancement measures.

[5] *The London Availability Region is a high-density digital hub primarily clustered around West London (Slough / Hayes) and the Docklands, hosting major cloud providers.*

Status of the Project Design

At this stage in the application process, the design of the Project is still in active development and is being refined through environmental and engineering testing. In line with UK government guidance on the pre-application process for DCO projects[6], the Applicant is approaching consultation and engagement in a timely manner that fits within the overall programme for preparation of the DCO application. The Project programme has been prepared in recognition of the urgent need for data centre capacity within the UK.

The Applicant is undertaking its second stage of consultation and stakeholder engagement at this point in the design process as the key principles of the Project, including the general layout, the amount of development and maximum size of the buildings and the means of vehicular access, have been advanced sufficiently to be able to identify the key environmental issues and where further design development is needed to, where feasible, avoid or reduce significant environmental effects. This timing also allows for stakeholder feedback on the design, mitigation and enhancement measures to be taken into consideration before the Project is further developed and fixed ahead of the DCO application submission. This is in line with the recommendation set out in the Government's pre-application guidance (paragraphs 3.5 and 3.6) that engagement should be proportionate and should be undertaken as soon as a scheme has been progressed enough to enable stakeholders to be informed about the nature, scale and complexity of the proposals.

The information presented within this report, and the wider materials produced for consultation with the community, provides a sufficient level of detail as to the scale, nature and complexity of the Project, whilst acknowledging that the design is still very much in active development, with the Applicant continuing to work through the various issues and design options presented throughout this report.

The design of the Project will be subject to further design development in response to this early environmental testing and having regard to the feedback gathered through the public consultation and engagement with technical and specialist organisations such as the Environment Agency and Historic England.

[6] *Available from: https://www.gov.uk/guidance/planning-act-2008-guidance-on-preparing-an-application-part-1-pre-application-steps. Date accessed: 30 July 2026.*

Figure 1 *Location of the Site*

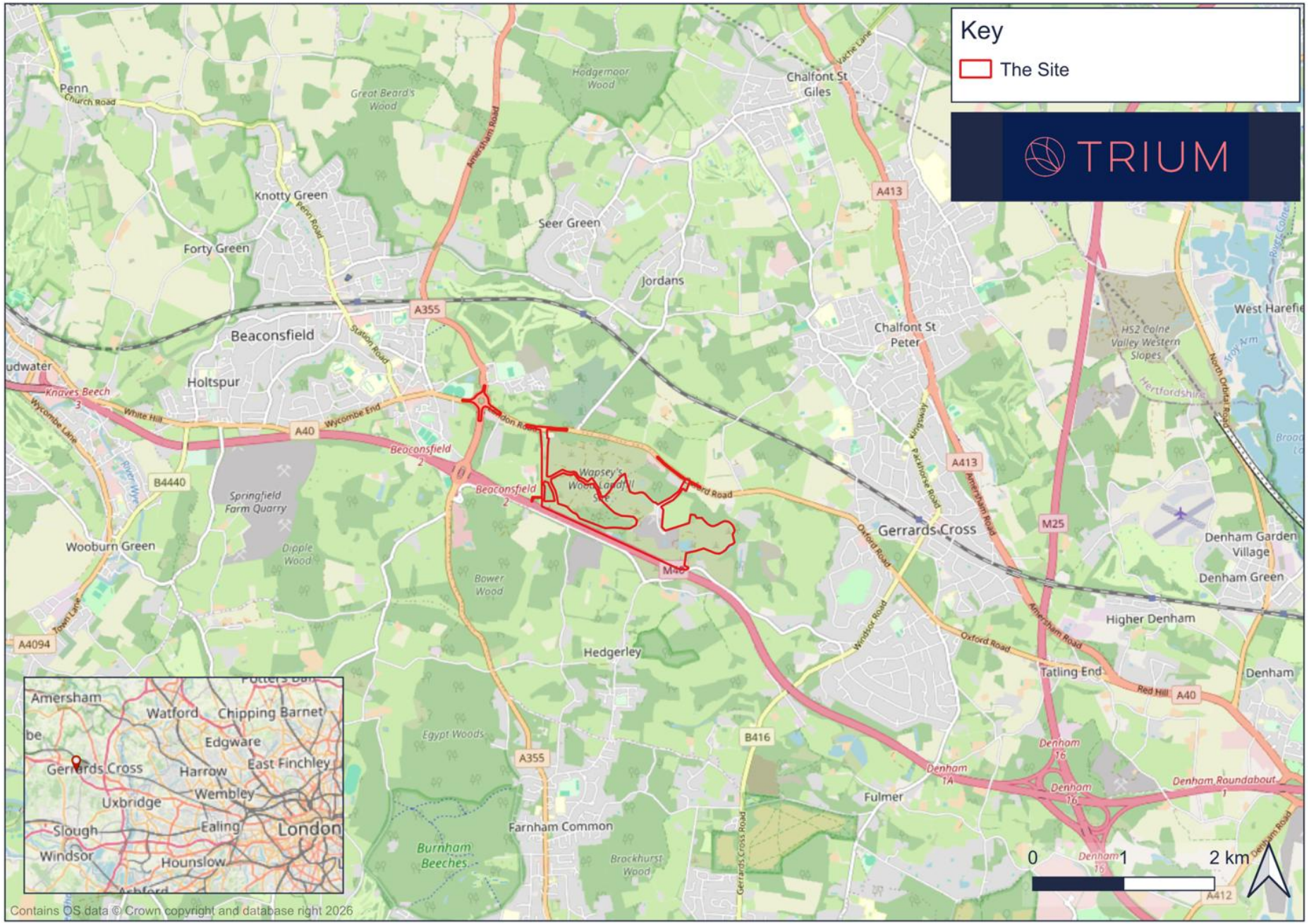
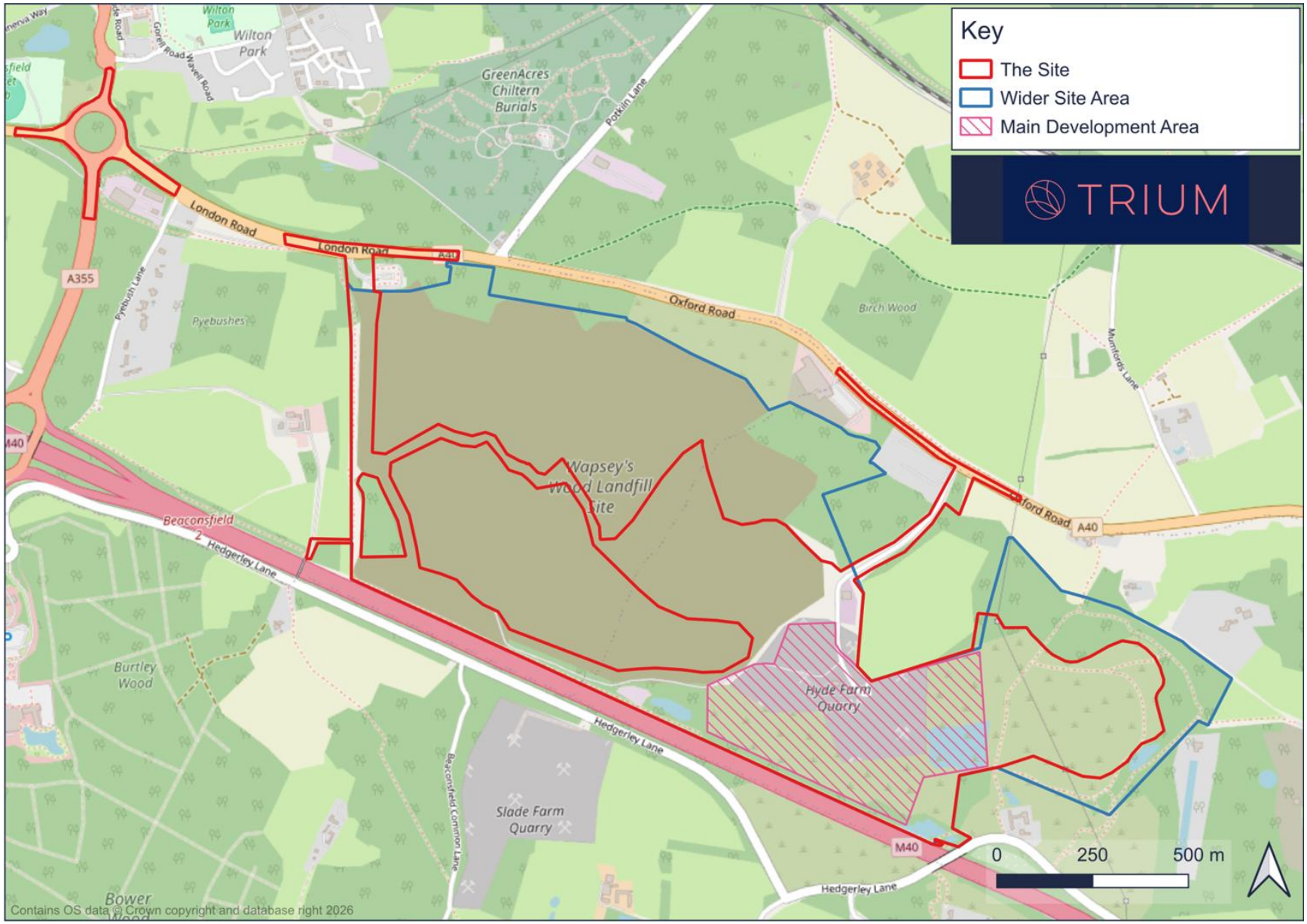


Figure 2 Draft Order Limits and Wider Site Area[7]



[7] *It should be noted that the boundaries shown on this map are indicative and for illustrative purposes only.*

Project Overview

The Project which is to be the subject of the DCO application will consist of a Data Centre Campus (with power supply), comprised of up to three hyperscale data centre buildings (including server halls and cooling infrastructure, either water or air based), designed for an IT load of up to approximately 300MW across the three buildings (approximately 100MW each).

The Data Centre Campus has two potential scenarios for power supply:

- **Power Supply Scenario 1:** Provision of an on-site gas-powered Energy Centre with a generating capacity of approximately 200MW (designed to be decarbonisation-ready). In due course, the intention is to connect the Data Centre Campus to the grid, which would require an on-site substation. A number of technologies for the Energy Centre are under consideration (these are described below under 'Energy Centre Technology Solutions'); or
- **Power Supply Scenario 2**: A direct supply from the overhead transmission lines that run along the northeast of the Site, through provision of an on-site 400kV substation and up to two new pylons.

In both power supply scenarios, a central 132kV substation is required to step-down (reduce) the voltage to the Data Centre Campus.

Prior to either Power Supply Scenario 1 or 2 being implemented to supply power to the Data Centre Campus, there is the potential for an interim substation, which would provide 35MW of power to enable the data centre halls of the first data centre building to come online in a phased manner. Further detail is provided in the *Interim 35MW Substation* section below. An overview of the power strategy is shown in *Figure 3*.

It should also be noted that the 400kV substation required for Power Supply Scenario 2 would need to be located on the same parcel of land within the Main Development Area as the Energy Centre due to space constraints, and as such there is no scenario where the two could coexist. Therefore, it will only be *either* Power Supply Scenario 1 *or* Scenario 2 that will be brought forward.

The Project includes associated development necessary to support the construction, operation and resilience of the Data Centre Campus and power supply infrastructure.

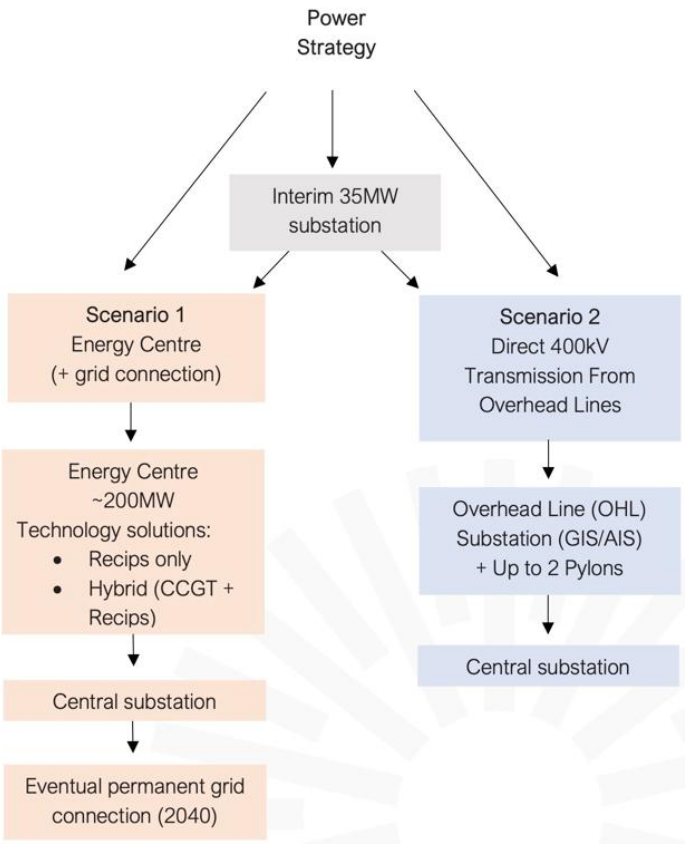
This includes landscaping and biodiversity enhancements, vehicular access works, as well as pedestrian access and public amenity. All works will be undertaken in line with any environmental permit issued by the Environment Agency.

Some of the existing operations within the Wider Site Area – namely the existing on-site energy centre powered by captured landfill gas, and the existing leachate plant – will be retained alongside the Project.

An indicative layout of the Project with both Power Supply Scenarios 1 and 2 is shown in *Figure 5*. Power Supply Scenario 1 is likely to cause more environmental impacts than Power Supply Scenario 2 and as such, the impacts described in this report are based upon the parameters for Power Supply Scenario 1, as this mostly represents the 'worst case' in terms of environmental impact.

Power Supply Scenario 1 (the Energy Centre) has been subject to more progressed design than Power Supply Scenario 2. Power Supply Scenario 2 was considered and initially discounted at an early stage of the Project, based on the Applicant's understanding of the related constraints at the time. Following ongoing assessments, design work and engagement with technical stakeholders as well as relevant utilities companies, this power supply scenario has since been revisited, and is now considered to be potentially viable and deliverable. However, given delayed timings for progressing this strategy, designs are comparatively less progressed than Power Supply Scenario 1.

Figure 3 ***Power Supply Strategy Overview***



The Data Centre Campus

IT Capacity, Size and Height

The Data Centre Campus will comprise of three data centre buildings with a total IT capacity of 300MW across the three buildings (approximately 100MW each). The Data Centre Campus will have a total maximum footprint of approximately 65,000 square metres (m^2) and will have a maximum building height of approximately 40m, on top of which will be rooftop plant (machinery), including stacks (chimneys) from the back-up generators of the data centres.

Back-Up Generators

It is expected that each data centre building will feature 72 back-up generators, with a total of 216 generators across the Data Centre Campus. At this stage in the design process, the stack heights of the back-up generators are undergoing testing to determine an appropriate height that meets the requirements in relation to noise and atmospheric emissions, alongside impacts to landscape and built heritage. Currently, the stack heights of the back-up generators are estimated to be up to 66m from the ground level.

Data Centre Cooling

The data centre buildings will require cooling, using either air cooling or water cooling technology. In line with the approach to assessment outlined in the *Basis of Environmental Information Within this Report*, to determine the worst-case impacts in terms of water usage, the impacts presented in the *Potential Environmental Impacts of the Project: People and Community - Water Consumption* section have been based on water cooling (only). However, cooling of the Data Centre Campus is likely to be predominantly through air cooling technology, with the potential for an element of water cooling to satisfy peak demand but within the confines of the available water supply. Where water cooling technology is to be used, the aim will be to maximise the use of raw water and rainwater harvesting.

Waste Heat Recovery

The design of the Data Centre Campus will allow for the potential for waste heat recovery technology[8]. This would collect waste heat from the operation of the data centre halls within each data centre building and be connected to by external, third-parties at the site boundary in the future, where feasible and viable for the third party.

Power Supply Scenarios for the Data Centre Campus

The objective of the power supply strategy is to secure staged but coordinated power for the data centre buildings. Due to the uncertainty in the availability of power from National Grid at a time that can meet the power need of the Project (to deliver urgent data centre infrastructure), the Applicant is proposing two potential power supply scenarios to supply the Data Centre Campus, as set out earlier in this report.

[8] *Waste heat recovery captures and enables re-use of excess thermal energy.*

In either power supply scenario, a 132kV step-down substation will be required, and this will also be located within the Main Development Area. This is hereafter referred to as the 'Central Substation'.

Future Connection to the Electricity Distribution Network (Power Supply Scenario 1 only)

Under Power Supply Scenario 1, the Project's reliance on the Energy Centre would be replaced by an eventual grid connection, meaning that the Data Centre Campus would be powered by a connection to the grid. Connection is dependent on new National Energy System Operator (NESO) Grid Supply Points[9] (GSPs) in the Amersham / Denham area, and the current timescale for their delivery is anticipated to be around 2040.

