East Pye Solar

Site Selection Assessment

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1. Introduction

1.1 Background

1.1.1 This Site Selection Assessment (SSA) has been prepared on behalf of East Pye Solar Limited (the 'Applicant') in relation to an application for a Development Consent Order (DCO) (the 'DCO Application') for East Pye Solar (the Scheme), pursuant to the Planning Act 2008 (PA 2008) (Ref 1).

1.1.2 The Scheme comprises the construction, operation and maintenance, and decommissioning of a solar photovoltaic (PV) electricity generating station with a total capacity exceeding 100 megawatts (MW) and associated development including a Battery Energy Storage System (BESS), up to three 132kV Project Substations and up to three 400kV Project Substations, Grid Connection Infrastructure and a new National Grid Substation. The new National Grid Substation and Grid Connection infrastructure will facilitate connection of the Scheme to the Bramford to Norwich Main existing 400kV overhead line which is part of the National Electricity Transmission System (NETS). A full description of the Scheme is included in **Environmental Statement (ES) Volume 1, Chapter 4 - The Scheme [EN0110014/APP/6.1.4]**.

1.1.3 The Scheme would be located within the Order Limits (shown on the **Location Plan [EN0110014/APP/2.1]**) and **Works Plan [EN0110014/APP/2.3]** submitted as part of the DCO Application and secured by Article 3 of the **draft DCO [EN0110014/APP/3.1]**. The Order Limits contain all elements of the Scheme comprising the Solar PV Arrays, 132kV and 400kV Project Substations, the National Grid Substation, the BESS, Grid Connection Infrastructure, interconnecting cables within the Cable Route Corridor (CRC), Mitigation and Enhancement Areas and Highway Works. A description of the Order Limits is provided in the **ES Volume 1, Chapter 3 - The Order Limits [EN0110014/APP/6.1.3]**.

1.1.4 The Order Limits are located entirely within the administrative boundary of South Norfolk Council (SNC) and Norfolk County Council (NCC). The Order Limits comprise ten land parcels referred to as Sites 1 to 10 (with some having associated sub-Sites), and the BESS Site, collectively referred to as the 'Sites'. The Sites would be connected by a Cable Route Corridor (CRC), which together would encompass approximately 1,212.3 hectares (ha) of land within the Order Limits (see **Location Plan [EN0110014/APP/2.1]**).

1.1.5 The Applicant has secured a connection offer to export the electricity produced from the Scheme of 500MW (AC) through a new National Grid Substation. It also allows for the import of 500MW (AC) of electrical energy to be stored in an Energy Storage Facility (for the purposes of the DCO Application, this is assumed to employ battery technology and is therefore

referred to as the BESS). This is set out further in the **Grid Connection Statement [EN0110014/APP/7.12]**.

1.2 Purpose and Structure of this Report

1.2.1 The purpose of the SSA is to evaluate the proposed location of the Scheme against other potential locations, for both the new National Grid Substation and the sites for solar development, taking into consideration a range of planning, environmental, technical, commercial, and operational factors.

1.2.2 The remainder of this report sets out the following:

- Section 2 sets out the relevant national and local planning policy to site selection;
- Section 3 explains the approach to selecting sites and consideration of alternatives for the National Grid Substation;
- Section 4 describes the assessment methodology for the selection of solar sites;
- Section 5 draws out the assessment results for solar sites;
- Section 6 sets out the conclusions of the assessment.

1.2.3 Supporting appendices include:

- Appendix A: Assessment Indicators and Evaluation Criteria
- Appendix B: Figures: Assessment Mapping Results
- Appendix C: Potential Development Area Assessment Results

1.2.4 A list of Figures, that are included within **Appendix B**, is set out in **Table 1.1** below.

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2. Planning Policy on Site Selection

2.1.1 This section summarises the national and local policies relevant to site selection. A full appraisal of the compliance of the Scheme with planning policy is set out in the **Planning Statement [EN110014/APP/7.14]**.

2.2 National Planning Policy

Overarching National Policy Statement for Energy (EN-1)

2.2.1 The Overarching National Policy Statement (NPS) for Energy (EN-1) 2025 (Ref 2Ref 1) sets out the government's policy for the delivery of major energy infrastructure and will be the primary basis for decision making. Paragraphs 3.2.8 – 3.2.10 of EN-1 state that the Secretary of State (SoS) should assess all applications for development consent for the types of infrastructure included by the NPS (including solar) on the basis that there is demonstrated urgent need for them, that substantial weight should be given to this need, and that the SoS is not required to consider the specific contribution of any individual project to be satisfied that need is established.

2.2.2 Paragraph 4.3.9 of EN-1 states that '*as in any planning case, the relevance or otherwise to the decision making process of the existence (or alleged existence) of alternatives to the proposed development is, in the first instance, a matter of law'*. The paragraph references specific requirements in relation to compulsory acquisition. The DCO is seeking compulsory acquisition powers, which is detailed within the **Statement of Reasons [EN0110014/APP/4.1]**.

2.2.3 Paragraph 4.3.10 of EN-1 requires that '*The applicant must provide information proportionate to the scale of the project, ensuring the information is sufficient to meet the requirements of the EIA Regulations*.'

2.2.4 NPS EN-1 confirms that, from a policy perspective, there is no general requirement to consider alternatives or to establish whether a development represents the best option; however, paragraph 4.3.15 of EN-1 states that '*Applicants are obliged to include information about the reasonable alternatives they have studied in their ES. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility*.'

2.2.5 Paragraph 4.3.16 and 4.3.17 of EN-1, states that, *'In some circumstances, the NPSs may impose a policy requirement to consider alternatives… Where there is a policy or legal requirement to consider alternatives, the applicant*

should describe the alternatives considered in compliance with these requirements.'

2.2.6 Paragraph 4.3.22 of EN-1 requires that the Secretary of State should give appropriate weight to the consideration of alternatives. However, the consideration of alternatives should be carried out in a proportionate manner. Furthermore, only the alternatives that meet the objectives of the proposed development should be considered.

2.2.7 Paragraph 4.3.23 of EN-1 states that '*The Secretary of State should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security, climate change, and other environmental benefits) in the same timescale as the proposed development*.'

2.2.8 Paragraph 4.3.24 of EN-1 states that '*The Secretary of State should not refuse an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site and should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals*.'

2.2.9 Paragraph 4.3.26 of EN-1 states that '*if the Secretary of State concludes that a decision to grant consent to a hypothetical alternative proposal would not be in accordance with the policies set out in the relevant NPS, the existence of that alternative is unlikely to be important and relevant to the Secretary of State's decision*.'

2.2.10 Paragraph 4.3.27 of EN-1 requires that any alternatives which mean the necessary development could not proceed, for example as the alternative is not commercially viable, can be excluded because they are not relevant to the SoS's decision.

2.2.11 Paragraph 5.2.7 establishes that projects near a sensitive receptor site for air quality should only be proposed in exceptional circumstances. The Scheme is not within, or in proximity to an AQMA.

2.2.12 Section 5.4 of EN-1 restricts development where it would lead to significant harm to biodiversity or geological conservation interests.

2.2.13 In respect of siting developments within areas of flood risk, paragraphs 5.8.6 to 5.8.12 of NPS EN-1 set out the relevant policy tests. These confirm the need to steer new development to areas at the lowest risk of flooding. Where this cannot be avoided, and there are no reasonable available sites in areas of lower risk, the Sequential Test must be applied to site selection. This test requires a detailed process to consider alternative sites that pose a lower flood risk than the selected site. The Applicant notes that the National Planning Practice Guidance (NPPG) was updated on 17 September 2025 in

relation to the application of the Sequential Test for flood risk (Ref 3). Important changes relevant to the Scheme include:

- Paragraph 027a (Reference ID: 7-027a-20220825) has been updated to further emphasise that the Sequential Test should be applied proportionately, focusing on realistic alternatives in areas of lower flood risk that could meet the same development need. For infrastructure proposals of regional or national importance, the NPPG continues to recognise that this could be split across a number of alternative sites at lower risk of flooding, but has been updated to include clarification that this is only where those alternative sites would be capable of accommodating the development in a way which would still serve its intended market(s) as effectively.

- Paragraph 027 (Reference ID: 7-027-20220825) has been updated in relation to the application of Paragraph 175 of the NPPF, which applies to the use of the Sequential Test for areas known to be at risk now or in the future from any form of flooding. The update confirms that, in applying Paragraph 175, a proportionate approach should be taken. It states: *'Where a site specific flood risk assessment demonstrates clearly that the proposed layout, design, and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risks identified e.g. by the Environment Agency flood risk mapping), without increasing flood risk elsewhere, then the Sequential Test need not be applied'.*

2.2.14 In respect of designated landscapes, paragraphs 5.10.6 and 5.10.7 of NPS EN1 (Ref 2) set out the national policy protection afforded to designated landscapes with: '*National Parks, the Broads and National Landscapes have been confirmed by the government as having the highest status of protection in relation to landscape and natural beauty. Each of these designated areas has specific statutory purposes. Projects should be designed sensitively, given the various siting, operational, and other relevant constraints*.[…]'

National Policy Statement for Renewable Energy Infrastructure (EN-3)

2.2.15 NPS EN-3 for renewable energy infrastructure (Ref 4Ref 3), and NPS EN-5 for electricity networks infrastructure (Ref 5), together with EN-1, are the primary decision-making policy document for the SoS on nationally significant onshore renewable electricity generating stations in England and Wales and nationally significant offshore renewable electricity generating stations in waters in or adjacent to England.

2.2.16 Section 2.3 of EN-3 sets out the factors influencing site selection and design, and Section 2.10 sets out, at paragraphs 2.10.10 – 2.10.64, the factors that are likely to influence the key considerations involved in the siting of a solar

farm. These include irradiance and site topography, availability of grid connection, proximity of a site to dwellings, agriculture land classification and land type, accessibility, and capacity of a site.

2.2.17 Paragraph 2.10.12 of EN-3 states: '*In order to maximise irradiance, applicants may choose a site and design its layout with variable and diverse panel types and aspects, and panel arrays may also follow the movement of the sun in order to further maximise the solar resource*.'

2.2.18 The availability of a grid connection point with capacity is recognised as being an important consideration in terms of project viability and site selection. Paragraphs 2.10.14 – 2.10.16 of EN-3 state: '*Many solar farms are connected into the local distribution network. The capacity of the local grid network to accept the likely output from a proposed solar farm is critical to the technical and commercial feasibility of a development proposal. Larger developments may seek connection to the transmission network if there is available network capacity and/or supportive infrastructure. In either case the connection voltage, availability of network capacity, and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal*.'

2.2.19 Paragraphs 2.10.17 – 2.10.18 of EN-3 state: '*To maximise existing grid infrastructure, minimise disruption to existing local community infrastructure or biodiversity and reduce overall costs, applicants may choose a site based on nearby available grid export capacity. Where this is the case, applicants should consider the cumulative impacts of situating a solar farm in proximity to other energy-generating stations and infrastructure*.'

2.2.20 In terms of agricultural land classification and land type, paragraph 2.10.21 states: '*While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land avoiding the use of 'Best and Most Versatile' agricultural land where possible. 'Best and Most Versatile agricultural land is defined as land in grades 1, 2 and 3a of the Agricultural Land Classification.'*

2.2.21 Paragraph 2.10.22 of EN-3 states: '*Whilst the development of ground-mounted solar arrays is not prohibited on Best and Most Versatile agricultural land, or sites designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered and are discussed under paragraphs 2.10.67 – 84 and 2.10.99 – 2.10.118.*'

2.2.22 Paragraph 2.10.23 of EN-3 requires the Applicant to '*explain their choice of site, noting the preference for development to be on suitable brownfield, industrial and low and medium grade agricultural land*'.

2.2.23 Paragraph 2.3.23 of EN-3 states '*Where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, onshore wind generation, storage, hydrogen electrolysers) to maximise the efficiency of land use.'*

2.2.24 Paragraphs 2.10.27 - 2.10.40 of EN-3 requires the Applicant to consider accessibility, Public Rights of Way (PRoW), security, and lighting when considering the site.

2.2.25 NPS EN-3 sets out the factors influencing site selection and design for the SoS to consider for decision making. Paragraph 2.10.137 states that '*The Secretary of State should take into account the economic and other benefits of the best and most versatile agricultural land. The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources*.'

National Policy Statement for Electricity Networks infrastructure (EN-5)

2.2.26 NPS EN-5 (Ref 5Ref 5) sets out, in Section 2.2, the factors influencing site selection and design, the initiating and terminating points or development zone of new electricity network infrastructure. Paragraph 2.2.2 states that the '*siting is determined by: the location of new generating stations or other infrastructure requiring connection to the network, and/or system capacity and resilience requirements determined by the NESO*.'

2.2.27 NPS EN-5 includes the following relevant policies on alternatives at paragraphs 2.2.7 – 2.2.9 which state: '*The connection between the initiating and terminating points of a proposed new electricity line will often not be via the most direct route. Siting constraints such as engineering, environmental, or community considerations will be important in determining a feasible route. There will usually be a degree of flexibility in the location of the development's associated infrastructure such as substations, and applicants should consider carefully their location, as well as their design. In particular, the applicant should consider such characteristics as the local topography, the possibilities for screening of the infrastructure and/or other options to mitigate any impacts.*'

2.2.28 Paragraph 2.10.5 of NPS EN-5 sets out that in addition to good design in accordance with the Holford and Horlock rules, and the consideration of undergrounding or rerouting the line where possible, the principal opportunities for mitigating adverse landscape and visual impacts of electricity networks infrastructure are consideration of network reinforcement options (where alternatives exist) which may allow improvements and/or extensions to an existing line rather than the building of an entirely new line; selection of the most suitable type and design of support structure in order to minimise the overall visual impact on the landscape. In particular, ensuring

that towers are of the smallest possible footprint and internal volume; and the rationalisation, reconfiguration, and/or undergrounding of existing electricity networks infrastructure in the vicinity of the proposed development.

2.2.29 Paragraph 2.11.2 of NPS EN-5 states that the Secretary of State should be satisfied that the development, so far as is reasonably possible, complies with the Holford and Horlock Rules.

National Planning Policy Framework (NPPF)

2.2.30 Paragraph 193 of the National Planning Policy Framework (published 12 December 2024, last updated February 2025) (Ref 7) sets out that:

'When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'

2.3 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations')

2.3.1 Regulation 14(2)(d) of the EIA Regulations (Ref 7) requires that '*a description of the reasonable alternatives studied by the applicant, which are*

relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment' be presented in the ES. In compliance with the EIA Regulations, the alternatives considered by the Applicant have been described in **ES Volume 1, Chapter 5: Reasonable Alternatives and Design Evolution [EN0110014/APP/6.1.5]**.