This connection would be achieved through connection to an existing substation located off-site (which is likely to be the Amersham substation, located approximately 8km northwest of the Site), and would involve short-term works, which would involve the digging of a trench to accommodate the below-ground cables, which would be subsequently covered over. These works will not form part of the Project for which development consent is being applied for by the Applicant and the cable route is expected to be within the public highway.

Power Supply Scenario 2 would comprise a connection to the electricity distribution network from day one of operation, and therefore, under this scenario, a future connection would not be required.

The Central Substation

The Central Substation is required in both power supply scenarios to appropriately step-down (reduce) the voltage from either the Energy Centre under Power Supply Scenario 1, or the 400kV substation under Power Supply Scenario 2. The Central Substation would link the Data Centre Campus with both the Energy Centre and the electrical distribution network as part of the future grid connection under Power Supply Scenario 1. Alternatively, under Power Supply Scenario 2, the Central Substation would provide a link from the 400kV substation to the Data Centre Campus.

The Central Substation will be a maximum of approximately 20m in height, and have a building footprint of approximately 3,000m^2.

The two potential power supply scenarios are very different in nature, with different infrastructure requirements. The two strategies therefore have differing environmental impacts, with Power Supply Scenario 1 likely to cause more environmental impacts than Power Supply Scenario 2 (and so has been considered as the worst-case power supply for the purposes of engagement and consultation). Each power supply scenario and their components are discussed in further detail below.

Interim 35MW Substation

Prior to either power supply scenario, there is potential for an interim substation to be constructed to provide 35MW of power to the Data Centre Campus. This would enable the first data centre building to come online (not at full capacity) ahead of completion of the permanent power supply works under Power Supply Scenario 1 or 2 (as the case may be). However, this is dependent on the Denham Bulk Supply Point substation upgrade works being completed on time, which are underway and due to be completed in 2029.

The Applicant has applied for an off-site connection for the interim substation.

The interim substation would be located within the same compound as the Central Substation, within the Main Development Area. It is expected that the construction of the substation would be completed 24-30 months from the acceptance of the connection offer. However, it is yet to be decided whether this substation will still be required once permanent power supply via Power Supply Scenario 1 or 2 is operational.

At this stage of the design, it is expected that the interim substation will form part of the Project for which development consent will be applied for. However, subject to further design refinement and timing implications for its delivery, this may be sought for approval via a separate consenting process.

However, it is key to note that both Power Supply Scenarios 1 and 2 are capable of proceeding irrespective of whether the interim 35MW substation is brought forward. Therefore, the interim 35MW substation would provide an additional buffer of power supply amidst uncertainty over upgrades to the grid and electrical infrastructure, however it is not necessary to deliver either power supply scenario of the Project.

[9] *A Grid Supply Point is the point at which high-voltage electricity leaves the main transmission system and enters the local distribution network.*

Power Supply Scenario 1: The Energy Centre

Why could the Energy Centre be needed?

As addressed in the *Why Now? s*ection of this report, the National Grid does not currently have sufficient capacity to power the entire Data Centre Campus, with increased grid capacity not expected to be available until 2040. In Power Supply Scenario 1, the Energy Centre would provide a power source for up to two of the three data centres. This would avoid putting additional pressure on the already burdened national electricity grid, enabling the urgent need for data centre capacity to be met.

Under Power Supply Scenario 1, it is the intention that full operation of the third data centre would occur once the increased National Grid connection becomes available (in 2040). At this point, it is the intention that the first two data centres would also be connected to the electricity distribution network, meaning that all three data centres would eventually be powered by the National Grid, once it has sufficient power to meet the electricity demands of the Data Centre Campus.

For the purposes of the DCO application it is being assumed that the Energy Centre in Power Supply Scenario 1 would become an export peaking power plant[10], supplying energy to the National Grid in times of peak demand, as this represents a worst-case power supply scenario in terms of environmental impact. However, the long-term / future use of the Energy Centre, once a permanent grid solution is secured, remains under consideration.

Size and Height

The overall maximum building footprint of the Energy Centre would be approximately 60,000m^2, with a maximum building height of approximately 40m.

How would it be powered?

The Energy Centre would utilise an existing high-pressure gas pipeline running beneath the western edge of the Site as its source of power. Its location in relation to the Site is shown in *Figure 4*. A connection from this pipeline to the Energy Centre would be established by an Above Ground Installation, which would comprise of a small network of gas pipelines and small buildings to enable a connection point to be established, and to enable the monitoring, control, regulation and maintenance of the pipeline connection. The Above Ground Installation would be located within the southwestern corner of the Site and would connect with infrastructure within the Site. This connection would run parallel along the southern boundary of the Site.

Electricity Output

The Energy Centre would produce approximately 200MW of energy, the delivery of which would be phased over time. This would power up to two of three data centres. A connection to the electricity distribution network (anticipated to be 2040) would be required to fully power the third data centre.

Energy Centre Technology Solutions

At this stage of the Project design, the Energy Centre technology is still being refined, and therefore there are a number of technology solutions being considered with associated layouts. The technology solutions being considered include various combinations of the following technologies, resulting in three solutions currently being considered for Power Supply Scenario 1:

- Combined Cycle Gas Turbines, which feature blades which spin continuously to generate electricity. The heat generated from this motion is captured within a second turbine to generate more electricity from waste heat; and
- Reciprocating Engines, which feature pistons which move up and down inside cylinders to generate electricity.

A range of technology solutions are therefore being considered and will be determined by taking account of various key factors including the most effective, advanced, and practically viable methods for preventing or minimising environmental impacts, as well as being in line with Environment Agency permitting requirements.

Extensive air quality and noise emissions testing is ongoing to help inform the technology selection for the Energy Centre, as well as testing a worst-case minimum height (of 140m) and a maximum height (of 180m) of the Energy Centre stacks, through modelling impacts to humans and ecological features in the surrounding area. These considerations are also being balanced against impacts to the historic environment (such as listed buildings) and landscape and visual factors, as the different engine technologies require different stack (chimney) heights to ensure that emissions are released at an appropriate height to minimise impacts to humans and ecological receptors. Additional technology specifically designed to minimise emissions from the Energy Centre engines is also being tested.

[10] *A specialised power station that runs only when electricity demand is highest.*

Battery Energy Storage System

The Energy Centre would also include a Battery Energy Storage System (BESS), which would be used to help balance supply and demand of energy to the data centres, through storage of excess energy generated by the Energy Centre. Stored electricity would then be released, as required, to power the data centres. The BESS would have a maximum building footprint of 5,000m^2 and a maximum height of 15m above site level.

The location of the BESS is dependent on the Energy Centre technology taken forward. If Combined Cycle Gas Turbines are selected, the BESS would be located within the western side of the Main Development Area. If Reciprocating Engines are selected, the BESS would be located on the eastern side of the Main Development Area.

Water Treatment and Storage

The Energy Centre would also feature a water treatment plant and storage to provide raw water from harvested rainwater. This raw water will be used as process water within the Energy Centre and for firewater systems. A second treatment plant will process used water feeding it back to the water store, with excess clean water being deposited back into the ground.

Fuel and Oil Storage

Fuel and oil storage would be required for the Energy Centre.

Energy Centre Cooling

Noting there are multiple technologies under consideration, the current proposed approach to cooling for each technology is summarised below.

Reciprocating Engines would be cooled via a closed loop cooling system, typically using glycol. Closed loop cooling recirculates a fixed volume of liquid through pipework and heat exchangers to absorb heat from the engine. The excess heat is released into the air via radiators. Raw water[11] would only be used for cleaning, therefore water consumption would be minimal.

Combined Cycle Gas Turbines would use a steam cycle to generate more electrical power. A condenser is used to cool the steam exiting the turbine, returning the steam to a liquid state so that it can be re-used in the cycle. Demineralised water[12] would be required to 'top up' the steam cycle due to boiler blowdowns[13], sampling and operational requirements.

Water used for the cooling technology will be non-potable water (i.e. non-drinking) water, meaning that the water used for cooling would not be sourced from local drinking water supplies. Raw water would be used instead, with rainwater harvesting also being considered.

Decarbonisation

The Energy Centre would be 'decarbonisation ready', in line with regulatory requirements. This means the Energy Centre will be designed so that it is capable of being transitioned to low carbon technology. Hydrogen conversion has been deemed the only viable option (i.e. the Energy Centre would run on hydrogen rather than natural gas) for the decarbonisation readiness pathway for the Project due to the space constraints associated with the alternative carbon capture storage route.

The timing of decarbonisation readiness of the Energy Centre (i.e. when the technology to convert the natural gas supply to hydrogen comes online) is not known at this stage in the design process, as the hydrogen supply will be delivered outside of the Project, by a third party, via a national hydrogen pipeline network.

Power Supply Scenario 2: Direct Connection from 400kV Overhead Lines and Substation

Power Supply Scenario 2 comprises a direct connection from the existing 400kV overhead lines in the northeast of the Site (as shown below in *Figure 4*). This would include the construction of up to two pylons to redirect the existing lines, and a 400kV substation, to step-down the electricity from these high voltage power lines. A BESS will also likely be required for Power Supply Scenario 2. The area of land required to deliver Power Supply Scenario 2 is the same as that required for Power Supply Scenario 1. Two potential layouts for this power supply scenario are currently being considered, as shown in *Figure 5*.

11 Raw water is natural water found in the environment that has not yet been treated, filtered, or processed to remove minerals, chemicals, or microorganisms (i.e. not drinking water).
12 Demineralized water is water that has had nearly all of its mineral ions and salt content removed.

13 Boiler blowdown is the intentional removal of water from a steam boiler to discharge accumulated dissolved solids, minerals, and sludge.

Figure 4 *Indicative Gas Pipeline and Overhead Powerline Locations*

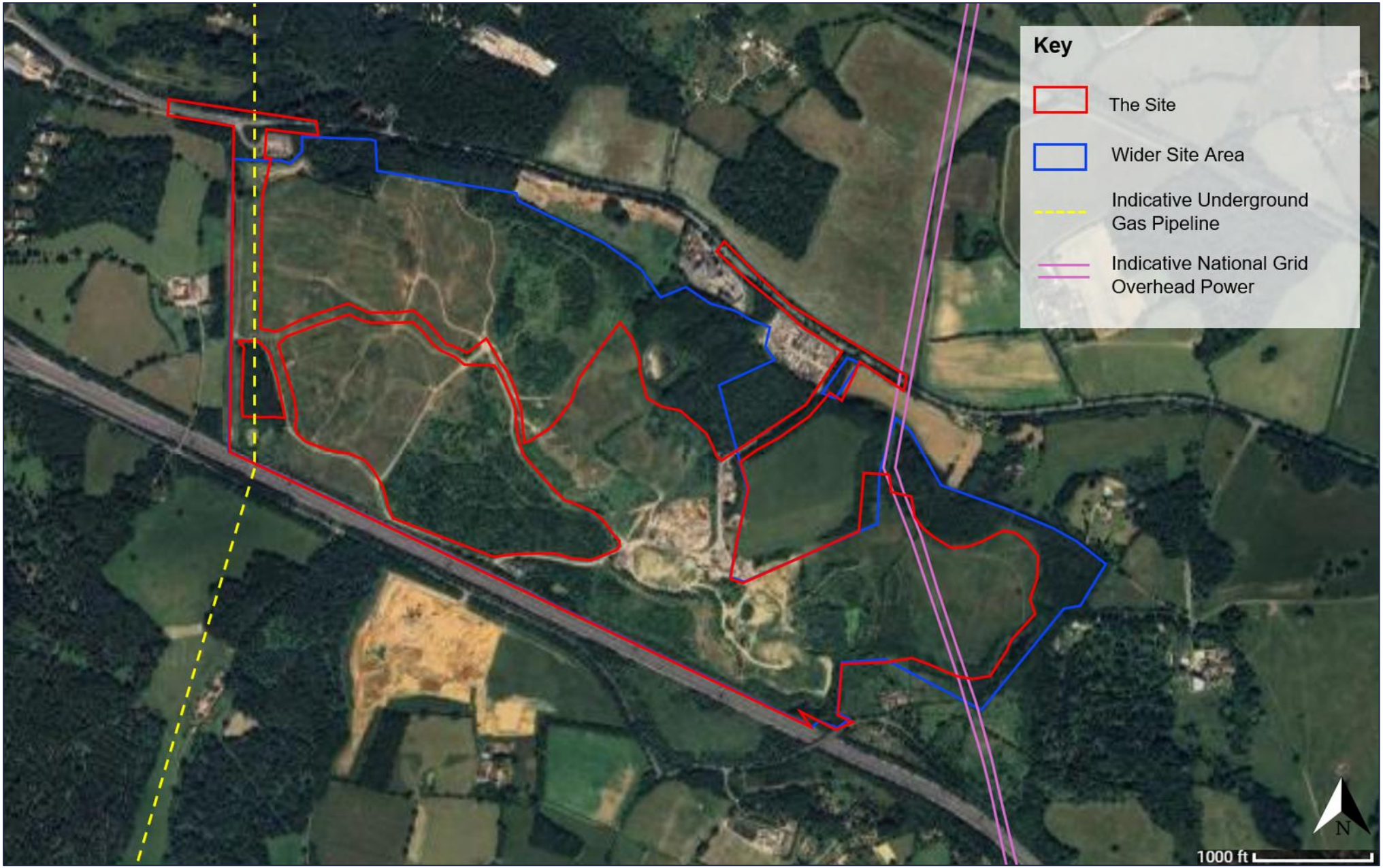


Figure 5 *Illustrative Masterplan – Power Supply Scenarios 1 and 2*

Roads, Access and Parking

The primary vehicular access to the Data Centre Campus is proposed to be taken from the A40 Oxford Road, with the access point located in the northwestern corner of the Site, linked to the Data Centre Campus by a new internal road, which would also provide secondary access to the power supply infrastructure.

Primary access to the power supply infrastructure would utilise the existing access to the Site to the north of the Main Development Area (as indicated on *Figure 9)*, which would also provide a secondary vehicular access to the Data Centre Campus.

Both access points will be open to use by both elements of the Project in the event of an emergency.

It is estimated that the total required car parking for the Project in Power Supply Scenario 1 would be 260 spaces. In Power Supply Scenario 2, the total required car parking for the Project would be reduced, as Power Supply Scenario 2 results in lower levels of employment, and therefore less staff travelling to the site requiring parking.

The Project team is also investigating, in discussion with Buckinghamshire Council, the feasibility of improvements to the Pyebush roundabout junction to address the impacts of the Project on this junction, which may include widening and changes to road markings. The Draft Order Limits accounts for this potential inclusion within the DCO.

Landscaping and Public Amenity

The Project will also include landscaping, incorporating landscape bunds (mounds) and substantial planting to deliver significant ecological, biodiversity and wider public benefits. There is the possibility for some land within the Wider Site Area (as defined earlier in this report) to facilitate the delivery of Biodiversity Net Gain and those areas may be included within the Draft Order Limits for the DCO application.

Existing woodland and grassland areas within the Site will be subject to enhanced management to improve their ecological value. New areas of priority habitat, ponds and wet woodland are proposed to compensate for habitats lost, and provide new habitats, as part of the Project. Together, these habitats will create a diverse and well-connected ecological network across the Site.

A combination of landscape bunding and structural planting has been developed within the Site, around the Main Development Area to help minimise the visibility of the proposed buildings and structures. The location, height and form of the proposed bunds have been informed by digital visual modelling, taking account of the existing landform and vegetation, heritage assets, visual receptors and the evolving design of the Project.

As some existing landfill-related uses and operations will remain operational throughout the construction works, and once the Project is operational, public access will be carefully managed to ensure safety. Under the consented restoration plan, the existing bridleway that traverses the Site will be formalised by Veolia into a public bridleway (a type of Public Right of Way), that will connect the A40 to Hedgerley Lane improving links to the surrounding residential areas and heritage assets such as Bulstrode Park.

At this stage of the design, the Applicant is exploring opportunities for a new footpath connection to link with the existing Public Right of Way in the southwestern corner of the Site, further enhancing recreational access and connectivity, as well as a range of ecological features such as improved signage and amenity features which will improve experience of users. The Draft Order Limits allow for this link to be delivered.

Existing Uses and Operations to be Retained

The following existing landfill-related uses and operations will be retained alongside the Project:

- Site monitoring, as required by the existing (and any future) Environment Agency permit associated with the landfill;
- Leachate plant and associated office and haul road (see Figure 8);
- Landfill gas (methane) energy centre and associated office (see Figure 8);
- Landfill site restoration works and aftercare maintenance; and
- Delivery and maintenance of the public bridleway under the restoration plan, as set out above.