2.4 Local Planning Policy

2.4.1 Policy DM 4.1 Renewable Energy of the South Norfolk Local Plan Development Management Policies Document ('DMPD') (October 2015) (Ref 8), states that proposals for renewable energy generating development will be supported and considered in the '*context of sustainable development and climate change on the wider environmental, social and economic benefits of maximising use of renewable energy*.' The policy further states that:

'the effect of the proposal will be considered on

a) The effect on the character and appearance of the landscape;

b) Designated and undesignated heritage assets;

c) The amenities and living conditions of nearby residents by way of noise, outlook, and overbearing effect or unacceptable risk to health or amenity by way of other pollutants such as dust and odour.'

2.4.2 Policy DM 4.5 of the DMPD, Landscape Character and River Valleys states *'All development should respect, conserve and where possible, enhance the landscape character of its immediate and wider environment. Development proposals that would cause significant adverse impact on the distinctive landscape characteristics of an area will be refused. All development proposals will be expected to demonstrate how they have taken the following elements (from the 2001 South Norfolk Landscape Assessment as updated by the 2012 review) into account…. • The key characteristics, assets, sensitivities and vulnerabilities; • The landscape strategy; and • Development considerations…… Particular regard will be had to protecting the distinctive characteristics, special qualities and geographical extents of the identified Rural River Valleys and Valley Urban Fringe landscape character types.'*

3. National Grid Substation Site Assessment

3.1.1 This section sets out the background, methodology, and approach to the site selection and assessment process for the proposed new National Grid Substation.

3.1.2 The National Grid Substation siting assessment approach is based on 'The National Grid Company plc's NGC Substation and the Environment: Guidelines on Siting and Design' (the 'Horlock Rules') (Ref 9) which explains the approach taken towards the transmission system of electricity for England to assist those parties responsible for design and locating substations.

3.2 Network Capacity

3.2.1 As set out within Section 2 of NPS EN-3, paragraphs 2.10.13-2.10.18 establish that the starting point for a site selection process is the availability of a nearby and suitable connection to the transmission network.

3.2.2 NPS EN-3 states, at 2.10.14: '*the capacity of the local grid network to accept the likely output from a proposed solar farm is critical to the technical and commercial feasibility of a development proposal*'.

3.2.3 The Applicant engaged with National Grid Company (National Grid Electricity Transmission (NGET), the Transmission Operator) in 2022 to discuss available capacity within its transmission network in the Norfolk area for integrating a utility-scale solar project generating 500MW. The reasons why Norfolk was considered as a suitable area for solar development are set out in **Section 4** of this SSA.

3.2.4 The Applicant initially considered a Point of Connection (PoC) at the existing Norwich Main Substation; and commenced their search for solar sites in parallel. As set out in Sections 4 and 5 of this SSA, it was established that there were landowners willing to lease their land for solar development that could potentially connect to a PoC at the Norwich Main Substation. However, subsequently, NGET advised that there was neither sufficient existing capacity at the Norwich Main Substation nor an opportunity to expand this existing substation to accommodate a 500MW solar project. Given this, the Norwich Main Substation was discounted as a viable PoC.

3.2.5 As established in the **Statement of Need** [**EN0110014/APP/7.11]**, connection to the electricity network is a key constraint to many schemes given the lack of available connection points. Existing transmission cables with spare capacity provide an opportunity to connect new schemes into the NETS earlier than would be possible at existing points of connection. Therefore, new substations are required to make efficient use of existing infrastructure.

3.2.6 NGET confirmed a new substation would be required in order to connect the Scheme to the grid. Through these discussions, available capacity along the Bramford to Norwich 400kV overhead line was identified by National Grid in Norfolk between Norwich and Diss. This existing part of the NETS has sufficient available capacity to transmit the energy the Scheme will generate to consumers nationally as well as into local distribution networks, and benefits from being located away from areas of the NETS which are currently experiencing flow constraints and generation curtailment.

3.2.7 As set out within the **Statement of Need** [**EN0110014/APP/7.11]**, connecting into a high voltage electricity network reduces transmission losses, making the flow of energy over long distances more efficient and allowing for the reliable distribution of electricity to users in the country while also having the capacity to connect new large-scale generation facilities and transmit their output for national benefit. Lower voltage distribution networks are designed to transmit power to consumers as opposed to connecting significant capacities of energy generation, and are often located in built up areas where there are more likely to be geographical and technical constraints and away from areas of natural resource potential.

3.2.8 As per the **Grid Connection Statement [EN0110014/APP/7.12]**, the Applicant submitted a grid application to the National Energy System Operator (NESO), the system operator of the National Electricity Transmission System (NETS) to connect the Scheme into the NETS existing transmission line via a new National Grid Substation.

3.2.9 A grid connection offer was subsequently received in October 2022 from NESO, working with NGET, which contracted the Applicant to provide the land and to gain consent for the proposed new National Grid Substation, which was accepted by the Applicant. The Grid Connection Agreement sets out the need for a 'New Long Stratton 400kV Substation' and allows the Applicant to export up to 500MW of electricity through the new National Grid Substation and import up to 500MW to be stored in the BESS. The solar component of the Scheme received a Gate 2 Phase 2 (between 2031 and 2035 inclusive) prioritisation in December 2025 and would therefore support the government's ambitions to rapidly deploy low carbon electricity generation at scale and meet future electricity demand growth.

3.3 National Grid Company's approach to design and siting of substations

3.3.1 As established by NPS EN-5 (Ref 5), applicants should consider the Holford and Horlock rules, guidance published by National Grid for the routeing and siting of new substations and energy transmission infrastructure.

Horlock Rules

3.3.2 National Grid's site selection assessment approach for identifying locations for new substations is informed by the National Grid Company plc's (NGC) Substation and the Environment: Guidelines on Siting and Design document (Ref 9) (also known as the 'Horlock Rules'). It assists parties responsible for designing and locating substations in mitigating the environmental effects of such developments and meeting the NGC's environmental policy.

3.3.3 NGC's environmental policy emphasises the importance of protecting and improving the environment by considering the impact of all its actions. The company aims to minimise adverse environmental effects and, in line with the Electricity Act (Schedule 9), take steps to preserve amenity and mitigate the impacts of its proposals. This approach is put into practice through guidelines (Section III of the Horlock Rules), which address the amenity issues associated with the siting and design of new substations and major extensions or modifications to existing substations.

3.3.4 The NGC guidelines make clear that consideration must be given to environmental issues from the earliest stage to balance the technical benefits and capital cost requirements for new developments against the consequential environmental effects in order to keep adverse effects to a reasonably practicable minimum.

Holford Rules

3.3.5 National Grid provide guidelines on the routeing of high voltage overhead lines known as the 'Holford Rules' (Ref 11Ref 11). As set out in Paragraph 2.9.17 of NPS EN-5, the Holford Rules state that applicants should:

- '*Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the line in the first place, even if total mileage is somewhat increased in consequence;*
- *Avoid smaller areas of high amenity value or scientific interest by deviation, provided this can be done without using too many angle towers, i.e. the bigger structures which are used when lines change direction;*
- *Other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers;*
- *Choose tree and hill backgrounds in preference to sky backgrounds wherever possible. When a line has to cross a ridge, secure this opaque background as long as possible, cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees;*

- *Prefer moderately open valleys with medium or moderate levels of tree cover where the apparent height of towers will be reduced, and views of the line will be broken by trees;*

- *Where country is flat and sparsely planted, and unless specifically preferred otherwise by relevant stakeholders, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concentration of lines or 'wirescape'; and*

- *Approach urban areas through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, carefully assess the comparative costs of undergrounding*.'

3.4 Methodology for the proposed siting of a National Grid Substation

3.4.1 In light of discussions with NGET, the Applicant focused on identifying a site along the Bramford to Norwich 400kV line between Diss and Norwich that was appropriate and available for a new National Grid Substation.

3.4.2 In undertaking this research, a desk-based review of planning and environmental constraints was undertaken with a preference for a location close to or on the Bramford to Norwich 400kV line. Proximity to the overhead line is important to minimise effects from routing grid connection infrastructure.

3.4.3 As set out above and, at the same time as the Applicant was exploring the possibility of using the Norwich Main Substation as a PoC, a search was undertaken for sites suitable for solar from this PoC. At 2.10.17, NPS EN-3 states: '*to maximise existing grid infrastructure, minimise disruption to existing local community infrastructure or biodiversity and reduce overall costs, applicants may choose a site based on nearby available grid export capacity*'. Therefore, a location for a new National Grid Substation along the 400kV overhead line was preferred to be in proximity to these identified solar sites, given that they had already been identified as suitable, a willing landowner had been established, and they were assessed to be suitable against the criteria of NPS EN-3.

3.4.4 An important consideration for the location of the National Grid Substation is the capacity of transport infrastructure and accessibility to the PoC for Abnormal Indivisible Loads (AIL) for the delivery of transformers and other equipment associated with a substation. Proximity to A roads such as the A140 and B roads were considered to be preferable for access into the Strategic Road Network (SRN). Access, and the proximity to A and B roads were important considerations to reduce the extent of highway upgrades and/or the need to lengthen new permanent access tracks to a new National

Grid Substation from the public highway, thereby minimising construction impacts and capital costs associated with new infrastructure.

3.4.5 The proximity to the 400kV overhead line was further important to reduce the length of any potential diversion of the existing overhead line into a new National Grid Substation, thereby minimising construction impacts and capital costs associated with new infrastructure.

3.4.6 Following the identification of potential siting zones from desktop analysis of routing options, each siting zone is reviewed against the guidelines within Section III of the Horlock Rules. The siting of new National Grid substations, and line entries should, as far as reasonably practicable, seek to avoid internationally and nationally designated areas of the highest amenity, cultural, or scientific value through the overall planning of the system connections. The following guidelines are to be applied:

- To avoid internationally and nationally designated areas of highest amenity, cultural or scientific value, e.g. Ramsar sites, Site of Special Scientific Interest (SSSI), and National Landscapes;
- Care should be taken in relation to all historic sites with statutory protection, e.g. Ancient Monuments, Battlefields and Listed Buildings;
- Account should be taken of the Government Planning Policy Guidance and established codes of practice;
- Account should be taken of any development plan policies relevant to the siting or design of substations;
- Areas of local amenity value, important existing habitats and landscape features, such as ancient woodland, historic hedgerows, surface and ground water sources and nature conservation areas, should be protected as far as reasonably practicable;
- The siting of substations, extensions and associated proposals should take advantage of the screening provided by land form and existing features and the potential use of site layout and levels to keep intrusion into surrounding areas to a reasonably practicable minimum; and
- The proposals should keep the visual, noise and other environmental effects to a reasonably practicable minimum. The land use effects of the proposal should be considered when planning the siting of substations or extensions.

3.5 Desktop Analysis for the Proposed Siting of the National Grid Substation

Initial Substation Options

3.5.1 Based on the methodology set out in Section 3.4, the Applicant undertook a desktop assessment to identify potential siting zones for a new National Grid Substation along the Bramford to Norwich 400kV line.

3.5.2 The SRN within the wider surrounding area was considered, comprising of the A47 to the north, the A11 to the west, A1066 and A143 to the south. Of the roads within proximity to the Bramford to Norwich overhead line (north of Diss), the A140 connects to the A47 north of Ipswich Road, and the B1113 connects into the A140 north of the A47 Ipswich Road Interchange.

3.5.3 Consideration of proximity to the Bramford to Norwich 400KV line and the A140, which were potentially appropriate for accommodating a new National Grid Substation, led to the identification of three reasonable alternative site options, as shown on **Insert 1** below:

- Option 1 – land to the northwest of Station Road, adjacent to the east of the Great Eastern Main Line, to the south of Newton Flotman;
- Option 2 – within 600m north of Tharston, on land south of Long Lane; and
- Option 3 – land south of Station Road, within 700m west of Long Stratton and 220m east of the Great Eastern Main Line.

Insert 1: Initial Potential National Grid Substation site Options

3.5.4 Consideration was given to transport and accessibility issues in respect of the initial three site options. Site visits were undertaken to consider the physical and environmental constraints along each route. Finally, swept path analysis was undertaken along the preferred routes in each direction for an articulated Heavy Goods Vehicle (HGV). A desk-based review was undertaken of the sites against the Horlock / Holford rules as described above.

3.5.5 The Applicant has used a RAG approach to determine the suitability of each site option in **Table 3.1**:

- Red – The site is completely within or covered by the designation or constraint, e.g. the site is entirely within a National Landscape;
- Amber – The site is partly within or covered by the designation or constraint, e.g. the site is partly covered by Flood Zones 2 and 3; or
- Green – The site is outside of the designation or constraint, e.g. an Ancient Monuments site is not located within the site.

Option 1 – Newton Flotman

3.5.6 Taking into account the physical characteristics of the roads, the siting zones near Newton Flotman and Long Stratton were initially considered to be the most feasible options.

3.5.7 The preferred route for Option 1 was via the A140 and Flordon Road, which would involve passing through the residential area of Newton Flotman along a narrow road with on-street parking and crossed by overhead wires.

3.5.8 The swept path analysis indicated that there are narrow points in the road where two 16.5m articulated lorries would not be able to pass each other, which would require mitigation measures to be explored along a relatively long stretch of narrow road.

3.5.9 As set out in **Table 3.1**, sensitive designated heritage receptors comprising the Rainthorpe Hall Grade II Registered Park and Garden located adjacent to the east of Option 1, as well as Grade I Listed Rainthorpe Hall and Grade II Listed Hall Farmhouse located approximately 350m to the east, which would potentially require extensive consideration within the design of landscape screening and traffic routing options.

Option 2 – Tharston / Tasburgh

3.5.10 The preferred route for Option 2 was via the A140 and then Bungay Road and Long Lane. While the A140 and Bungay Road are suitable for HGVs, Long Lane, and all roads providing access to Option 2 are narrow country lanes which would be difficult for 16.5m articulated lorries to access.

3.5.11 The physical constraints of Long Lane meant that accessing Tasburgh would be challenging, and it was considered that there was not land within the highway boundary to enable widening to provide passing places. Therefore, Option 2 would likely only be feasible were third party land acquired (either voluntarily or by the use of compulsory acquisition powers in a DCO).