Construction of the Project

The current indicative construction programme anticipates that the Project will take not less than 9 years to build, commencing once consent is granted and pre-commencement requirements have been discharged. Obtaining relevant approvals to commence construction is targeted for 2028, with earliest completion of the Project expected in approximately 2035 (detailed delivery will be subject to delivery/lease agreements as well as availability of a grid connection).

Under Power Supply Scenario 1, construction of the Energy Centre is anticipated to commence in parallel with the construction of the data centre buildings. The timing and duration of construction will depend on the final Energy Centre technology selected following further design development as well as having all relevant approvals in place. Based on the current programme, construction of the Energy Centre in this scenario is expected to be completed in approximately 2030.

Under Power Supply Scenario 2, construction of the overhead line connection and associated substation infrastructure is anticipated to be undertaken to support the delivery of the wider Project. The timing and duration of these works will be subject to the necessary design development, consenting requirements and relevant approvals. Based on the current programme, the overhead line infrastructure is anticipated to be completed in approximately 2029, with the associated substation infrastructure and grid connection anticipated to be completed in approximately 2030.

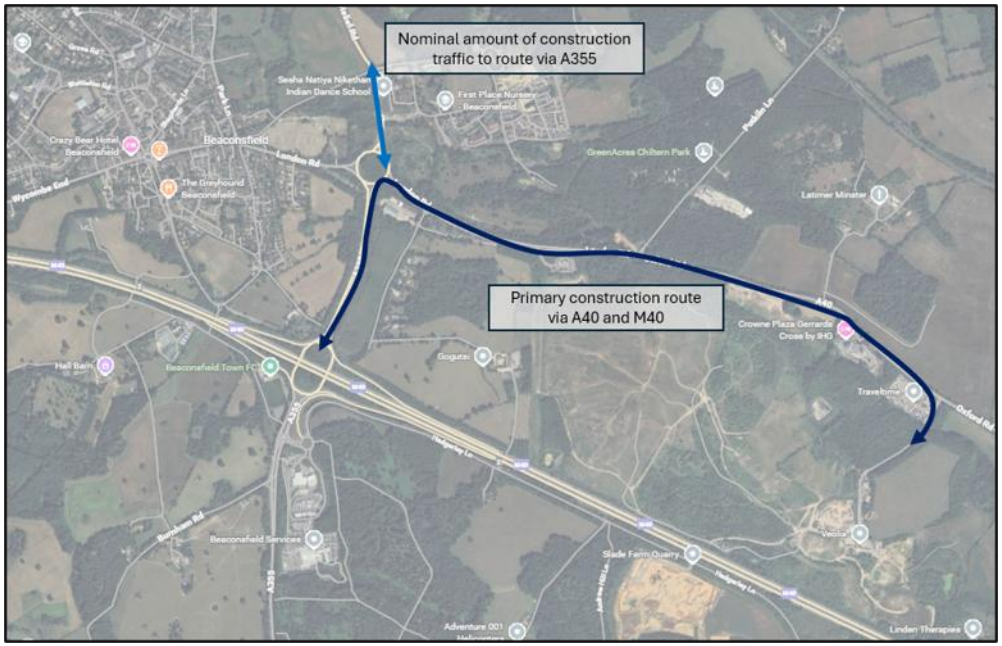
The proposed data centres would be delivered in phases, with the three data centre buildings constructed in a staggered sequence and potentially with periods of overlap between successive phases of construction. Based on the current programme, the first data centre is anticipated to become operational in or around 2031, although a period of commissioning and ramp-up would be required before full operational capacity is achieved. The delivery programme for the further phases of development will be dependent upon the availability of the required grid connection. Accordingly, the third and final data centre is anticipated to be completed no earlier than approximately 2035 under Power Supply Scenario 2, or approximately 2040 under Power Supply Scenario 1, subject to the timing of the grid connection becoming available.

Construction traffic will be routed along the A40 Oxford Road (a dual carriageway) and will primarily access the M40 via the A355 at Pyebush Roundabout, with a nominal amount of construction traffic to route via the A355. Therefore, construction traffic aims to avoid local roads where sensitive receptors (including residents, pedestrians and cyclists) are located, predominately using roads with large capacity arrangements suited to higher volumes of traffic. This routing also means that construction traffic will avoid residential properties, thereby limiting noise and air quality effects to local residents. This routing is shown in *Figure 6*.

Material excavated during construction would be managed in accordance with its characteristics and any applicable regulatory requirements. Where excavated material is classified as waste, it would be transported to an appropriately licensed facility for treatment, recovery or disposal. Where suitable and practicable, excavated material that is not classified as waste may be reused within the Project, including as part of the landscaping strategy, subject to the final design and engineering requirements. Further information is provided in the *Disposal of Excavated Materials* section.

The construction of the Project may require the delivery of abnormal indivisible loads, including large items of plant and/or equipment. Subject to the detailed logistics strategy and relevant approvals, the transport of such loads may necessitate temporary overnight traffic management measures, including limited closures of sections of the M40. Any abnormal load movements would be undertaken by specialist contractors and managed in accordance with the relevant permitting requirements and traffic management procedures. Where required, escort arrangements would be implemented and deliveries would typically be scheduled during overnight periods to minimise effects on the operation of the local and strategic road network.

Figure 6 *Construction Traffic Routing*



Decommissioning

Data Centre Campus

It is anticipated that the lifetime of the Data Centre Campus buildings will span 60 years, after which it expected that the Data Centre Campus would be decommissioned. It is expected that the technological infrastructure of the data centre halls will be upgraded across the 60 years.

Decommissioning each data centre will typically take 6 to 18 months for full end-to-end completion. Hardware removal (i.e. the physical components of the data centre technology) will typically take 2 to 3 months, however complex planning, data erasure, mechanical equipment removal (i.e. removal of the data centre chillers and back-up generators), and facility restoration require months of phased work per data hall of the data centre.

Decommissioning of the data centre halls is expected to broadly follow the sequence below:

- Power Down: Controlled shutdown following the agreed sequence;
- Disconnect: All power, network and ancillary connections removed;
- De-rack: Equipment removed from racks, labelled with unique identifiers;
- Pack: Items placed in protective containers, heavy equipment on pallets;
- Rack Removal: Empty racks dismantled and removed;
- Cabling: Structured cabling removed from trays, baskets and floor voids; and
- Site Clean: Area left clean and clear.

Power Supply Scenario 1: The Energy Centre

It is expected that the Energy Centre will operate for up to approximately 15 years while powering the Data Centre Campus, before power supply is available from the National Grid in 2040. At that point, when the Energy Centre is operating as a peaking plant to support power supply by the National Grid, the Energy Centre is likely to operate for a further 25 years as a peaking plant, however its lifespan could be reduced dependent on when upgraded grid capacity becomes available in the future and how the Energy Centre would be used and operated at that point.

Power Supply Scenario 2: Overhead Lines and Substation

The overhead lines and substation operational lifespan would meet the lifespan of the Data Centre Campus, i.e. 60 years. This includes the maintenance and upgrade of components as necessary to ensure continued operational performance and resilience throughout this period.

Timeline

A timeline for the key target milestones of the Project is provided below, setting out construction and operational timescales for both Power Supply Scenario 1 and 2.

Key Project Milestone		Target Year / Duration
DCO decision		2028
Construction Start		2028
Interim Substation (35MW) Completion		2032
Data Centre Completion	Data Centre 1	2031
	Data Centre 2	2033
	Data Centre 3	2035
Power Supply Scenario 1:	Energy Centre Completion	2030
Energy Centre (until Local Grid Connection availability)	Substation Infrastructure Completion	2030
	Local Grid Connection	2040
	Energy Centre operating as Peaking Plant	2040
Power Supply Scenario 2:	Overhead Line Infrastructure Completion	2029
Direct Overhead Line Grid Connection	Substation Infrastructure Completion	2030
	Overhead Line Grid Connection	2030
End of Life	Data Centre Campus Design Life	60 years
	Energy Centre Design Life	40 years
	Grid Connection Infrastructure Design Life	60 years
	Decommissioned	2095

Basis of Environmental Information Within this Report

The assessment of potential environmental impacts presented within this report has been based on the worst-case power supply scenario in terms of effects that could arise, based on the design information available at the time of the preparation of this report. The potential impacts (and the proposed environmental measures to address them) presented further below have been determined through assessment of maximum parameters (for example the maximum building footprint or height) within which the design of the Project could be built out, but importantly, will not be exceeded.

Therefore, the potential impacts reported within this assessment represent the worst-case impacts expected based on the information available at this stage of the Project's design.

The potential environmental impacts of Power Supply Scenario 1 are anticipated to represent worst-case (with these impacts being the focus of this report), with the exception of impacts associated with jobs and the economy. As Power Supply Scenario 2 does not require an energy centre (which is a source of emissions and noise) and its associated built form (which is larger than that required for Power Supply Scenario 2 and therefore likely to be more visible), the impacts arising from Power Supply Scenario 2 are anticipated to be either equal to or less than those stated within this report (other than for jobs and the economy).

This is with the exception of Socio-Economic impacts relating to job creation and contribution of the Project to the local economy (i.e. in terms of the amount of money generated by the Project during the enabling and construction works, and once the Project is operational, and construction worker spending in the local area). Power Supply Scenario 2 would generate less jobs and money for the local economy, due to the reduced scale of works required during enabling and construction works, and particularly once operational as Power Supply Scenario 2 would require less operation, maintenance and testing works, therefore reducing employee demand. Further information is presented within the *Potential Environmental Implications of the Project: People and the Community: Jobs and Economy* section of this report.

THE EXISTING SURROUNDING ENVIRONMENT

This section focuses on the environmental features within the Site and the surrounding area to provide context of the surrounding environment. *Figure 8* shows an aerial view of the existing Site. *Figure 9* illustrates the Site and notable features of the surrounding environment including the closest residential properties to the Site, the local transport network, and ecological features. *Figure 10* shows the built heritage assets of the surrounding area. These features are discussed in further detail below.

People and Community

The Site is located in between Gerrards Cross and Beaconsfield, with the village of Hedgerley located to the south of the Site, beyond the M40. The main local residents that could be impacted by the Project are those within Wapseys Wood Caravan Site, located to the north of the Site along the existing site access on the A40, the residents living within the properties located on Hedgerley Lane, to the southeast of the Site, and those living within properties on Wapseys Lane, located south of the M40. The closest residential receptors to the Site are shown on *Figure 9*.

The Crowne Plaza Gerrards Cross hotel is also located on the A40, west of the northern boundary of the Site and the Wapseys Wood Caravan Site.

In terms of how people and community experience the existing site, as set out earlier, the Site operated as a quarry over many years. Since 1958 it has also been operated as a landfill, although new domestic or commercial wastes are no longer accepted. Nearby residents may therefore have at times, experienced noise, dust and odour associated with the operation of the previous quarry and landfill.

Traffic and Transport

The Site is located immediately north of the M40 motorway, which provides strategic east-west connectivity with Junction 2 (Beaconsfield) located approximately 2km to the east. The Site is located to the south of the A40 Oxford Road, which provides direct connectivity between the M40 and the central London / Oxford corridor. The Site is therefore very well connected to major road infrastructure.

The Site is currently accessed by vehicles via an existing access from the A40 Oxford Road to the northeast, which accommodates regular Heavy Goods Vehicles movements associated with the current site operations.

Gerrards Cross railway station is located approximately 3km from the Site, and Beaconsfield railway station is located approximately 4km of the Site, both offering mainline services to High Wycombe and London Marylebone. Local bus services operate along the A40 corridor, which provide a twice an hour service between High Wycombe and Heathrow Airport.

Currently the A40 Oxford Road adjacent to the Site experiences a daily flow of approximately 18,679 vehicles, of which approximately 3% comprises heavy goods vehicles.

Recreation and Amenity

The Site (and surrounding area) is traversed by a network of Public Rights of Way. Within the Site, these include the following, as shown on *Figure 9*:

- Footpath GEC/12/1, which passes through the tree / shrub belt along the southern site boundary (adjacent to the M40);
- Footpath GEC/11/1 which connects Footpath GEC/12/1 with the A40 near the Crowne Plaza Hotel;
- Footpaths GEC/13/1 and GEC/13/3, which connect Footpath GEC/12/1 with the housing cluster located at the northwestern corner of Bulstrode Park (see The Historic Environment, Landscape and Visual Amenity section for further information on Bulstrode Park);
- Footpath GEC/25/1, which extends east from Footpath GEC/13/3 along the northern side of Moat Farm (see The Historic Environment, Landscape and Visual Amenity section for further information on Moat Farm); and
- Footpath GEC/14/2, which extends northeast alongside the eastern boundary of the Site from Footpath GEC/25/1.

Other Public Rights of Way extend north from the M40, south from the M40 / Hedgerley Lane and east across Bulstrode Park. Birchland Wood / Pitlands Wood, an area of open access land either side of the A40 Oxford Road, is adjacent to the northern boundary of the Site. It is understood that the Public Rights of Way on and surrounding the Site are popular with local birdwatching groups and walkers.

Ecology and Biodiversity

Nature conservation designations are sites which are recognised for their ecological and / or geological features, including biodiversity and habitats. The level of policy /

legal protection afforded to these sites depends on their designation status, with the highest protected sites being European-level statutory sites, followed by national-level statutory sites, and subsequently non-statutory (local) nature conservation designations. The southeast of the site is covered by a non-statutory local designation, Hedgerley Green Claypits Biological Notification Site. There are no other nature conservation designations for the Site.

Ecological surveys to understand the types of habitats and species within and around the Site have been undertaken over the past year, and are ongoing at the time of the preparation of this report, to continue informing the design of the Project in terms of helping to minimise potential harm arising from the Project on the natural environment. By understanding the species and habitats within the Site and surrounding area, the Project Team is able to identify specific design measures to minimise or avoid harm to these species and resources, whilst also identifying measures to benefit them such as the types of planting and habitats that could be created and enhanced as part of the Project.

The Main Development Area for the Project comprises a mixture of modified habitats including sealed parking areas, buildings, scrub, grassland, ponds, bare ground, and open mosaic habitat[14]. Such habitats are relatively easy to (re)create, as they have arisen on-site as a result of mineral processing and subsequent landfilling operations. The Wider Site Area comprises extensive grassland and woodland, the majority of which has been created or has otherwise developed on the capping layer over former landfill cells, alongside scattered ponds with fluctuating water levels (and varying ecological value). Some invasive non-native species having been identified as present on Site. Overall, the habitats within the Site are of mixed value, based on the UK Habitat Classification, with the areas of open mosaic habitat, the ponds, and the woodland and grassland at the Site margins having the highest value.

Ecological surveys have identified the following:

- Water vole and hazel dormouse are absent from the Site;
- Great crested newt is present and widespread within the Site;
- Grass snakes are present throughout the Site in low numbers (no other reptiles have been recorded);
- Badger activity is rare within the Site;
- Several species of bats use the Site, although no bat roosts (where bats live and shelter) have been identified;
- A diverse range of insects have been recorded within the Site; and
- A diverse range of breeding birds using the Site, including some that have conservation status (lapwing, skylark and the specially protected little ringed plover).

No notable fish species are believed to be present in the Site, and none of the waterbodies on-site appear to be directly connected to any watercourses within the wider landscape, such as rivers and streams.

A number of important ecological sites are located in the surrounding area. The closest statutory site is Burnham Beeches Special Area of Conservation[15] and Site of Special Scientific Interest[16], which is located approximately 1.9km southwest of the Site at its closest point. Burnham Beeches Special Area of Conservation has been a key focus in terms of the ongoing air quality emissions testing with the aim of avoiding unacceptable impacts on Burnham Beeches as a result of emissions from the Project.

There are a number of other Sites of Special Scientific Interest in the area surrounding the Site, as well as areas of Ancient Woodland[17], including ancient woodland located adjacent to the northwestern corner of the Site, Local Wildlife Sites, and other non-statutory designations, including a Biological Notification Site overlaying a portion of the Main Development Area. All of these designations have been important considerations of the design process and in particular air quality emissions modelling.

Ground Conditions, Water Bodies and Flood Risk of the Site

The majority of the Site is subject to an environmental permit for landfilling, however the permitted non-hazardous wastes are no longer accepted, and the landfill areas of the Site and Wider Site Area are subject to a programme of ongoing maintenance

[14] Open Mosaic Habitat is a biodiverse brownfield habitat characterized by a mix of bare ground, early-successional plants, and varied topography.

[15] Special Areas of Conservation are protected under the Conservation of Habitats and Species Regulations (2017), giving them the highest degree of protection available in law.

[16] Sites of Special Scientific Interest support many characteristic, rare and endangered species, habitats and natural features.

[17] Ancient woodland are woods that have existed since at least 1600 AD, and have developed irreplaceable, complex ecosystems.

and management, operated by Veolia, which will continue irrespective of whether the Project is brought forward or not, as this is required as part of Veolia's existing landfill permit.

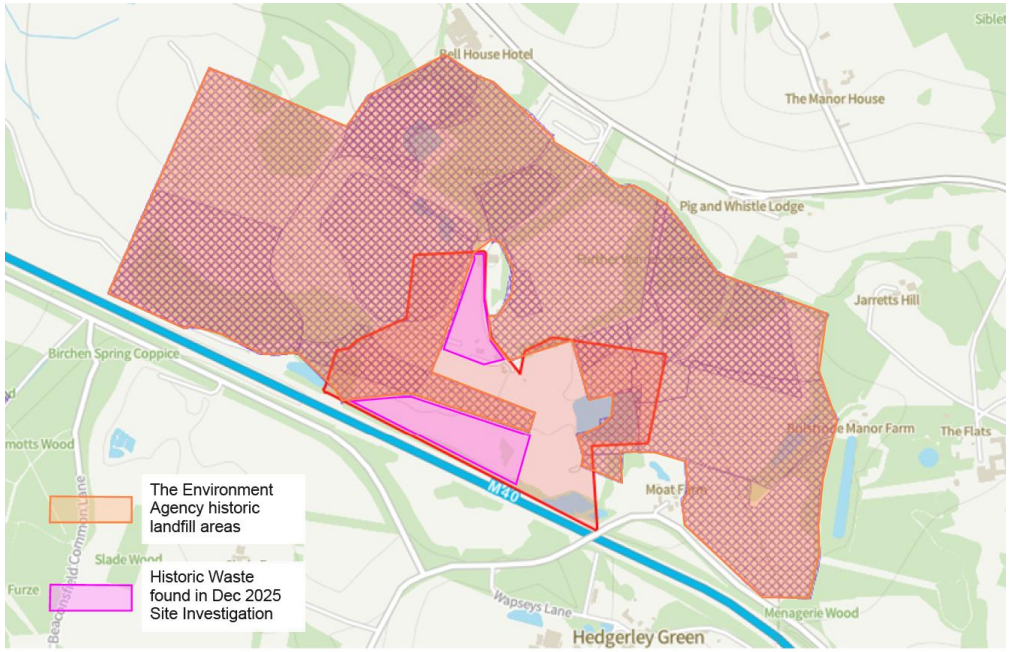
Given the Site's former use as a quarry and landfill site, the ground within the Main Development Area contains a mix of material including natural soil, made ground (which predominantly comprise restoration soils, comprising topsoil and subsoil), (non-hazardous) landfill waste, and potentially historic hazardous waste. The existing ground conditions of the Site have been informed by a combination of the existing landfill records maintained by Veolia, and intrusive site investigations that were undertaken at the Site in 2025. The broad location of the historic landfill areas are shown below in ***Figure 7***.

Together, the above sources inform the assumptions relating to the composition and extent of landfill materials within the Site. Ground gas monitoring was undertaken in February 2026. Further site investigations will be undertaken prior to construction works commencing to determine the extent of any necessary remediation works.

There are no natural watercourses within the Site or the Wider Site Area. The Site is located within the total catchment (groundwater Source Protection Zone (SPZ) 3[18]) of the Bulstrode pumping station, which extracts water from the chalk aquifer for public supply (approximately 500m north of the Site). Groundwater abstraction licences are provided for in the southeast of the Site associated with process water for mineral production (and considered to be no longer active).

The Site is considered to have a low probability of flooding based on the Environment Agency's flood risk mapping. There are a number of ponds on the site however these are not hydrologically linked to any other water bodies. The nearest main surface water body is the River Misbourne, located approximately 3.7km east of the Site.

Figure 7 ***Historic Landfill Areas***



The Historic Environment, Landscape and Visual Amenity

The Historic Environment

In relation to built heritage, the Site does not contain any designated heritage assets or receptors (i.e. listed buildings[2], conservation areas[19], Scheduled Ancient Monuments[20], nor Registered Parks and Gardens[21]), nor any non-designated heritage receptors (i.e. locally listed buildings). *Figure 10* shows the built heritage assets in the surrounding area of the Site.

Beyond the Site boundary are several listed buildings, the closest of which includes the Grade II listed buildings Moat Farmhouse and Barn Range on West Side of Farm Court at Moat Farm, to the southeast of the Site. To the west of the Site, the closest

[18] *Defined by the Environment Agency as 'This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken.'*
[19] *A Conservation Area is an area of special architectural or historic interest.*
[20] *A Scheduled Ancient Monument is a nationally important archaeological site, which can be above or below ground.*
[21] *A Registered Park and Garden is a designed landscape that is considered to be of national importance.*

heritage assets are the Grade II listed Hyde Farm House and Hyde Farm Barn to East of Farmhouse.

Approximately 400-500m to the east of the Site is the Registered Park and Garden of Bulstrode Park (registered at Grade II*). Bulstrode Park includes the Grade II listed Bulstrode House (a circa. 1860s building), as well as a Grade II listed Pigeon Tower, designed by James Wyatt, both listed buildings being situated beyond existing tree belts which define the western boundary of the Registered Park and Garden.

Immediately to the southeast of the Site is the Scheduled Monument of the Templars' site at Moat Farm (referred to interchangeably throughout this report as 'the Knights Templar site at Moat Farm'), with the farm beyond comprising a Grade II listed farmhouse (Moat Farmhouse), and a listed range of ancillary barns (also listed at Grade II).

To the south of the M40 motorway is the Hedgerley Green Conservation Area (approximately 220m to the south of the Site). The conservation area includes four listed buildings, including Manor Farmhouse (Grade II), Outbuildings North East of Manor Farmhouse (Grade II), Leith Grove (Grade II) and Hammer Cottage and Harp Cottage (Grade II). Approximately 950m to the south of the Site is the Hedgerley Village Conservation Area. The conservation area includes a high concentration of listed buildings of various grades, including the Grade II* listed Parish Church of St Mary the Virgin. To the north of the conservation area, approximately 735m to the south of the Site, is the Grade II* listed Shell House, located beyond the conservation area boundary.

To the west / northwest of the Site, at a distance of approximately 1.2km, is the Beaconsfield Old Town Conservation Area, which includes a high concentration of Grade II listed buildings fronting London End, which runs east-west through the centre of the conservation area. The conservation area and associated listed buildings are separated from the Site's Red Line Boundary by the A40 and the A355 – a link road which runs to the south to join the M40.

Gerrards Cross Common Conservation Area lies approximately 1.4km east of the Site. It is focused on the central common between the A40 Oxford Road and Marsham Way/Bulstrode Way, and contains 12 listed buildings, arranged around an open, heavily wooded landscape. The area is surrounded by largely residential uses, with a distinctive 19th century character.

Landscape and Visual Amenity

In terms of landscape and visual amenity of the Site and surrounding area, the Site and surrounding area forms part of an extensive undulating plateau that includes farmland, parkland, settlements, intermittent commercial properties, quarries and highways. Woodland, copses and tree belts are common. The Site does not form any part of a landscape that is designated (i.e. formally recognised and protected) at either local or national level. The Chilterns National Landscape is located approximately 1.75km northwest of the Site. The Site lies within the Thames Valley National Character Area and the Beaconsfield Mixed Use Terrace Landscape Character Area. Land further to the east of the Site, and a belt of land that includes Hedgerley to the south, form part of Alder Bourne River Valley Landscape Character Area.

The Site and Wider Site Area comprises a large area of land that has been disturbed by industrial workings for mineral extraction and landfill. The Main Development Area is surrounded by the restored areas of landfill, which comprises grassland, scrub and woodland, established as part of the restoration works required under the existing landfill permit. In the eastern part of the Site, woodland and trees lie close to the Knight Templars' site at Moat Farm. In the southern part of the Site, a belt of trees and shrubs lies alongside the M40. Trees, including areas of Ancient Woodland, are located in the northwestern part of the Site, near the Beaconsfield Household Recycling Centre. Beyond the Site, the surrounding area features fields, trees and woodland.

The local landscape features a network of Public Rights of Way. See the Recreation and Amenity section further above for the footpaths located within and surrounding the Site.

As discussed in the *Why this Site?* section, the Site is located in the Metropolitan Green Belt, however the draft Buckinghamshire Green Belt Assessment (2026) concludes that the area within which the Site lies constitutes "provisional grey belt", as the area does not make a strong contribution to the purposes of the Green Belt, whilst recognising that potential constraints require further consideration, which include potential sensitivities in relation to the historic environment. The Buckinghamshire Green Belt Assessment notes that these matters have been identified at a strategic level and that detailed site-specific assessment is required to understand their extent and significance.

Figure 8 *Annotated Aerial View of the Existing Site*

Figure 9 *Key Human and Ecological Context of the Surrounding Area*

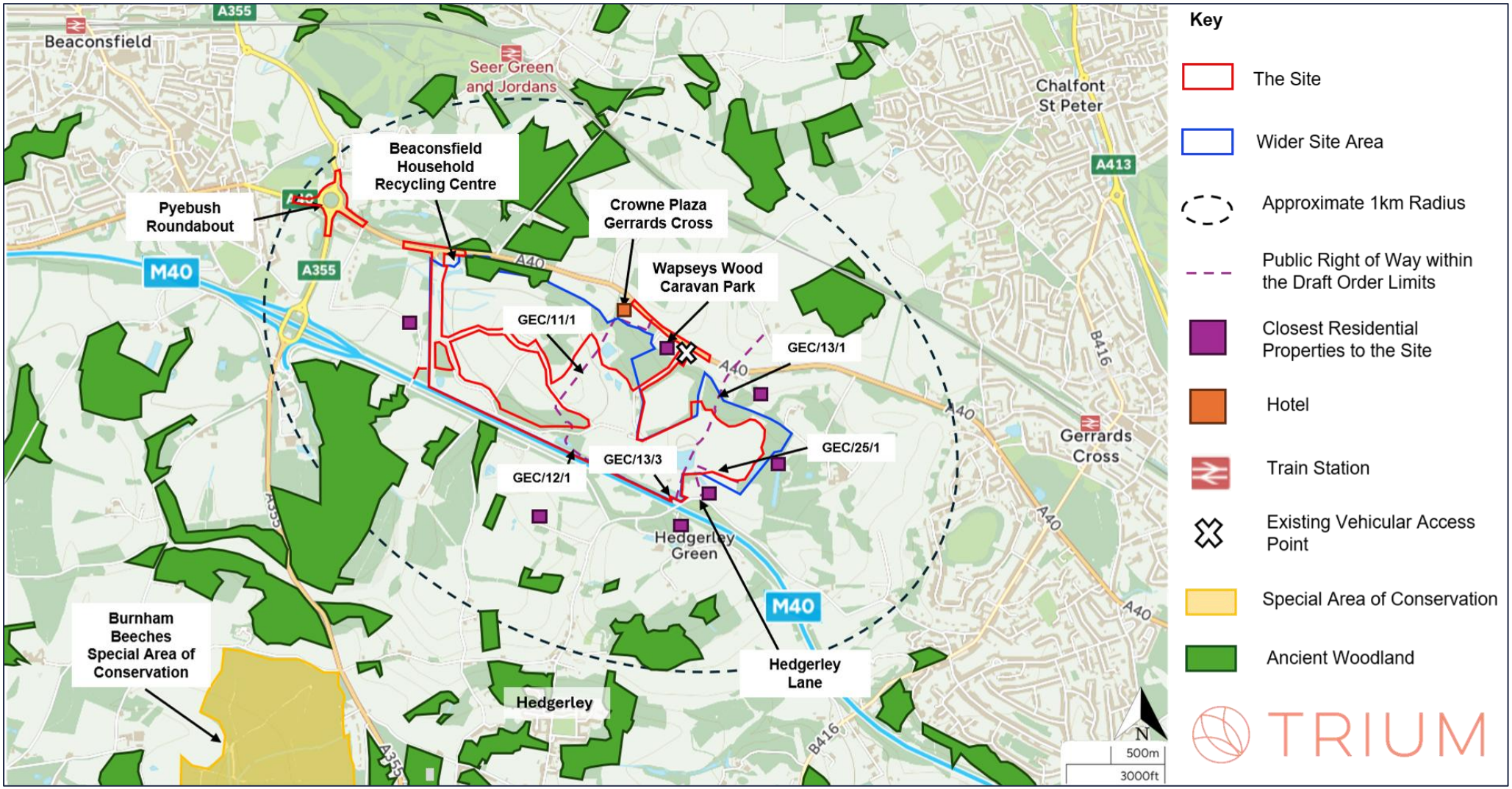
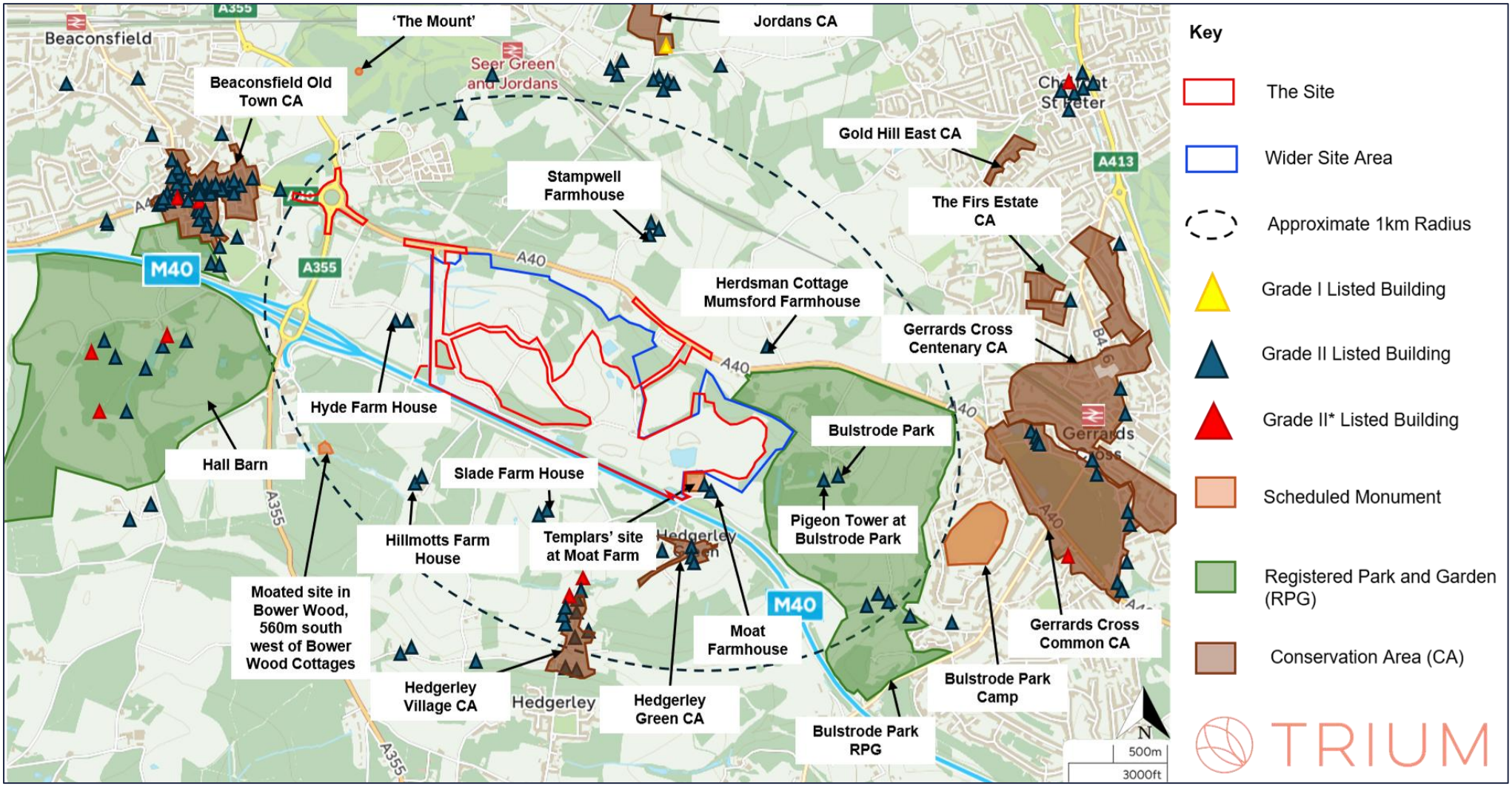


Figure 10 *Built Heritage Assets of the Area Surrounding the Site*



POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROJECT

PEOPLE AND THE COMMUNITY

This section discusses the Project in relation to people and the local community, including job creation and contribution of the Project to the local economy, health and wellbeing, recreation and amenity, visual amenity, air quality, noise, odour, community safety, water consumption and traffic. It discusses measures that have either been factored into the design of the Project, or additional measures which have been identified through environmental impact assessment work, which will be implemented to minimise the potential for negative environmental impacts.

The local residents that could be impacted by the Project are described in *The Surrounding Environment* section of this report, and includes those people living closest to the Site, within Wapseys Wood Caravan Site to the north of the Site, those on Hedgerley Lane to the southeast of the Site and those on Wapseys Lane, located south of the M40.