Option 3 – Long Stratton

3.5.12 The preferred route for Option 3 was via the A140 and Swan Lane which avoids the railway and the use of lower standard, narrow roads west of the railway. However, this route passed through Long Stratton which includes sensitive receptors such as a primary and secondary school, emergency fire station. The roads were further identified as having speed bumps, and tight bends.

3.5.13 The swept path analysis showed that there are sections of the road where two HGVs would not be able to pass each other, although good forwards visibility would allow the HGV to slow down to allow each other to pass at a wider section, and therefore it was considered that the HGVs could be safely managed through a Construction Traffic Management Plan.

3.5.14 As was the case for Option 1 - Newton Flotman, the physical characteristics of the roads to Long Stratton were considered feasible. The swept path analysis favoured Long Stratton, with the route having fewer 'pinch points' relating to the ability for HGVs to pass each other, compared to the location at Newton Flotman. However, the location of Option 3 was also adjacent and to the east of sensitive visual receptors comprising residential dwellings at Hunts Mead. Alternative routing options via the B1113 would pass through the residential areas associated with Forncett St Peter and Forncett End.

Table 3.1: Desktop analysis for the three initial National Grid Substation options

Considerations	Option 1 – Newton Flotman	Option 2 – Tharston / Tasburgh	Option 3 – Long Stratton
Internationally and nationally designated areas	No ecological designations within the siting zone or in proximity. The closest is a SSSI / SAC 1.3km south west There are no statutory landscape designations covering the site.	No ecological designations within the siting zone or in proximity. The closest is a SSSI / SAC 1.4km to the north. There are no statutory landscape designations covering the site.	No ecological designations within the siting zone or in proximity. The closest is a SSSI 875m west. There are no statutory landscape designations covering the site.
Areas of local amenity value	No designated heritage assets are located within the siting zone. However, Rainthorpe Hall Registered Parks and Gardens is adjacent to the east on the other side of Station Road / Flordon Road, as well as Hall Farmhouse Grade II Listed Building and Grade I Listed Rainthorpe Hall and Garden is located 350m south east. The siting zone is not within a Conservation Area. The nearest is Shotesham Conservation Area 1.2km north east. Not located within a Local Wildlife Site or County Wildlife Site. The closest LWS is 1.2km to the north east. Includes pockets of deciduous woodland on Priority Habitats.	No designated heritage assets are located within the siting zone. The nearest heritage assets are two Grade II listed buildings along The Street 360m to the north and a cluster of five Grade II listed buildings along The Street to the south. A farm drain runs through the south of the siting zone, and there is a small pond in the north. Not located within a Local Wildlife Site or County Wildlife Site. The siting zone is adjacent to the south of, but not within, the Rural River Valleys of SNC's Development Management Policies Document (Policy DM4.5	No designated heritage assets are located within the siting zone. Beresford Grade II Listed Building is located within 100m to the west. The siting zone is not within a Conservation Area. However, Forncett Conservation Area lies 980m to the west. No watercourses, ancient woodland, parcels of woodland. Not located within a Local Wildlife Site or County Wildlife Site Adjacent to the east of 2014/0290 Committed site (see policy DM1.5 of the SNC Local Plan) and within a Hazardous Installation Consultation Zone. The siting zone lies outside of the Rural

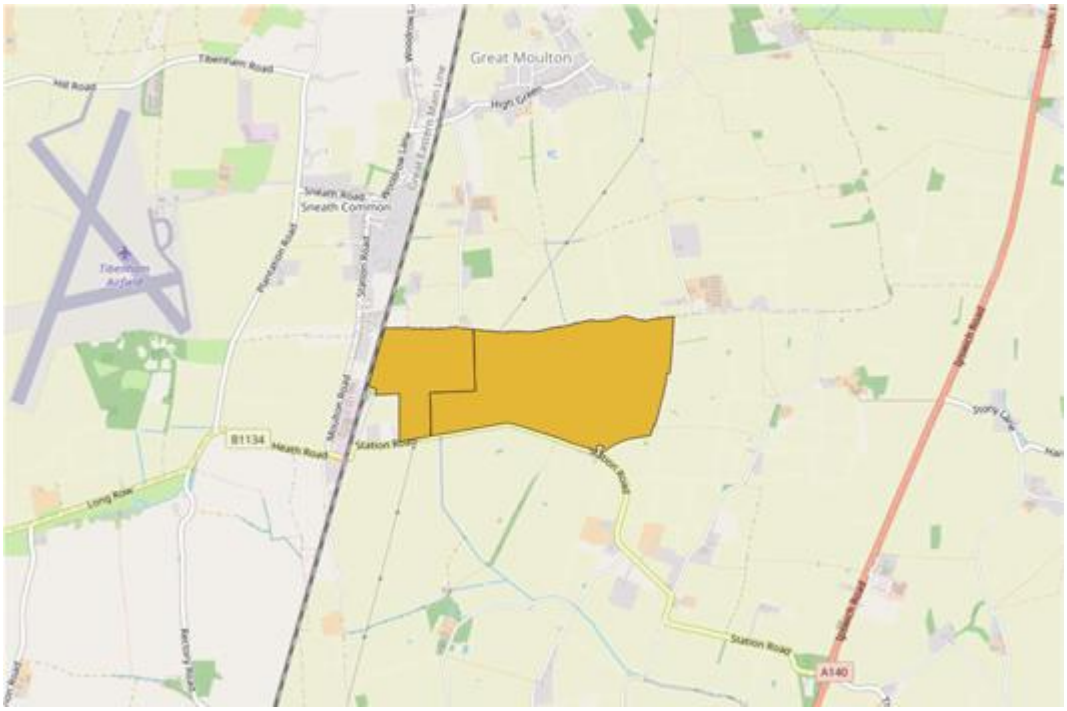
Considerations	Option 1 – Newton Flotman	Option 2 – Tharston / Tasburgh	Option 3 – Long Stratton
	No ancient woodland within the siting zone. The siting zone is adjacent to, but not within, the Rural River Valleys of SNC's Development Management Policies Document (Policy DM4.5)		River Valleys of SNC's Development Management Policies Document (Policy DM4.5).
Screening provided by landform and existing features	Field boundaries are sparsely bordered by hedgerows and hedgerow trees. Two parcels of woodland are located within the siting zone Station Road / Flordon Road are lined by hedgerows and hedgerow trees.	Sparse hedgerows along field boundaries. Low hedgerows along Greenway Lane to the west with a few hedgerow trees. Dense hedgerow, trees, and natural screening along Long Lane.	Western boundary adjacent to dwellings has strong line of hedgerows and hedgerow trees. Southern boundary bordered by hedgerow and small strip of woodland. Sparse trees along northern boundary between the site and Station Road
Visual, noise, and other environmental	Residences associated with Newton Flotman along Flordon Road adjacent to the north east of the site, next to the woodland parcel. Dwellings under construction on the southern edge of Newton Flotman approximately 400m north of the site. Village hall and playing field 600m to the north. Not located within Flood Zone 2 or 3.	Dwellings and farmhouses along Parkes Lane, the nearest being 150m to the east of the site. Farmhouses and dwellings along The Street 325m to the north. Not located within Flood Zone 2 or 3.	Settlement around Hunts Mead adjacent to the west of the site. Not located within Flood Zone 2 or 3.
Land use **Grade 1 – Red** **Grade 2-3 – Amber** **Grade 4 – Green**	The entire site is undefined Grade 3 land according to the Provisional Agricultural Land Classification.	The entire site is undefined Grade 3 land according to the Provisional Agricultural Land Classification.	The entire site is undefined Grade 3 land according to the Provisional Agricultural Land Classification.

3.5.15 It was concluded that the Tharston / Tasburgh Site was least preferable due to highway and land constraints. Whilst Newton Flotman and Long Stratton were initially considered feasible options, accessibility constraints and

proximity to, and routing through residential areas, and proximity to heritage assets, meant that they were dismissed.

Consideration of additional sites: Option 4 Great Moulton

3.5.16 A new location for a National Grid Substation was considered to the south of Great Moulton, off Station Road based on its location directly beneath the Bramford to Norwich 400kV line and adjacent to the B1134 Station Road, as shown on **Insert 2**.



Insert 2: National Grid Substation Option 4 site, Great Moulton

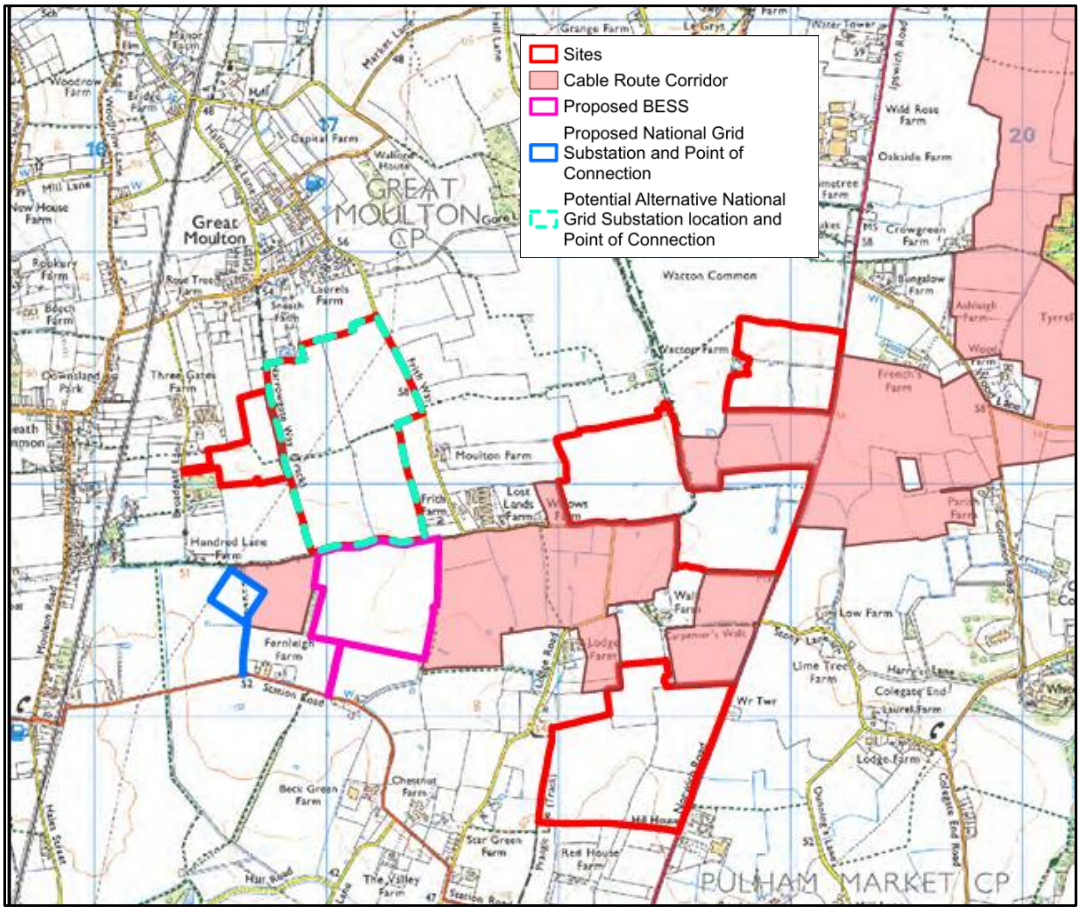
3.5.17 A desktop review was undertaken to assess the potential vehicular routes from this location and to determine the key physical and environmental constraints.

3.5.18 The roads in the vicinity of this location connect into the SRN including the A140. Station Road (B1134), leading from the A140 to the Option 4 site has clear markings along the route to the site boundary and caters for two-way traffic, although there are points where the lanes narrow and HGVs would need to approach with caution, the forward visibility is good for the majority of the route. The preferred route does not pass any major residential areas along the B1134. Several individual dwellings are located along the route, and three footpaths and one bridleway connect into the road. The road is crossed by two overhead lines which would potentially need to be raised depending on vehicular height, and three bends in the road were identified as potentially being tight.

3.5.19 It was concluded that the location presented a viable route, with minimal physical, social, or environmental constraints, and with the appropriate highway visibility and potential to accommodate AIL.

3.5.20 An area within this location was taken forwards as a potential site and presented within the **EIA Scoping Report** (**EN0110014/APP/6.3.2.1**) as the 'Proposed National Grid Substation and Point of Connection', outlined in dark blue in **Insert 3** below.

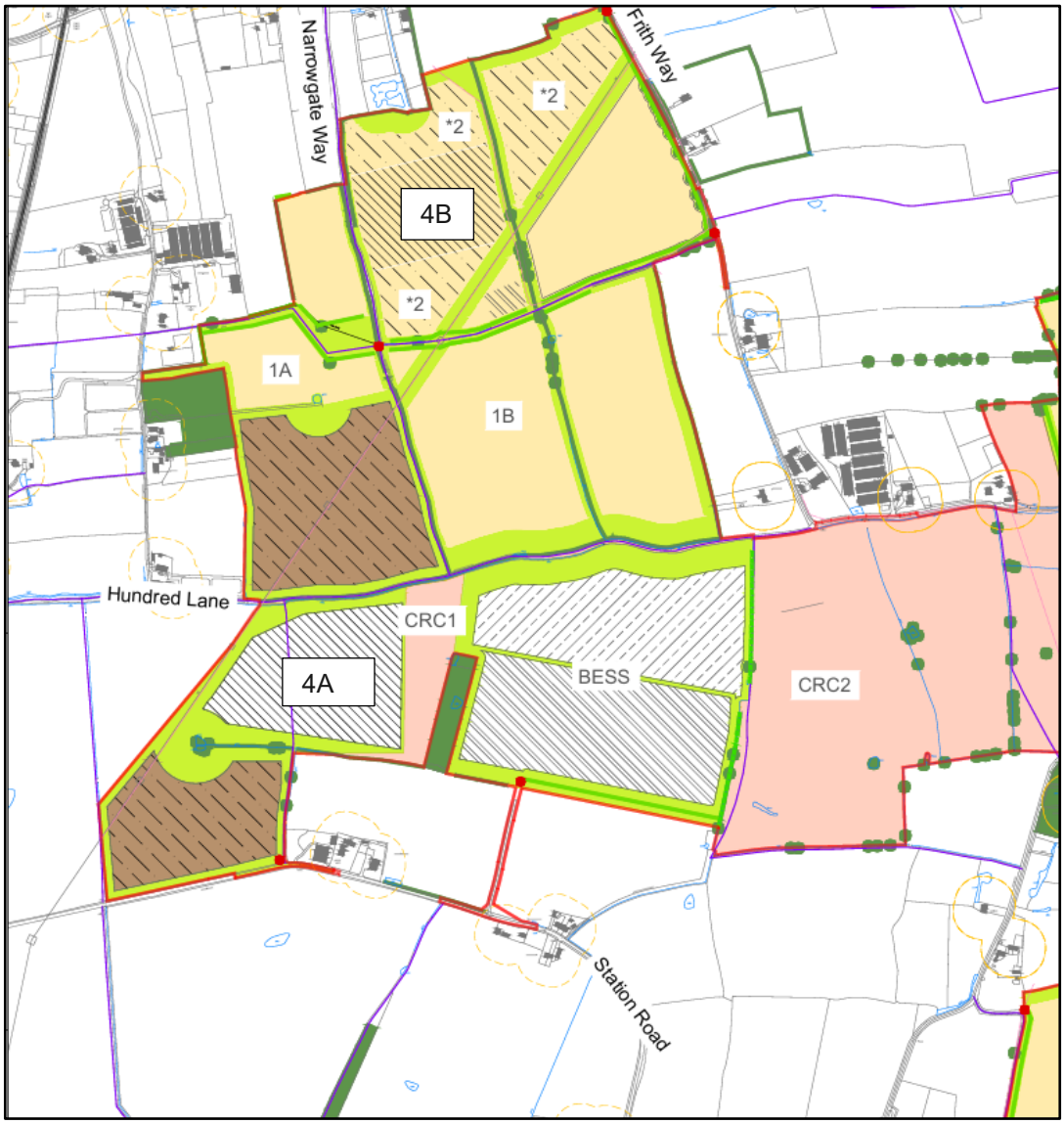
3.5.21 A planning application for a solar project (ref. 2024/3817) at land to the north of Station Road (now approved as of June 2025), overlapped with the Option 4 site. An alternative area was therefore also under consideration situated immediately to the north-east, beneath the Bramford to Norwich 400KV overhead line within part of sub-Site 1B, as outlined in light blue dashed lines on the insert below ('Potential Alternative National Grid Substation location and Point of Connection').