Jobs and Economy

The Project will create job opportunities for people in the local area and within the region, during both the construction stage and once it is built and operating. These impacts are considered to be positive.

For Power Supply Scenario 1, during construction, the Project is currently estimated to support approximately 277 full time equivalent jobs and up to 50 apprentice starts spread across the 9-year construction period. Construction of the Project is anticipated to generate £198 million for the economy of the South East region of England, and construction workers are forecast to spend approximately £3.8 million in the local economy over the course of the build. Based on available accommodation capacity within a 30-minute drive time of the Site, the demand generated by construction workers is anticipated to be accommodated within existing supply and is not expected to materially affect accommodation availability or affordability, and therefore the Project will have no impact on the availability of temporary accommodation.

Once the Project is fully operational, the Energy Centre will generate approximately 25 new jobs and the Data Centre Campus is anticipated to create approximately 375 new jobs, meaning that, once operational, the Project will create a total of approximately 400 direct jobs. These jobs will include a range of roles, including maintenance work and digital sector roles. A total of approximately 769 direct, indirect and induced[22] jobs will be created in the South East region, 570 of which will be within Buckinghamshire.

The Project would also generate approximately 50 apprenticeship starts during enabling and construction, and approximately 3 apprenticeship starts once operational.

The Project is projected to contribute £58 million to the economy of the South East of England, once operational (under Power Supply Scenario 1). It is expected that Buckinghamshire Council would receive a large increase in business rate receipts (taxes on non-domestic properties), compared to the business rate receipts of the existing use of the Site (currently £65,000).

Proposed Environmental Measures

Given that all the above impacts of the Project on jobs and economy are positive, further environmental measures beyond those incorporated into the Project design are not required.

Nonetheless, proposed measures as part of an overarching skills and training programme could include:

- Strategic skills partnership – establishing a strategic skills partnership with Buckinghamshire Council, Buckinghamshire Business First and relevant education, training, employment and community partners.
- Education and careers engagement – delivery of a digital futures programme for schools and higher education facilities which combines careers engagement, industry talks, workshops and mentoring to help students understand careers associated with data centres and the digital economy
- Workforce reskilling and transition – supporting residents seeking to retrain or progress into digital, engineering and technical occupations.

[22] *Direct job creation refers to the new positions generated directly by the Project, while indirect job creation covers positions in the supply chain that support those primary operations. Induced employment is additional employment supported throughout the broader local economy when direct and indirect workers spend their earned wages on everyday consumer goods and services.*

- Employability and inclusive access – working with employment services and community organisations to improve access for residents facing barriers to training or employment via targeted outreach and supported progression
- Local business digital transformation – a business support programme delivered with Buckinghamshire Business First or another suitable local partner to help local SMEs assess and adopt digital tools.

Comparison of Impacts with Power Supply Scenario 2

As with each technical section below, the impacts described above are based on Power Supply Scenario 1. However, as discussed in the *Basis of Environmental Information Within this Report* section, for socio-economics impacts only (i.e. jobs and economy), Power Supply Scenario 2 constitutes the worst-case in terms of potential impacts. This is because Power Supply Scenario 2 would result in fewer jobs created and less money generated for the local economy. This is primarily due to the smaller scale of works required for Power Supply Scenario 2 during the enabling and construction works, and particularly during operation, as Power Supply Scenario 2 would require less operational staff, and less maintenance and testing works, compared to Power Supply Scenario 1, therefore reducing employee demand.

Under Power Supply Scenario 2, the Project is anticipated to generate approximately £50.3 million once operational, compared to the £58 million which is expected to be generated by Power Supply Scenario 1. Therefore, should Power Supply Scenario 2 be selected, this would decrease the money generated by the Project, in comparison to Power Supply Scenario 1. Additionally, during the construction works, Power Supply Scenario 2 would cost less than Power Supply Scenario 1 (and therefore the construction works would generate less money than Power Supply Scenario 1) and would also generate fewer construction and operational jobs.

Therefore, should Power Supply Scenario 2 be brought forward, the projected job creation, employee spend and money generated by the Project will reduce compared to Power Supply Scenario 1. At this stage of the design, economic modelling is ongoing to determine the economic benefits associated with Power Supply Scenario 2. This will be reported upon within the Socio-economics, Recreation and Amenity chapter of the Environmental Statement that will accompany the DCO application.

Health and Wellbeing

The potential for negative effects on the health and wellbeing of the local population is being actively considered by the Applicant and design team, to ensure that the Project does not result in impacts which breach regulatory thresholds in relation to health and wellbeing. As these impacts are linked to the environmental impacts of the Project, the following technical sections discuss how impacts in relation to people and the community are being considered by the Applicant, and detail the proposed environmental measures to minimise potential impacts to health and wellbeing, in addition to measures set out under the 'Air Quality' and 'Noise and Vibration' sections of this report.

To avoid repetition of potential environmental effects and the identified mitigation measures to address them, these are discussed only briefly below, with more detail provided within the subsequent technical topic sections.

Proposed Environmental Measures

Air quality modelling is ongoing to ensure that projected airborne emissions from the Project do not breach air quality regulations in relation to human health. Further information is provided in the *Air Quality* section below.

Similarly, computer modelling to determine noise levels at local residential properties from the Project is being completed to identify where noise reduction measures are needed within the design of the Project, including to account for night-time noise levels that can create annoyance, sleep disturbance and associated mental and physical wellbeing impacts. There is also the potential for local residents to experience increased levels of noise and dust during the construction works in particular, however with suitable mitigation measures as set out below under 'Noise and Vibration', noise levels during the enabling and construction works will not breach regulatory thresholds with regards to health and wellbeing. Further information on the potential impacts and the proposed environmental measures to minimise these impacts are provided in the *Potential Environmental Impacts of the Project: People and the Community: Noise* section.

As discussed in the *Construction of the Project* section, the Main Development Area will be excavated to accommodate the Data Centre Campus and the selected power supply scenario. This will involve excavating the ground material which includes a mixture of natural soil, made ground (which predominantly comprise restoration soils, comprising topsoil and subsoil), non-hazardous landfill waste, and potentially

hazardous waste. Further ground investigation will be undertaken prior to the commencement of these excavation works, to ensure that the extent and composition of this material is known, with appropriate remediation measures identified to ensure that there are no negative impacts to health and wellbeing as a result of potential contamination arising from the excavation of this material. Further information on the potential contamination and odours impacts, and the measures to address them, are provided in *The Proposed Environmental Impacts of the Project: The Natural Environment: Land Contamination* and *The Proposed Environmental Impacts of the Project: People and the Community: Odours* sections respectively.

Potential impacts relating to water consumption, as well as the design measures to mitigate these impacts, are addressed in the *Water Consumption* section further below.

The completed Project will have positive outcomes for the local population through the enhancement of footpaths and access to open space. See the *Recreation and Amenity* section below for further information on how the proposed landscaping and public amenity proposals will benefit the local community through increased opportunities for access and amenity.

The Applicant has commissioned a study into electromagnetic field (EMF) radiation that may be generated by the Project[23], as well as a study on the potential for thermal radiation emitted by the Project, in order to inform the design development. However, it is expected that the design of the Project will incorporate sufficient measures to ensure that EMF and thermal radiation are within the required levels to ensure there are no negative impacts to the health and wellbeing of surrounding residents.

At the time of the preparation of this report, these studies are yet to be undertaken. However, the key findings of these studies and the identified measures to minimise potential impacts will be reported upon within a chapter on 'Other Matters' within the Environmental Statement submitted with the DCO application to ensure that the potential effects are appropriately reported upon.

[23] *Data centres typically emit EMF radiation due to the power and IT infrastructure, which process large electrical currents.*

Comparison of Impacts with Power Supply Scenario 2

In terms of impacts on human health, Power Supply Scenario 1 is considered the worst case, with the impacts described above based on Power Supply Scenario 1, as there would be reduced air quality impacts associated with Power Supply Scenario 2 compared to Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Recreation and Amenity

Activities related to the construction of the Project may temporarily restrict access to public rights of way or open space and recreational assets. This also has the potential to lead to increased journey times.

The Project will not require the net loss of any residential, community, business or recreational land uses.

The construction traffic assessment undertaken by the Applicant's appointed transport consultant indicates that impacts on the local highway network would be limited, with peak construction traffic forecast to result in minor increase in overall traffic flows during the construction period, with the largest increase being an approximately 4.6% increase in total vehicles (including cars and HGVs) on the A40, east of Pyebush Roundabout. While larger percentage increases in HGV movements are forecast on the A40 east of Pyebush Roundabout and the A355 roundabout links, these are largely driven by low existing baseline HGV volumes. On this basis, any negative effects on accessibility for local residents and to community facilities, local businesses or open space and recreational assets are expected to be limited.

The Project also has the potential to impact Public Rights of Way which traverse the Site (namely; Footpath GEC/12/1, Footpath GEC/11/1, Footpaths GEC/13/1, GEC/13/3 and Footpath GEC/25/1, which are identified in *Figure 99*). At this stage of the design, the landscape design for the Project is still in development, and therefore, to capture a worst case in terms of impacts to Public Rights of Way, it has been assumed that the footpaths which traverse the Site would be temporarily diverted or closed during the construction phase. This would temporarily restrict

recreational access and reduce connectivity to the surrounding residential areas and open spaces. The closure of Public Rights of Way would also temporarily decrease opportunities for walking, cycling and other forms of informal recreation, and therefore has the potential to result in decreased local amenity and physical activity.

The above temporary impacts during enabling and construction works have the potential to result in negative effects on local residents and to community facilities, local businesses or open space and recreational assets.

Once operational, the Project is expected to generate minimal increases in traffic due to the low-traffic generating nature of operational data centres and energy centres. The A40 East of Pyebush Roundabout is predicted to experience the highest increase in traffic numbers (of approximately 2.7%), which is minimal compared to the existing traffic volumes. On this basis, no negative impacts are expected to residents and to community facilities, local businesses or open space and recreational assets.

The Project will deliver a range of enhancements to publicly accessible recreational routes. The Applicant has confirmed commitment to delivering/maintaining the network of routes, which are subject to approval as part of the revised restoration plan associated with the existing landfill permit, for which planning permission has been sought by Veolia, or the approved paths as already consented. These routes will connect to the existing Public Rights of Way across the Site as well as in the surrounding area, including GEC/13/3. This will help to improve connectivity to surrounding settlements and open space, such as Bulstrode Park and Green Acres Chiltern Park, which will help to improve journey time for pedestrians and cyclists.

As part of the DCO application, the Applicant is also seeking to implement a new uncontrolled pedestrian crossing on the A40, west of the site access, and undertake an improvement to the existing footway on the northern side of the road to improve the connection to the eastbound Crowne Plaza bus stop and the site with enhanced public transport connectivity.

The Applicant is also exploring the potential for a new footpath connection to link with the existing Public Right of Way BEA/48/1 near to the southwest corner of the Site, which would further enhance recreational access and connectivity.

The improved connectivity to surrounding settlements and open space will create new opportunities for walking, cycling and other forms of informal recreation, which will help to promote physical activity, which will in turn improve the overall user experience and recreational value of the area, resulting in an increase in local amenity.

The above impacts of the operational Project will result in beneficial effects to local residents and to community facilities, local business, open space and recreational assets.

Proposed Environmental Measures

An outline Public Right of Way and Permissive Path Management Plan will be prepared, and submitted with the DCO application, which will detail measures to manage existing Public Rights of Way and mitigate the impact on accessibility. This will help to minimise the negative impacts related to the amenity, residents, visitors or businesses during construction of the Project.

As the impacts on recreation and amenity will all be inherently positive once the Project is operational, there are no further environmental measures proposed in relation to recreation and amenity.

Comparison of Impacts with Power Supply Scenario 2

In terms of impacts on recreation and amenity, the spatial coverage of the enabling and construction works will remain the same (as both power supply scenarios will be accommodated within the same parcel of land within the east of the Main Development Area), and the commitment to providing the network of permissive bridleways will remain the same. Therefore, impacts to recreational amenity under Power Supply Scenario 1 as reported above are expected to remain the same, should Power Supply Scenario 2 be brought forward.

Further information on this topic will be provided in the application for development consent, within the Environmental Statement in the Socio-economics, Recreation and Amenity chapter.

Views

The potential for the Project to alter the character and composition of views into and across the Site has been, and will continue to be, a key consideration of the evolving Project design. Views will be affected to varying degrees, depending on the enclosure provided by intervening landform and vegetation. They will be notably affected from some viewpoints up to several kilometres of the Site in some

directions, and glimpsed views will be available from greater distances. Long distance views will be less negatively impacted than those closer to the Site.

The evolving design of the Project has been, and will continue to be, subject to visual testing through preparation of visualisations from viewpoints within the Site and in surrounding area. These visualisations help demonstrate the degree of visibility and appearance of the Project from built heritage assets, public footpaths, roads and settlements in the surrounding area. They will continue to be used for refining the design of the Project to help ensure that negative impacts to sensitive views are minimised where possible. These visualisations are discussed in further detail below.

Any one of the three technology solutions for the Energy Centre will potentially alter the landscape character of the site and its immediate context as well as the character and amenity of views over a wider area, as described below.

In views from public footpaths, country lanes, farmsteads and residential properties on the rising land north of the A40, the upper parts of the data centre and energy centre structures will be seen rising above woodland on the northern side of the Site. The proposed new built form will also be visible at a lower level from the A40, the Crowne Plaza Hotel, Wapsey Wood Caravan Site and from residential properties along the southern side of the A40. There will also be near distance views from public footpaths that head south from the A40. In the case of views from Footpath GEC/11/1, vegetated embankments will, after 15 years of vegetation growth, partially enclose views of the lower parts of buildings and structures associated with each of the technology solutions for the Energy Centre.

The Project will not be visible from most parts of Gerrards Cross, including the Gerrards Cross Centenary Conservation Area although some glimpsed views of buildings and structures will potentially be available from residential properties along the western edge of the town and from Footpath GEC/14/2 that extends west across Bulstrode Park. There will be no visibility from the relatively low-lying southern parts of Bulstrode Park.

There will be some glimpsed views of the Site from Pyebush Lane to the west and from potentially from some of the residential properties on its western side. Any views from eastern parts of Beaconsfield are likely to be highly restricted by intervening vegetation.

Near distance views of the Project will be available from some public footpaths on the eastern side of the Site, including routes that pass across the Moat Farm Scheduled Monument. There will be visibility from M40 and from the Hedgerley Lane Overbridge. Proposed vegetated embankments will partially enclose the new buildings and structures when viewed from the motorway overbridge.

There will be very limited to no visibility from central parts of Hedgerley Green due to the enclosure provided by the intervening vegetation, including tall trees along the southern edge of the M40. The Project will be seen from parts of Hedgerley further to the southwest as well as Public Footpaths that extend northwest and southwest of the village.

In more distant views from the southeast, near Fulmer, the Project will not be visible due to the enclosure provided by intervening vegetation.

The Project will also not be visible from higher-lying land on the northern side of Jordan or from Public Footpath BEA/5/1 near The Grange, with both viewpoints located within the Chilterns National Landscape.

Proposed Environmental Measures

Measures to minimise negative visual impacts during construction will be detailed within an outline Construction Environmental Management Plan, to be submitted with the DCO application. These measures are likely to include, but will not be limited to, the protection of trees / shrubs / hedgerows to be retained, careful control of the height and location of storage of construction materials, the use of hoardings to help minimise the visibility of the construction works, and the use of temporary lighting to control light spillage and pollution. Other measures include those to minimise dust and debris, such as water dampening measures to control dust generation, and wheel washing to prevent debris spilling onto the local road network.

The ongoing design of the Project has considered, and will include as far as reasonably possible, the following measures to minimise negative impacts to landscape character and views:

- The proposed layout of buildings and roads has balanced considerations of landscape, visual, heritage, ecological and geological impacts;
- Buildings and structures have been located to maximise retention of existing tree/shrub vegetation and ecological resources;

- The potential for architectural screening around the lower parts of the Energy Centre to visually contain its component structures is being considered, however has not been committed to at this stage of the design;
- Reduction of the height of stacks (chimneys) to minimise potential visual harm is being refined, whilst still ensuring that air quality impacts are kept below regulatory thresholds;
- Sensitive design of colours and textures for buildings and structures will be considered, to enable the Project to complement the character of the surrounding environment;
- There is the potential for provision of green roofs and walls;
- Creation of vegetated earth embankments to help enclose low-level views and strengthen the on-site vegetation framework; and
- Provision of landscape buffers between the proposed building development and heritage assets to the east of the Site, including the Knights Templar site at Moat Farm and Bulstrode Park. See the *Potential Environmental Considerations of the Project: The Historic Environment and Landscape* for further information.

For measures to enhance recreation and accessibility, including the provision of new recreational routes within the Site, see the *Recreation and Amenity* section above. Mitigation measures listed within this section also help to benefit visual amenity of the Site and surrounding area.

Further information on this topic will be provided in the DCO application, within the Environmental Statement in the Landscape and Visual Impact Assessment chapter.

Comparison of Impacts with Power Supply Scenario 2

In the case of Power Supply Scenario 2, the effects on views and landscape character are likely to be at a lower level as the proposed 400kV sub-station will be smaller in scale compared to the Energy Centre associated with each of the three technology solutions in Power Supply Scenario 1. The two new electricity pylons required to link the new sub-station to the grid will, where visible, be seen in the context of existing pylons. Users of Public Footpath GEC/13/1 and some residents to the east and north will experience near-distance views of the new pylons.

Air Quality

As referenced throughout this report, air quality modelling has been a key feature of the design process to-date and will continue as the design progresses further. Using meteorological data, the air quality modelling replicates how emissions (i.e. pollutants released into air) move through the atmosphere once they are released from the Project. In terms of emissions modelled, the focus of the assessment to-date has been on nitrogen dioxide (NO_2) for human receptors and on nitrogen oxides (NOx), ammonia (NH_3) and nitrogen deposition for ecological receptors, as these are where the Project is considered most likely to have impacts which the design can evolve to minimise as far as reasonably possible. Other pollutants will be considered for the Environmental Statement (within the Air Quality and Odours chapter/s), including nitrogen monoxide (NO) at human receptors and acid deposition at ecological receptors. Human health receptors (i.e. people) within 5km of the Site have been factored into the air quality model to capture the largest distance at which human receptors could potentially be impacted by emissions from the Project, to ensure this captures the worst-case impacts of air quality on human health, and that these impacts can be mitigated as far as reasonably possible.

Air quality modelling undertaken to-date has assessed emissions from the Data Centre Campus and Power Supply Scenario 1 (the Energy Centre) individually, as well as the combined emissions from the operation of both. To capture the worst-case Energy Centre emissions, this has been modelled as running continuously (totalling 8,760 hours of the year).

Standard testing operations for the back-up generators (assumed to run on diesel fuel, as a worst case) of the Data Centre Campus have been assessed, based on typical monthly and annual testing operations. The Data Centre Campus worst case modelling includes for an emergency scenario in the event of total power supply failure, which models emissions from all generators of the Data Centre Campus (216 in total) running continuously for 72 hours, which is in line with Environment Agency guidance relating to the assessment of worst-case air quality impacts. However, in reality this is considered a very unlikely scenario and that power outage would not extend to 3 days, as the Energy Centre infrastructure and the electricity distribution network are considered to be highly reliable, and therefore unlikely to fail for extended periods. For context, the customer minutes lost in 2023-2024 were 10.5 minutes per year for the London region, based on UKPN's annual review.

The air quality modelling undertaken to-date has continually shown that combined emissions from the Energy Centre and Data Centre Campus do not breach air quality thresholds for human health, set by Defra[24]. The 72 hour back-up generator scenario showed that this has the potential to minimally breach regulatory thresholds relating to human health, however this would be considered an acceptable breach by the Environment Agency, given that the minimal nature of the exceedance would only occur for a short period of time, and that this impact is highly unlikely to occur in reality. This modelling has therefore shown that the current design does not result in any significant adverse impacts to humans as a result of emissions from the Project.

Modelling of human health impacts will continue as the design progresses to ensure compliance with the applicable thresholds.

Some ecological features within the Site and surrounding area are more sensitive to air quality impacts than human receptors and therefore have more strict thresholds which must be complied with. Further information is provided within *Environmental Considerations of the Project: The Natural Environment*.

As the timings for decarbonisation readiness are not currently known, the air quality impacts of conversion of the Energy Centre to be powered by hydrogen have not yet been assessed. However, the impacts identified to date represent the worst case environmental impacts, as the combination of the Energy Centre running on the cleaner fuel of hydrogen and operating only as a peaking plant (i.e. not constantly) is expected to result in improved air quality impacts.

Proposed Environmental Measures

As discussed throughout this report, air quality modelling is an iterative process which has been, and will continue to be, a key informer of the design for the heights of the stacks of the Energy Centre and back-up generators of the Data Centre Campus. As emissions are dispersed across a greater distance with higher stack heights (up to 180m), the height of stacks will be chosen to ensure that air quality impacts associated with atmospheric emissions from the Project are managed. This will be balanced against a reduction of stack heights to minimise landscape, visual and built heritage effects. Final stack heights are still to be determined through ongoing design development and iterative air quality modelling.

Further information on this topic will be provided in the DCO application, within the Air Quality and Odours chapter/s of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of air quality impacts in relation to humans, Power Supply Scenario 1 is considered the worst case, as higher emissions levels would be associated with Scenario 1, with the impacts described above therefore based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Noise and Vibration

During the construction of the Project, key sources of noise will arise from the operation of construction plant and the associated construction activities, including, but not limited to excavation, piling, and the installation of buildings and associated infrastructure. The noise levels created by the construction works at the nearby residential properties will vary throughout the 9 year construction programme, with the noisiest activities expected to be limited to the excavation works, below ground / foundation works, and the superstructure (i.e. outer core of the buildings). However, these noisy activities will only occur in the short term, with appropriate mitigation measures applied to minimise noise impacts from these works, as detailed below.

Construction traffic will also have the potential to create noise during the construction works. In terms of vibration, key sources during construction may include concrete breaking and hydraulic piling.

Once operational, the key sources of noise from the Data Centre Campus include mechanical equipment associated with cooling, ventilation and power, as well as noise from emergency generators (only used when required in emergency situations, i.e. mains power failure and during testing). In terms of operational noise arising from the Energy Centre, primary sources include the Energy Centre turbines / engines and stacks (chimneys), and mechanical equipment associated with cooling and ventilation.

[24] *Department for Environment, Food and Rural Affairs.*

Proposed Environmental Measures

During the construction of the Project, 'Best Practicable Means[25]' would be implemented at all times during the construction phase, with mitigation measures incorporated into the outline Construction Environmental Management Plan. Conventional measures include appropriate plant selection, effective site management, engineering control, acoustic screening, restriction of work hours, and liaison with the local community. Core site operating hours during construction is expected to be 08:00-18:00 on weekdays, 08:00-13:00 on Saturdays, and no work on Sundays or Bank Holidays. Compliance with British Standards on managing and controlling noise and vibration on construction sites will be adopted wherever possible. There remains the potential for some temporary noise related impacts possible at the closest residential receptors (including the Crowne Plaza hotel) when works occur close to the site boundaries.

In terms of construction traffic noise, as detailed in the *Construction of the Project* section, the routing of construction vehicle traffic has been designed to utilise the strategic road network (M40 and A40 Oxford Road), minimising exposure to noise for nearby residents. The reuse of excavated material – where feasible – along the boundary of the Main Development Area will provide acoustic screening and minimise the propagation of construction and operational noise beyond the Site boundary.

The design of the Project incorporates mitigation measures to minimise noise emissions, which includes specialist noise-reduction technology, such as attenuators and silencers, which will be fitted to cooling units, fans and back-up generators of the Data Centre Campus.

Similarly, the Energy Centre will feature high-performance silencers on sources of noise such as the stacks (chimneys) and air vents. The turbines or engines of the Energy Centre will sit within individual enclosures, as will mechanical equipment. Where required, additional internal measures will be provided within mechanical plant (equipment) rooms to control internal noise levels.

Further information on this topic will be provided in the DCO application, within the Noise and Vibration chapter of the Environmental Statement.

[25] *Best Practicable Means refers to a legal standard which requires the most effective measures that can reasonably be taken to reduce nuisances, such as noise, considering technology, costs and local context.*

Comparison of Impacts with Power Supply Scenario 2

In terms of noise and vibration impacts, Power Supply Scenario 1 is considered the worst case, as Scenario 1 would include more operational plant / machinery on Site, with the impacts described above therefore based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2, should this be taken forward by the Applicant, are expected to be equal to or less than those impacts reported above.

Odours

Given the Site's former use as a landfill, the material to be excavated within the Main Development Area to enable lowering the buildings to minimise visual impact will contain previously landfilled waste. As a result, there is the potential for odour emissions to be released from landfill disturbance and excavation, the loading of excavated material onto lorries and its transportation, and also emissions during disposal at off-site facilities, should this be required. There could therefore be negative odour impacts to local residents during the excavation stage of work.

Odour dispersion modelling has been undertaken to review how odours will disperse from the Site to the surrounding area, to identify potential odour effects. This will help to inform measures to be incorporated into an outline Odour Management Plan, to be submitted with the DCO application, which is discussed in more detail below.

Proposed Environmental Measures

An outline Odour Management Plan, to be submitted with the DCO application, will be produced to outline the measures by which the construction contractor will systematically assess, minimise and where possible prevent potential odour emissions from the Site.

The outline Odour Management Plan will:

- Identify all potential odour sources at the Site and any foreseeable situations which may compromise the ability to prevent and / or minimise odour releases from the construction activities;

- Identify and employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;
- Identify and employ appropriate control measures and actions to minimise the impact in the event that odour incidents occur; and
- Minimise the risk of odour-releasing incidents or accidents by anticipating them and planning accordingly.

This outline Odour Management Plan will be drafted with consideration given to the Environment Agency's guidance on odour management.

Further information on this topic will be provided in the DCO application, within the Air Quality and Odours chapter/s of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of odour impacts, Power Supply Scenario 1 is considered the worst case, as greater excavation is required for Scenario 1, with the impacts described above therefore based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Community Safety

Complex, interconnected infrastructure such as that proposed for the Project inherently present risks that need managing relating to fire and explosion due to the nature of the infrastructure (which, in the case of the Project, comprises a gas-fired Energy Centre (under Power Supply Scenario 1) or a substation and new pylons (under Power Supply Scenario 2), electrical substation, Battery Energy Storage System (considering Power Supply Scenario 1 as the worst case) and the storage of fuel on-site for the back-up generators for the data centres. However, the design of the Project will feature safety measures to ensure that these risks are managed and controlled, with specialist risk and hazard management plans in place, such that these potential hazards do not pose disproportionate risks to the surrounding community, when considered in light of the nature of the infrastructure proposed.

Other aspects relating to community safety include potential health and safety risks to users of the Public Rights of Way through the Site and Wider Site Area, as well as the exposure of construction workers to a number of hazards during the construction, including exposure to harmful gases or materials during excavation, and exposure to live conductors.

However, the Project will be required to adhere to strict regulations regarding fire safety, the storage of fuels on-site, and health and safety, such that risks to community safety are strictly managed and mitigated. Further detail is provided below.

Security of the Project is also being considered by the Applicant and Design Team, with a specialised security strategy in development to ensure that the Site is protected from hostile attacks. The Project will feature a secure perimeter and restricted access to prevent unauthorised personnel entering the Site. However, it is not considered that the Project will introduce new security threats to the surrounding area and local community.

Proposed Environmental Measures

The Project will be subject to rigorous regulation regarding control of explosion, fire safety, and health and safety of members of the public, construction workers and users of the Project once operational. This will include compliance with Control of Major Accident Hazard regulations (which controls the storage of fuels), rigorous fire safety planning and design, adherence to strict health and safety regulations for construction workers, and compliance with construction and design regulations to ensure that hazards and risks are reduced to being tolerable or tolerable if they are 'As Low as Reasonably Practicable' (also known as the 'ALARP principle[26]'), which is a key requirement of UK Health and Safety law.

To further minimise risks to members of the public, public safety is integrated into the Project design by restricting access via public footpaths to areas of the Site and Wider Site Area with increased health and safety risks, such as landfill cells, ponds and areas near the existing operations which are to be retained (including the existing on-site energy centre and the leachate plant).

[26] *The ALARP principle states that risks must be reduced to the lowest possible level, balanced against the time, cost and difficulty required to reduce these risks any further.*

Further information on this topic will be provided in the DCO application, within the Major Accidents and Disasters chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of community safety impacts, Power Supply Scenario 1 is considered the worst case, as risks of fire, explosion and impacts associated with the storage or handling of natural gas in Scenario 1 would be reduced in Scenario 2, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Water Consumption

Rainwater harvesting and storage is being considered by the Applicant during both the enabling and construction phase, and once the Project is operational. Although a highly productive aquifer[27] underlies the Site which could provide a source of water for construction, water will not be extracted from this aquifer, to minimise the impact on groundwater supplies. During the enabling and construction works, and once operational, the Project is likely to be supplied by a combination of rainwater harvesting (with storage) and a water tank option[28]during periods of low rainfall / drought, to ensure this does not impact water supplies within the area.

Data Centres require cooling in order to operate (due to the heat generated within the internal systems) and as such, the Applicant is considering both air cooling and water-cooling technology for the Data Centre Campus, including a combination of both solutions. As water cooling is being considered as part of the overall cooling solution at this stage, the impact of this option on water resources is being considered, as this constitutes the worst-case in terms of water consumption. Cooling of the Data Centre Campus is likely to be predominantly through air cooling technology, with the potential for an element of water cooling to satisfy peak demand but within the confines of the available water supply. Where water cooling technology is to be used, the aim will be to maximise the use of raw water and rainwater harvesting.

As water cooling constitutes the worst-case in terms of water consumption, should air cooling be selected for the final design (or a mixture of water and air cooling, i.e. the Data Centre Campus is not wholly cooled by water), the impacts related to water consumption would be reduced.

Affinity Water have confirmed they can supply 20 m^3 / day (610 m^3 / month) of potable water to the Project, which will primarily be used for human activities such as drinking water, toilets, showers and kitchens. Discussion with Thames Water concluded that no further water supply is available from their network.

Proposed Environmental Measures

The Design Team are exploring a number of water-saving measures, such as rainwater harvesting. Fire water may also be sourced from raw water[29] and / or harvested rainwater supplies to minimise consumption of potable (drinking) water.

Information relating to the influence of the Project on ground conditions is provided in the section below '*Environmental Considerations of the Project: The Natural Environment*'.

Further information on this topic will be provided in the DCO application, within the Water Resources chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of water consumption impacts, Power Supply Scenario 1 is considered the worst case, as the Energy Centre may require water for cooling, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Construction and Operational Traffic

The A40 Oxford Road, from where the Site is accessed, joins directly onto the strategic road network and M40 via the A355, avoiding traffic using the local road network where sensitive receptors and non-motorised users may be located.

The level of construction traffic generated by the Project will fall below the industry thresholds that would require detailed consideration in relation to environmental effects. As set out above, construction vehicle routing will specifically avoid local roads where sensitive receptors may be located. Once built out and operational, the

[27] *An aquifer is an underground store of water within rock. A highly productive aquifer is an aquifer with high storage and high permeability, meaning that water can easily move through the rock.*

[28] *This option would involve the transportation of water sourced off-site, delivered via trucks.*

[29] *Raw water refers to untreated water from natural sources such as rivers, lakes or rainwater.*

Project would generate minimal levels of traffic due to the nature of its use as an Energy Centre and Data Centre Campus, and these movements would be associated with staff and maintenance vehicles.

In comparison to the existing Site uses and the existing flows on the affected roads, the construction and operation is not likely to result in negative impacts on levels of traffic, i.e. there would be no perceptible change in traffic flows, due to the high capacity of the strategic road network.

Proposed Environmental Measures

Measures will be in place to minimise impacts from construction, such as noise, dust and contamination, and will be controlled in line with all necessary regulations and guidance. An outline Construction Traffic Management Plan, to be submitted with the DCO application, will set out both the standard, tried and tested measures, and any bespoke site-specific measures to be adopted to avoid negative impacts to the environment and the local road network. These measures could include restrictions on vehicle routing and timings (to avoid network peak hours and school drop-off/pick-up times), consolidation of trips to minimise the number of vehicles movements, and a daily limit on the number of heavy good vehicles accessing the Site.

The layout of the Project will ensure appropriate vehicular access provisions, including emergency access (see *Figure 5* above). A Travel Plan will be prepared (and submitted with the DCO application) which will promote sustainable transport alternatives to single occupancy car drivers and promote off-peak travel patterns to seek to minimise the number of vehicles on-site.

Further information on this topic will be provided in the DCO application, within the Transport Assessment.

Comparison of Impacts with Power Supply Scenario 2

In terms of traffic impacts, Power Supply Scenario 1 is considered the worst case, as there would be more vehicle trips associated with Power Supply Scenario 1 than Scenario 2, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

THE NATURAL ENVIRONMENT

This section discusses the Project in relation to the natural environment, including ecology and biodiversity, and how air quality modelling has been a key focus of the design development in order to minimise impacts to ecological features in the surrounding area. This section also addresses climate change impacts and mitigation measures, land contamination and disposal of excavated materials.

Ecology and Biodiversity

During the construction of the Project, the following effects may arise in relation to non-statutory ecological receptors[30]:

- Air quality effects associated with construction vehicle emissions and airborne dust;
- Water quality effects such as mobilisation of leachate within the landfill, pollution or chemical spills; and / or
- Changes to surface water systems including drainage.