Insert 3: Extract of Figure 1.1 Scoping Boundary from the EIA Scoping Report

3.5.22 These two options were refined and presented within the Preliminary Environmental Information Report ('PEIR'), at the Statutory Consultation Stage in Figure 5.1 Indicative Masterplan Sheet 1 (see extract in **Insert 4** below). The potential National Grid Substation site to the south of Hundred

Lane is referred to in this SSA as Option 4A, and the site within sub-Site 1B is referred to as Option 4B (as annotated on the insert below).



Insert 4: Extract from Figure 5.1 Indicative Masterplan Sheet 1 of PEIR, showing Substation options to the south of Great Moulton

3.5.23 The potential access options for both options were considered within the PEIR to be the following:

- Access to Option 4A would be from the A140 / B1134 roundabout, westbound on the B1134 Station Road, and northbound on an agricultural access track;
- Access to Option 4B would be from internal access via the BESS site from the A140 / B1134 roundabout, westbound on the B1134 Station Road, and northbound on Lodge Road and Frith Way.

3.5.24 **Table 3.2** below presents the same RAG rating of the suitability of each site based on a desk-based review against the Horlock / Holford rules as described in **Section 3.4**.

3.5.25 In line with the Holford and Horlock rules, works in connection with the existing 400kV overhead line and the National Grid Substation would not be located within internationally or nationally designated areas of the highest amenity. Whilst part of the Scheme is located within the extent of the Rural River Valley defined in SNC's Development Management Policies Document (Policy DM4.5), the National Grid Substation and the works in connection of the existing 400kV overhead line would be located outside the extent of the Rural River Valley policy area.

3.5.26 The grid connection infrastructure connecting the National Grid Substation to the 400kV overhead line would not be routed through any residential settlement. Based on an initial desk-based assessment of the natural screening from hedgerows and trees within the surrounding area, it was considered that the visual impact of the grid connection infrastructure could be reduced for both Option 4A and 4B, and the existing boundary vegetation in the north western part of Sub-Site 1B would provide a level of screening from residential dwellings associated with Great Moulton.

3.5.27 By choosing a PoC in proximity to the existing overhead line, the Applicant has sought to limit the extent of overhead line diversion, thereby reducing the potential environmental and landscape impacts from routing lines in proximity to areas of amenity value and settlements in line with the Holford Rules set out in Paragraph 2.9.17 of NPS EN-5.

Table 3.2: Comparison of the National Grid Substations Options 4a and 4b

Considerations	Option 4a – Great Moulton	Option 4b – Great Moulton
Internationally and nationally designated areas	There are no statutory landscape designations covering the site. There are no statutory ecological designations covering the site. The closest is the Aslacton Parish Land SSSI, 3.1km north. Not covered by any statutory heritage designations. The Grade I Listed 'Church of St Margaret' is located 1.3km south of the site. No Scheduled Monuments, historic parks and gardens, or registered battlefields within, overlapping, or in proximity to the site.	There are no statutory landscape designations covering the site. There are no statutory ecological designations covering the site. The closest is the Aslacton Parish Land SSSI, 2.4km north of Sub-Site 1B. Not covered by any statutory heritage designations. The Grade II Listed 'Moulton Farmhouse is 85m south of sub-Site 1B, and Grade II* Listed 'Wacton Hall' is 980m north east. No Scheduled Monuments, historic parks and gardens, or registered battlefields within, overlapping, or in proximity to the site.
Areas of local amenity value	No ancient woodland within or adjacent to the site.	No ancient woodland within or adjacent to the site.

Considerations	Option 4a – Great Moulton	Option 4b – Great Moulton
	Option 4a is located outside of the Rural River Valleys defined in SNC's Development Management Policies Document (Policy DM4.5). No watercourses. Not within a Conservation Area. No priority habitats.	Option 4b is located outside of the Rural River Valleys defined in SNC's Development Management Policies Document (Policy DM4.5). There are two unnamed watercourses within the southern part of sub-Site 1B. Not within a Conservation Area. No priority habitats.
Screening provided by landform and existing features	The topography of the site is relatively flat. The site is screened by trees and hedgerow which border the fields.	The topography of the site is relatively flat. Opportunity for screening provided by the existing boundary vegetation in the north western part of Sub-Site 1B.
Visual, noise, and other environmental	Partly located within Flood Zones 2/3. No residential dwellings within the siting zone. A PRoW ('Tivetshall St Margaret FP2') crosses the centre of the site which would require diversion.	Sub-Site 1B is entirely located in Flood Zone 1. No residential dwellings within the siting zone. The residential area of Great Moulton is located 220m north of Sub-Site 1B, with closer residential dwellings within 120m to the east. A PRoW crosses the centre of Sub-Site 1B between Narrowgate Way and Frith Way but would not be within the sub-station site and therefore can be incorporated into the Scheme.
Land use **Grade 1 – Red** **Grade 2-3 – Amber** **Grade 4 – Green**	Located entirely within ALC Grade 3 land according to the Provisional ALC England.	Located entirely within ALC Grade 3 land according to the Provisional ALC England.

3.5.28 Option 4B within Sub-Site 1B beneath the Bramford to Norwich 400kV line was considered to be favourable in terms of flood constraints, and conflict with the PRoW and given the overlap of 4A with the solar application (ref. 2024/3817), 4A was discounted and 4B taken forward in the DCO application. A Targeted Consultation was undertaken by the Applicant from 22 October to 26 November 2025, relating to a number of Scheme changes. As part of the supporting information published during the Targeted Consultation, the Applicant confirmed 4b would be taken forward.