The primary impact to habitats and plants during construction relates to the direct loss of habitats, particularly within the Main Development Area, given this is the main area of construction. Other potential impacts to plants and habitats during construction include air quality effects resulting from construction traffic and airborne pollutants such as dust, and water quality effects such as mobilisation of leachate within the landfill, sediment pollution or spillages of substances stored on-site, as well as changes to surface water systems within and surrounding the Site.

In terms of animal species present within the Site and surrounding area, loss of habitats is likely to result in the direct loss or displacement of various species which utilise these areas, which in the absence of mitigation, could include harm to animal species. However, rigorous measures, informed both by standard practice and through specialist advice, will be in place throughout the enabling and construction works to minimise negative impacts resulting from habitat loss, and to ensure construction works do not result in the killing of any protected animal species. These measures are set out below in the *Proposed Environmental Measures* section.

Other effects in relation to animal species during construction may relate to noise and vibration impacts, changes to water quality associated with sediment runoff or chemical spills, and lighting changes due to construction lighting.

Once the Project is operational, the main potential impacts on nature conservation designations, habitats, plants and animals relate to air quality impacts associated with the operation of the Energy Centre and the back-up generators of the Data Centre Campus. Nature conservation designations may also be affected by operational traffic emissions where they sit in close proximity to the existing road network. Additional potential impacts to animals include noise, disturbance and lighting effects associated with the operation of the Project.

Proposed Environmental Measures

The Applicant is committed to devising mitigation measures to ensure that effects on ecology and biodiversity are minimised as far as possible, and ecological and biodiversity enhancements are incorporated into the Project proposals to provide ecological benefits.

The Energy Centre and Data Centre Campus are being designed to minimise potential air quality effects at source, which could include Selective Catalytic Reduction (SCR) technology[31] and elevated stack (chimney) heights (as discussed in the *Environmental Considerations of the Project: People and the Community: Air Quality section*, and discussed in the subsequent *Air Quality* section below), with the particular aim of avoiding unacceptable impacts on particularly sensitive sites and habitats, such as conservation sites and ancient woodland.

The Project will retain and provide an appropriate buffer around all long-established habitats within or adjacent to the Site which are not readily re-creatable, namely the ancient woodland adjacent to the northwest of the Site (which will feature a 15m buffer, meaning that no development can take place within 15m of this ancient woodland), and the only 'potential veteran[32]' tree which is also located within the

[30] Non-statutory ecological receptors are local environmental features, habitats, or species populations that lack direct legal protection under national or international statute, but are still recognised for their biodiversity value.

[31] SCR technology is an emissions reduction technology, which converts nitrous oxides into harmless nitrogen and water.

[32] A veteran tree is one that may not be very old, but has significant decay features such as branch death and hollowing, which contribute to its biodiversity, cultural and heritage value.

northwest of the Site, which will also feature a 15m buffer. Other high value habitats will be retained wherever possible.

The excavation of the Main Development Area, as well as the provision of landscaping bunds (mounds), will also help to minimise noise and lighting effects by partially screening the main components of the Project. Measures to minimise lighting effects will be included within a lighting strategy. This will be further reported upon within the Environmental Statement.

There is a possibility that some land within the blue line (but outside of the Site) will be used to compensate for the loss of on-site habitats and deliver ecological enhancements, which will be guided by the Biodiversity Net Gain requirements, as referenced earlier in this report (and the Draft Order Limits may need to be modified for this purpose).

Informed by high-level Biodiversity Net Gain calculations, landscaping proposals currently include the creation of new scrubland, species rich grassland, wet woodland and open mosaic habitats to compensate for on-site habitat losses within the Main Development Area. Other interventions will primarily focus on the enhancement of existing habitats, through consistent long-term management. It is the Applicant's intention to achieve 10% Biodiversity Net Gain on Site.

Mitigation measures additional to those incorporated into the design of the Project to minimise impacts on ecology and biodiversity during construction will be detailed within the Construction Environmental Management Plan, an outline of which will be submitted with the DCO application, and which will include measures to minimise negative impacts on air quality, water quality, lighting, noise and invasive species. This Management Plan will also include protected species mitigation measures, including method statements[33] for badger, bats, reptiles, nesting birds and great crested newt, noting that there is also likely to be a requirement for licensed legal exemption for impacts upon protected species such as great crested newt. Careful handling of soil will be used to minimise the spread of invasive non-native plant species[34] currently within the Site, which will be disposed of in a controlled manner.

Additional mitigation measures to be applied once the Project is operational will be fully detailed in an Operational Environmental Management Plan, an outline of which will be submitted with the DCO application, and will include measures to address air quality, water quality, noise, and lighting impacts. A Habitat Management and Monitoring Plan will be prepared and will detail habitat creation, enhancement, long-term management and invasive species management. This is likely to include monitoring of habitat works over a 30-year period from the point at which the Project becomes operational.

With appropriate mitigation in place, it is expected that overall positive effects can be achieved for habitats and species within the Site through the creation and long-term management and enhancement of ecologically important and diverse habitats.

Further information on this topic will be provided in the DCO application, within the Ecology and Biodiversity chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of ecology and biodiversity impacts, Power Supply Scenario 1 is considered the worst case, as higher emissions levels would be associated with Scenario 1, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Air Quality

Given that the Project includes an Energy Centre (in Power Supply Scenario 1) and features back-up generators for the Data Centre Campus in the event of power supply failure, there will be negative air quality impacts upon the natural environment (i.e. certain sensitive ecological habitats) due to the emissions generated by the Project once operational. There will also be some air quality impacts during the construction, due to the construction machinery and vehicles.

Ecological features are more sensitive to air quality impacts than humans, and therefore air quality modelling has informed development of the Project design. The aim is to avoid unacceptable air quality impacts to protected ecological sites, most

[33] Method statements include detailed measures and methodologies to ensure that impacts to these species are minimised. All works which will directly impact species and their habitats will be carried out under specialised licence by suitably qualified professionals.

[34] Invasive non-native species are species not naturally found in the area, which spread quickly and can cause harm to other species, including humans, and can damage built form.

notably on Burnham Beeches Special Area of Conservation, which is afforded the highest level of legal protection against potential impacts, and is located approximately 1.9km southwest of the Site. Air quality modelling has also focused on potential impacts to ancient woodland in the surrounding area, to ensure that impacts to ancient woodland are managed.

At this current stage of the Project design and the environmental assessment work, the modelling has demonstrated that certain technologies for the Energy Centre (along with a testing regime for the back-up generators for the Data Centre Campus) are capable of remaining below the thresholds for sensitive ecological sites, such as Burnham Beeches and ancient woodland in the area surrounding the Site. This will be kept under review as the Project design progresses and further air quality modelling work is undertaken.

As discussed throughout this report, design work, informed by air quality modelling, is ongoing to establish a balance between (i) the reduction of air quality impacts that would result from increasing the stack heights of the Energy Centre and back-up generators of the Data Centre Campus, and (ii) the reduction of heritage, landscape and visual impacts that would result from reducing these stack heights to mitigate the visibility of the built form of the Project.

Mitigation measures incorporated into the Project design, and measures which will be implemented beyond the design of the Project, are discussed below.

Proposed Environmental Measures

To address potential air quality impacts during enabling and construction works, measures to manage and prevent impacts from construction dust will be included within the outline Construction Environmental Management Plan, which will likely include, but not be limited to, the following potential measures:

- Record all dust and air quality complaints, identify causes, take appropriate measures to minimise emissions and record measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book;
- Undertaking of daily on-site and off-site inspection to monitor dust, record inspection results and making the log;
- Increasing the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions;
- The erection of solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on the Site;
- Avoid site runoff of water or mud;
- Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable;
- Ensuring that all vehicles engines are switched off when stationary;
- Avoid the use of diesel or petrol powered generators to power construction plant / machinery, and use mains electricity or battery powered equipment where practicable;
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction;
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate;
- Use enclosed chutes and conveyors and covered skips;
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and
- Avoid bonfires and burning of waste materials

The use of emissions reduction technology, known as selective catalytic reduction (SCR), is being explored as part of the design, which would help to reduce some nitrogen oxides emissions from the emergency back-up generators of the Data Centre Campus and the Energy Centre engines. However, SCR can also release ammonia to the atmosphere (through a process known as 'ammonia slip[35]'). Both nitrogen oxides and ammonia have the potential for negative impacts at ecological

[35] *Ammonia slip occurs when unreacted ammonia (which is used in SCRs to convert nitrogen oxides into harmless nitrogen and water) escapes into the exhaust, which contributes to air pollution.*

receptors, from increased NOx and ammonia concentrations, from nitrogen deposition and from acid deposition.

The Applicant is currently exploring SCR options for the emergency back-up generators of the Data Centre Campus. The Applicant is also currently exploring Energy Centre options with and without SCR technology applied, to ensure that nitrogen oxides, ammonia, nitrogen deposition and acid deposition impacts are managed.

Further information on this subject will be provided in the DCO application, within the Air Quality and Odours chapter/s of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of air quality impacts in relation to the natural environment (i.e. ecological assets), Power Supply Scenario 1 is considered the worst case, as higher emissions levels would be associated with Scenario 1, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Climate Change

Climate change is considered both in terms of the impact of the Project on climate change through an assessment of its whole life greenhouse gas (GHG) footprint, and the impact of climate change on the Project in terms of its resilience to future changes in climate.

GHG emissions will arise during the construction phase through embodied carbon[36] in construction materials, transportation of goods and personnel, and fuel combustion by plant and machinery. During operation, GHG emissions will primarily be associated with embodied carbon of replacement parts and electricity consumption to power the Data Centre Campus and cooling systems, as well as fuel combustion for energy production within the Energy Centre (under Power Supply Scenario 1) and Data Centre Campus back-up generators (during testing and emergency operation). At this stage, it is anticipated that the principal source of GHG emissions will arise from the operation of the Energy Centre and the production of energy through natural gas combustion.

As set out earlier within this report, capacity and a point of connection to the National Grid for the Project is anticipated to be in place by 2040, at which point the Energy Centre will switch to operating as a peaking plant and its associated emissions will greatly decrease compared to it running continuously to power the Data Centre Campus. In conjunction with this and as part of the UK's transition to net zero by 2050, the UK Hydrogen Strategy[37] sets out a road map to developing the UK's hydrogen economy as a means to reduce carbon emissions. Project Union is an initiative by National Gas to create a hydrogen pipeline network by repurposing existing pipelines and building new pipelines. The Applicant is considering how the Energy Centre can meet the requirements for it to be 'decarbonisation ready' (in accordance with the Environment Agency's permitting requirements) through the ability for it to be fuelled by low carbon gas in the future. The operation of the Energy Centre (under Power Supply Scenario 1) powering the Data Centre Campus is therefore a worst-case and at a transitional point prior to the grid connection being available and/or the conversion of the existing natural gas supply to a cleaner (low carbon) gas supply.

Measures to minimise GHG emissions of the Project have been embedded within the design and are set out below.

Climate Change is anticipated to lead to changes in the future climate, including increased average and extreme temperatures (heatwaves), drought (decreased summer rainfall), increased winter rainfall, and extreme weather events (e.g., storms). The following climate hazards have been identified at this stage:

- Hotter summers: increased magnitude and frequency of heatwaves, increased risk of fires (including wildfires);
- Drier summers: increased magnitude and frequency of drought, increased severity of water shortages and water stress;
- Wetter winters: increased intensity of winter rainfall, increased risk of fluvial, pluvial and groundwater flooding; and
- Winds and storms: increased magnitude and frequency of high winds and storms.

[36] *Embodied carbon refers to the emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure.*

[37] *UK Hydrogen Strategy 2021, accessed here: UK Hydrogen Strategy*

At this stage, no climate resilience constraints have been identified that would prevent the Project coming forward.

The Project is being designed to include measures which will ensure it is resilient to these climate hazards. These measures are set out below.

Proposed Environmental Measures

Environmental measures to minimise GHG emissions during construction include the adoption of a Construction Environmental Management Plan and Site Waste Management Plan, which will likely include, but not be limited to, the following measures to minimise embodied carbon:

- Promoting the procurement of low-carbon, responsibly sourced, and recycled construction materials (e.g. low-carbon concrete and recycled steelwork) where feasible;
- Implementing waste minimisation hierarchies to prioritise reuse and recycling on-site, diverting construction waste from landfill;
- Optimising construction logistics to minimise vehicle movements, including consolidation centres, local sourcing where practical, and encouraging car-sharing or sustainable travel for workforce commuting;
- Ensuring high-efficiency machinery and equipment are utilised on-site, including hybrid or electric, where available;
- Implementing strict anti-idling policies to ensure all vehicle and plant engines are switched off when stationary; and
- Monitoring and reporting fuel and energy use throughout the construction phase against site targets.

Environmental measures to minimise GHG emissions during operation will include measures to minimise embodied carbon, energy and water consumption in use. A key environmental measure of the operational stage is the decarbonisation readiness strategy. While the Project will release GHGs, it will need to meet the UK Government's Net Zero targets by 2050.

Measures to minimise embodied carbon, energy and water consumption will include:

- Maximizing the thermal performance of a building's physical envelope—such as the walls, floors, roof, windows, and doors;
- Low-energy, efficient light fittings, with external lighting featuring daylight sensors and / or presence detectors;
- Waste heat recovery system included within the Energy Centre;
- Air cooling is being considered as part of the cooling solution for the Data Centre Campus, which minimises water consumption;
- Water systems designed in accordance with applicable regulations, with water-efficient fittings and controls specified to minimise potable water consumption;
- Specification of low consumption sanitary fixtures; and
- Water meter connected to Building Management System to allow active consumption monitoring.

A Greenhouse Gas Reduction Strategy will be produced and provided in the DCO application.

Environmental measures relevant for the climate change resilience, to ensure the Project is resilient to future changes during the construction phase include the adoption of a Construction Environmental Management Plan, which will include measures such as a named member of the site management team who will be responsible for monitoring weather forecasts and relevant weather warnings during construction. Where adverse or extreme weather is forecast, the responsible site manager will review planned activities and implement appropriate measures.

Environmental measures relevant for the climate change resilience, to ensure the Project is resilient to future changes during the operation of the Project include:

- The buildings will be constructed to comply with latest regulations and Fire Regulations, which will include well sign-posted and clear fire escape and automatic fire detection, alarm and suppression systems;
- Back-up power supply for the Data Centre Campus will be provided to essential systems, in accordance with Building Regulations, to mitigate against loss of power supply to the buildings during winds and storm;
- Production of a Travel Plan, which will include sustainable transport options and consideration of alternatives to mitigate disruption to travel due to weather events;
- Production of a Sustainable Drainage Strategy, including basins and swales to filtrate, store and transport surface water, to mitigate flooding hazards;

- Rainwater harvesting; and
- Production of an outline Landscape and Ecological Management Plan, to be submitted with the DCO application, to mitigate climate impacts on biodiversity and landscaping.

At the detailed design stage, the design of the Project will consider measures such as:

- The selection of materials and cooling systems designed to a high tolerance to expected extremes of temperature;
- Design of roofs and façades and selection of materials to minimise potential damage from extreme rainfall events;
- Design in accordance with principles that promote thermal comfort and minimise the risk of overheating building users; and
- Design of water cooling systems, as well as water efficient fixtures and fittings installed to manage water consumption during times of water shortage.

Further information on this topic will be provided in the DCO application, within the Climate Change and Greenhouse Gases chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of GHG emissions, Power Supply Scenario 1 is considered the worst case, due to the use of natural gas within the Energy Centre for energy production, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

The Project will face the same climate impacts under both Power Supply Scenario 1 and Scenario 2.

Land Contamination

Without appropriate mitigation in place, potential effects to ground conditions could result from sources of contamination (including the potential presence of chemicals, hazardous materials such as asbestos, ground gases and vapours) reaching humans (including construction workers) via ingestion, skin contact or inhalation of contaminants, ground gas or vapours. This would primarily occur through the excavation works required to reduce the ground level of the Main Development Area, in order to minimise the visibility of the Project. However, as outlined below in the *Proposed Environmental Measures* section, strict controls will be put in place to avoid these impacts.

Construction activities, such as foundation works and installation of below ground services such as cables and pipes could result in the release of contamination within the ground material. Construction works such as piling could also result in the release of harmful ground gases arising from the contents of the ground material. However, as outlined below in the *Proposed Environmental Measures* section, strict controls, such as ground gas monitoring, will be in place to ensure that should harmful gases be detected, appropriate action will be taken to contain and prevent further releases of these gases.

In the absence of controls and mitigation measures, water resources could be affected through contaminants and leachate migrating through soils and groundwater, or through new service pipes / trenches created for the Project. Ecological features could be impacted through contaminated dust, soil or groundwater.

Some ground investigation works have already taken place on the Site to begin determining the composition of the ground, so that any risks associated with the Project in relation to contamination can be understood and mitigated.

Proposed Environmental Measures

The proposals include mitigation measures to ensure the potential risks arising from land contamination are appropriately controlled and remediated, such that they do not present any risks above acceptable thresholds to humans, ecological receptors and water resources, such as groundwater and surface water. These measures include, but are not limited to:

- Further ground investigation works will be undertaken so that the exact extent and composition of the material to be excavated will be known, so that this material can be appropriately handled, treated and disposed of (where necessary);
- A Remediation Strategy will be prepared to ensure the Project does not pose unacceptable risks to humans, the built environment or the natural environment (including ecological features and water resources) and will set out any requirements relating to the on-site treatment of soils (if required) and the off-

site disposal of soils (if required), ground gas / vapour building protection measures;

- An outline Construction Environmental Management Plan will detail mitigation and management measures, such as material management, correct personal protective equipment, the storage of fuels, dust control measures, refuelling techniques;
- All works will be undertaken in line with the environmental permit issued by the Environment Agency; and
- If unidentified contamination is encountered, works in the affected area will be stopped, appropriate investigations will be undertaken, and remediation, if required, will be undertaken prior to works re-commencing.

Further information on this topic will be provided in the DCO application, within the Ground Conditions, Land Contamination and Hydrogeology chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of land contamination impacts, Power Supply Scenario 1 is considered the worst case, due to the increased excavation works required under Scenario 1, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2 are expected to be equal to or less than those impacts reported above.

Disposal of Excavated Materials

At this stage of the design, informed by site investigations undertaken to-date, it is estimated that approximately 430,000 cubic metres (m^3) (out of a total of 794,400m^3 of material to be excavated during the enabling works) will require disposal outside of the Main Development Area to enable the construction of the Project within the Main Development Area. It is envisaged that much of this material can be deposited within the Site (outside of the Main Development Area). Of this material, it is currently expected that 27,500m^3 will be landfill waste. It is anticipated that further site investigations, which will be undertaken prior to commencement of the enabling works, will help to further refine these values, as the composition and location of the material to be excavated will be further investigated.

At this stage of the design, there are a number of options being considered for the excavated material strategy. This includes the following:

- Reuse across the Site as part of the landscaping design (where material is suitable for reuse, i.e. not landfill waste);
- Reuse elsewhere within the Wider Site Area, potentially for use as part of the restoration works;
- Disposal at an off-site landfill (which could include the Veolia-owned Springfield Farm, which is located approximately 5km southwest of the Site), following waste classification;
- Disposal within the existing landfill cells within the Wider Site Area, following waste classification; and
- A hybrid strategy combining some or all of the above options.

The potential for odour impacts to nearby residents as a result of the excavation and movement of these materials, as well as the mitigation measures to minimise potential odour impacts, is discussed in the *Potential Environmental Impacts of the Project: People and the Community: Odours* section further above.

Proposed Environmental Measures

A Remediation Strategy will be prepared prior to the commencement of the enabling and construction works. This will be informed by the ground investigations works to ensure that bespoke measures are in place to appropriately handle, treat, and / or dispose of excavated material, according to its classification, which will be determined through the ground investigation.

An outline Soils and Materials Management Plan, to be submitted with the DCO application, will be produced to document how excavated materials will be appropriately managed according to their waste classification, as described in the section above. This will help to minimise the impact of potential contamination and odour impacts arising from the disposal of excavated materials. Further information on the potential odour impacts arising from the excavation works is provided in the *Potential Environmental Impacts of the Project: People and the Community: Odours*.

Comparison of Impacts with Power Supply Scenario 2

In terms of excavated waste impacts, Power Supply Scenario 1 is considered the worst case, due to the increased excavation works required under Scenario 1, with

the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2, should this be taken forward by the Applicant, are expected to be equal to or less than those impacts reported above.

Surface Water and Groundwater

During enabling and construction works, there is the potential for pollution to impact nearby surface water and groundwater, for example through the spillage or leakage of chemicals, fresh concreate or foul water, which could result in negative impacts to these water resources in the absence of appropriate mitigation. However, there will be strict control measures in place to minimise the risk of pollution incidents, as well as measures to swiftly respond to these events, should they occur. Further information is provided in the *Proposed Environmental Measures* section below.

A Sustainable Drainage Strategy is being developed for the Project which will manage surface water run-off from the site (taking into account the influence of projected climate change) and maximise the capture and re-use of rainwater for use on the Site. Once operational, the Project will result in positive impacts to pollution control in relation to contaminants from the quarry and landfill material compared to the existing Site, as the Project will replace the existing uses of the Site with a controlled, hard surfaced and managed environment, with surface water runoff managed through engineered drainage systems and sustainable drainage systems[38] features, which control flow rates, increase water storage and remove pollutants, therefore reducing the potential for contaminants to reach surface water and groundwater stores.

Once operational, other key potential impacts to water resources such as surface water and groundwater include the potential for pollution incidents in the absence of appropriate mitigation measures. There is the potential for chemical pollution from battery fire to impact surface water and groundwater, should a fire arise, through the use of firefighting water as a suppressant. Measures to minimise impacts to these water sources are provided in the section below. Other pollution incidents may result from faulty equipment, although these are expected to be very infrequent, and the amount of pollutants released to be very minor.

There is also the potential for increased surface water runoff as a result of the increased area of impermeable surface (i.e. paving for roads, car parks, and other built form of the Project). However, this will be managed through a comprehensive drainage strategy, which is discussed further below.

As discussed in the *Ground Conditions, Water Bodies and Flood Risk* section, the Site has a low probability of flooding, and therefore it is not expected that the Project will be subject to flood risk. However, a comprehensive flood risk assessment and drainage strategy will be submitted as part of the DCO application to mitigate any potential for flooding as a result of the increased impermeable surfaces of the Project. These measures are discussed further below.

Proposed Environmental Measures

During the enabling and construction works, a buffer of 10m between proposed construction activities and surface water and drainage features, with the exception of necessary crossings for utilities, access infrastructure and drainage connections, will be provided. These buffers will minimise the potential for chemical pollutants to reach water resources such as groundwater and surface water. Surface water management measures will be implemented during the enabling and construction works. In terms of reducing the impact of chemical pollution, the outline Construction Environmental Management Plan will include details to effectively limit the uncontrolled release of chemicals to very low or none at all. Absorbent spill pads / kits and other measures would also be detailed, to provide measures to respond to these events, should they occur.

As discussed above, a comprehensive surface water and drainage strategy will be prepared for the DCO application, which will detail measures to address surface water runoff. Sustainable drainage systems will be incorporated into the design of the Project to control surface water movements across the Site. These engineered drainage systems will help to further minimise potential contamination impacts by removing pollutants to protect surface water and groundwater. Landscaped areas across the Site will also help to control surface water movement across the Site.

An outline Battery (Fire Safety) Management Plan will be prepared and submitted with the DCO application, which will outline fire prevention, containment and emergency response measures to minimise the potential for surface and groundwater to become contaminated.

[38] *Sustainable drainage systems manage surface water movements by replicating natural water cycles.*

Comparison of Impacts with Power Supply Scenario 2

In terms of impacts to surface water and groundwater, there is not considered to be a material difference between Power Supply Scenario 1 and Power Supply Scenario 2. Power Supply Scenario 1 is considered marginally more worst case due to increased below ground works required (e.g. foundations and piles) which result in less permeable ground area for natural drainage than in Scenario 2. The impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2, should this be taken forward by the Applicant, are expected to be equal to or less than those impacts reported above.

THE HISTORIC ENVIRONMENT AND LANDSCAPE

This section discusses the Project in relation to the historic environment and the landscape setting of the Site, which are interlinked. Consideration of the setting of the Project in relation to the existing landscape setting and in relation to heritage assets has been a key part of how the design has evolved.

Built Heritage

The Project could indirectly affect how nearby heritage receptors are experienced within their surroundings. The Applicant is continuing to develop the scheme design to reduce, minimise and, where possible, avoid these potential indirect effects. Mitigation will remain a key consideration throughout design development, supported by ongoing engagement with Historic England and Buckinghamshire Council's Conservation Officers, including site visits, workshops and dialogue on built heritage matters.

As the Project evolves, it has, and will continue to be, subject to ongoing visual testing, including the preparation of verified visualisations (prepared using industry standard methodology) from a number of viewpoints, including from, and within the setting of, heritage assets, to appraise the potential effects arising from the Project on an asset's significance.

Concerning these potential effects, the DCO application and ongoing design development will utilise qualitative assessments on whether, how and to what degree setting contributes to the significance of relevant heritage receptors. That assessment will be informed by the check-list approach contained in Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017) (hereafter 'GPA3'). Setting is defined in the NPPF (2026) as:

"The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral."

During the construction of the Project, there is potential for heritage assets to experience an effect on their significance. Such effects would be indirect and arise as a result of a change to the receptor's setting. It would be largely limited to visibility of equipment associated with enabling and construction activities, noise and/or vibration. Where appropriate, an assessment of the impacts to individual heritage receptors will be carried out and will take into account the phasing of enabling and construction activities as they relate to different parts of the Site's setting.

When the Project is completed and operational it is likely to give rise to an indirect effect to identified heritage receptors through a change in their setting. The nature and scale of that effect will continue to be scrutinised throughout the design development and engagement process.

Further information on the expected impacts to built heritage assets will be provided in the DCO application within the Built Heritage chapter of the Environmental Statement.

Proposed Environmental Measures

Measures to minimise negative impacts during construction (including the visibility of construction activities, and the experience of associated noise and vibration) will be detailed within an outline Construction Environmental Management Plan, to be submitted with the DCO application.

These measures are likely to include, but will not be limited to, careful control of the height and location of storage of construction materials, the use of hoardings to help minimise the visibility of the construction works, and the use of temporary lighting to control light spillage and pollution. Other measures include those to minimise dust and debris, such as water dampening measures to control dust generation, and wheel washing to prevent debris spilling onto the local road network.

The design of the Project includes the following measures to minimise negative impacts in relation to the setting (and significance) of heritage assets once the Project is complete and operational:

- Lowering of buildings into the ground to reduce their visibility;
- Creation of raised earth embankments and vegetation structures;
- The layout of the Project has balanced considerations of landscape and visibility of the Project from the surrounding locality;
- Balance between reducing the height of stacks (chimneys) to minimise visibility against increasing their height to ensure air quality impacts are below regulatory thresholds;
- Sensitive design of colours and textures of buildings;

- The potential for architectural screening around the Energy Centre, helping to minimise visual impact, which will be directly linked to impacts on a heritage asset's setting;
- The potential for green roofs and walls, again, reducing and mitigating potential visual effects, which will be linked to indirect effects on heritage assets;
- Provision of landscaping to the boundary of the Site, and enhancements to how heritage assets to the east of the Site, including the Knights Templar site, are understood (i.e. through the provision of information boards); and
- Furthermore, the provision of landscaping to the site boundary, particularly to the east, to minimise effects in relation to the listed buildings at Moat Farm and Bulstrode Park.

Further information on this subject will be provided in the DCO application, within the Built Heritage chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of built heritage impacts, Power Supply Scenario 1 is considered the worst case, as the overall visibility of the Project in Scenario 1 would be greater than in Scenario 2, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2, should this be taken forward by the Applicant, are expected to be equal to or less than those impacts reported above.

Landscape

A study area for landscape and visual impacts has been identified using a combination of Zone of Theoretical Visibility (ZTV) mapping, field survey work and technical visualisations. The ZTV is a digital map that identifies where buildings or structures could theoretically be seen from the surrounding landscape. It has been based on the maximum height parameter for the proposed built form and a digital 3D model of the land surface, including buildings, woodland and other trees.

Field survey work has been undertaken to review potential visibility of the Project and to identify a set of representative viewpoints within the ZTV for preparing accurate 'wireline' visualisations of the proposed buildings and structures.

'Wireline' visualisations have been prepared for key viewpoints to inform the assessment. The first visualisation illustrates the potential horizontal and visual extent of built form in each view based on maximum parameters. They set the horizontal and vertical limits for buildings and structures, providing flexibility while the engineering team continues to evaluate the various Energy Centre technology solutions. Separate parameters have been provided for buildings and flues. Long-dashed lines show visible parts of the Project whilst short-dashed lines show where other parts would be filtered or enclosed by intervening trees or landform.

Visualisations have also been prepared for each of the Energy Centre technology solutions. They show how each potential design outcome would appear within the defined maximum visual envelope. Design work will continue with the aim of further reducing the visual impact of the buildings and structures. The visible parts of each technology solution are shown in outline by use of a solid line whilst short-dashed lines show where views of other parts would be filtered or enclosed. The proposed vegetated earth embankments have also been modelled in the views to show the effectiveness of this design measure in enclosing the lower parts of the built form in near distance views.

Separate visualisations have been prepared to show vegetation at Years 1 and 15 after planting. 'Block form' visualisations have also been prepared for near distance views. These incorporate solid tones to better convey the volume, massing and physical presence of the built form. They do not show the articulation, colours or materials of the buildings and structures, which will be considered as the design work evolves. A visualisation has also been created to show the potential horizontal and visual extent of built form in each view based on maximum parameters for the Power Supply Scenario 2.

The maximum parameter visualisations will be used to inform preliminary judgements of the level of landscape impact (e.g. the degree to which views of the proposed buildings and structures will be enclosed or filtered by intervening landform and vegetation or be seen against the skyline). They will be refined as the project develops and engineering design solutions are finalised. The final maximum parameters for the Project will be used to assess potential landscape impacts in the Environmental Statement that will accompany the DCO application.

A set of views can be seen in the materials published as part of the community consultation.

Proposed Environmental Measures

Measures to mitigate the level of impact at the enabling and construction stage will be secured through the Construction Environmental Management Plan and are likely to include:

- Careful control on the height and location of storage heaps for topsoil and other materials;
- Protection of trees / shrubs / hedgerows to be retained;
- Use of plywood hoardings to help enclose construction activities;
- Use of water dampening measures during the enabling and construction processes to help control dust generation;
- Wheel washing for site vehicles prior to leaving the Site so as to avoid unwanted debris spreading;
- Careful disposal of all washings from concrete and cement lorries and from mixing plant;
- Storage of waste materials created during construction in designated areas;
- Control of construction machinery movement; and
- Use of directional temporary lighting to control light pollution.

Operational stage mitigation measures that are likely to include the following:

- Use of excavations to lower buildings into the ground and help reduce built form visibility;
- Creation of new peripheral landforms and vegetation structures that are integrated into the local landscape;
- Sensitive alignment of roads, gas connections and electricity connections in response to landscape, visual, ecological, and arboricultural constraints;
- Minimising the height, scale and massing of buildings and the heights of flues as far as possible, while balancing this with air quality and ecological impacts;
- Consideration of the potential for green roofs and walls;
- Provision of high quality architectural treatments, including sensitive design of colours and textures for building facades, to create a positive contribution to the local landscape; and
- Provision of a more diverse array of vegetation and habitats to enhance wildlife and to build resilience against climate change.

Further information on this subject will be provided in the DCO application, within the Landscape and Visual Impact Assessment chapter of the Environmental Statement.

Comparison of Impacts with Power Supply Scenario 2

In terms of impacts on landscape, Power Supply Scenario 1 is considered the worst case, as the overall visibility of the Project in Scenario 1 would be greater than in Scenario 2, with the impacts described above based on Power Supply Scenario 1. Therefore, impacts arising from Power Supply Scenario 2, should this be taken forward by the Applicant, are expected to be equal to or less than those impacts reported above.

NEXT STEPS FOR THE PROJECT

All plans and information presented during Community Consultation are subject to further design development and refinement, which will continue up to submission of the DCO application.

The project team will have regard to all responses received during the Community Consultation, which will be considered in the design evolution of the Project. Details of the issues raised in responses received during the Community Consultation, and the account taken of those responses, will be included in an engagement summary report to be submitted as part of the DCO application. All documents comprising a DCO application are published on the Planning Inspectorate's website and are available to view once an application has been accepted for examination by the Planning Inspectorate on behalf of the Secretary of State.

Further design development and refinement up to submission will also be informed by ongoing detailed environmental assessments by technical specialists to identify the likely effects arising from the Project, as well as mitigation measures to avoid and minimise the environmental impact of the Project where necessary.

To inform this, engagement with technical stakeholders including, but not limited to, the Environment Agency, Natural England and Historic England is being undertaken alongside this Community Consultation. This will help to resolve key issues with the design, enable stakeholders to offer suggestions as to how the design should be progressed further, and provide the opportunity to discuss approaches to environmental assessment with technical stakeholders, to ensure that proposed methodologies for assessment work have been considered with these technical bodies.

This will be reported on within the Environmental Statement, which will be submitted with the DCO application. The Environmental Statement will be accompanied by a Non-Technical Summary, which will summarise the entire Environmental Statement in non-technical language.

We intend to submit our DCO application to the Planning Inspectorate in Spring 2027 and will provide updates as appropriate.

The timeline below provides an overview of the pre-application process to date and shows the key milestones for the Project – from approximate submission of the DCO application and examination by the Planning Inspectorate, through to the enabling and construction works, completion and operation of the Project.


TRIUM