3.6 Assessment of Other Reasonable Alternative National Grid Substation Sites

3.6.1 The Applicant has undertaken a desktop assessment to identify whether there are any other reasonable alternative locations to the proposed National

Grid Substation along the Bramford to Norwich 400kV line. The reasonable alternatives studied by the Applicant are described in the section below.

3.6.2 The stretch of overhead line that was considered was limited to north of Diss. For the reasons set out previously, the Applicant preferred a location in proximity to the solar sites that had initially been identified.

3.6.3 Given the importance of the accessibility of the National Grid Substation from the SRN and the need for a location in proximity to the Bramford to Norwich 400kV line, the Applicant applied the following guidelines as a starting point to identify potential siting zones for the substation:

- 1km search area either side of the existing 400kV overhead line; and
- 500m search area, either side of a main road (A and B roads) for accessibility.

3.6.4 **Figure 1: National Grid Substation Site, Alternative Siting Zones** (see **Appendix B**) shows the application of a 1km search area from either side of the 400Kv overhead line and a 500m search area, either side of a main road (A and B roads). The figure identifies three separate areas which lie within both of these buffers, referred to herein as 'Siting Zones':

- Siting Zone 1: A linear stretch of land along the A140, including Swainsthorpe and Newton Flotman;
- Siting Zone 2: Land to the south of Great Moulton, east of Tibenham Airfield and west of the A140;
- Siting Zone 3: Land along the A140 to the south east of Diss, south of Waterloo and Stuston, and north of Yaxley.

3.6.5 Each of the three alternative Siting Zones has been reviewed against the guidelines set out above. The Applicant has used a RAG approach to determine the suitability of the Siting Zone:

- Red – The Siting Zone is completely within or covered by the designation or constraint, e.g. the site is entirely within a National Park;
- Amber – The Siting Zone is partially within or covered by the designation or constraint, e.g. the Siting Zone is partly covered by Flood Zones 2 and 3; or
- Green – The Siting Zone is outside of the designation or constraint, e.g. a Scheduled Monument is not located within the Siting Zone.

3.6.6 A desktop review of each of the Siting Zones has been undertaken, a summary of which is set out in the table below, supported by **Figure 2 National Grid Alternative Siting Zone 1** to **Figure 4 National Grid Alternative Siting Zone 3** (see **Appendix B**).

Siting Zone 1

3.6.7 This Siting Zone is shown on **Figure 2 National Grid Alternative Siting Zone 1** and extends from the south of the A47 and along the A140 Ipswich Road to Newton Flotman / Saxlingham Thorpe. A key operational constraint within this Siting Zone is the railway which runs parallel to the east of the overhead line and west of the A140. Diverting the overhead line over the railway would present operational and technical challenges.

3.6.8 The National Grid Norwich Main Substation is located within the north of this siting zone, to the west of the A140. To the north of the Substation, the land falls within the Order Limits of the consented NSIP application for Sheringham Extension Project (EN010109), works to extend the Norwich Main Substation to the west (2024/1336) (approved September 2024), the development of a 400MW Energy Storage System (2024/3750) (approved July 2025), construction of a battery storage facility (2023/0617) (approved September 2023), the Norwich to Tilbury reinforcement project (EN020027), and construction of Energy Balancing Infrastructure to connect to Hornsea Three Onshore Converter Station (2022/0867) (scoping application). There is clearly the potential for conflict with these various projects within the north of this Siting Zone.

3.6.9 Further south, a solar farm and energy storage project has been approved west of Ipswich Road (2021/2495) (approved December 2020) within the west of the Siting Zone south of Brick Kiln Lane, although construction does not appear to have commenced.

3.6.10 To the east of the A140, Dunstan Common is a large wooded area comprising Jaune's Wood, Susan's Wood, and Commonclose plantation surrounded by several Grade II Listed Buildings, a Scheduled Monument, a Conservation Area, and a Local Nature Reserve (LNR) which would therefore restrict development in this area on account of the heritage and land use constraints.

3.6.11 Further south, the villages of Swainsthorpe, Newton Flotman, and a small number of residences around Green Acre Farm restrict the potential developable area. Six Grade II / II* Listed Buildings lie between Swainsthorpe and Green Acre Farm / Brickkiln Lane. Shotesham Conservation Area further lies to the east of the A140 and the Siting Zone, with Rainthorpe Hall Registered Parks and Gardens 350m southwest of the Siting Zone.

3.6.12 The area to the east of the A140 would further require extension and diversion of the overhead line across the road which would present operational and technical challenges.

Siting Zone 2

3.6.13 Siting Zone 2 is shown on **Figure 3 National Grid Alternative Siting Zone 2** and consists of land north and south of the B1134, split either side of the railway line (which runs north-south). The north eastern section of land was considered, as set out above, as an option for siting the National Grid Substation (Option 4a), initially chosen for its proximity to the overhead line and the B1134 / A140 routing options. Notwithstanding, as set out in Section 3.5, much of the land in this area north of the B1134 is consented for a solar farm (ref. 2024/3817) and therefore would not be available for a National Grid Substation. An area within the north east quadrant of this siting zone is now proposed as the location for the Scheme BESS (which does not conflict with 2024/381), which is discussed within **Section 3.7** of this report.

3.6.14 Both the north and south eastern parcels of Siting Zone 2 are crossed by a watercourse. A strip of deciduous woodland priority habitat is further located within the south eastern parcel. The south western parcel is crossed by a field drain.

3.6.15 Residential dwellings are located along Moulton Road, B1134 Station Road, and Hales Street.

3.6.16 The north and south western parcels of this Siting Zone are approximately 240m to the east of Tibenham Airfield. These parcels are separated from the overhead line by the railway.

Siting Zone 3

3.6.17 Zone 3, shown on **Figure 4 National Grid Alternative Siting Zone 3** comprises land to the north of the A1066, west of the A140; land between the A1066, Stuston Road, and the A143; and land south of the A143 split either side of the A140. This alternative Siting Zone is located the furthest from the identified solar sites, so was not preferred as the cable routing distance would mean greater transmission losses and potentially environmental impacts than if the substation and solar sites were located in proximity.

3.6.18 For the parcel north of the A1066, part of this is occupied by built development associated with Diss within the northwest and Scole within the northeast. Land within the centre of this parcel appears to be largely unconstrained and would be potentially suitable for a National Grid Substation.

3.6.19 Between the A1066 and A143, this land is occupied by Stuston Common Golf Course, Diss Driving Range, and is crossed by a watercourse, the River Waveney. Willows Caravan and Camping Park is also located off the A1066, along with various dwellings and agricultural sheds.

3.6.20 South of the A143, the land use is mostly agricultural fields, with several parcels of deciduous woodland priority habitat, and built development associated with Stuston and Brome, as well as the large Eye Airfield industrial estate to the east of the A140. The Yaxley Substation and Synchronous Condenser is further located within 100m to the west of this alternative Siting Zone. A gas-fired power station DCO, approved in 2015 (EN010060) is being constructed south of Eye Airfield Industrial Estate, the Order Limits of which would overlap with the Siting Zone. The Siting Zone would further overlap with a pending planning application for a BESS facility to the west of Yaxley Substation (DC/25/02824). Furthermore, a solar DCO, EcoPower Suffolk Solar is noted to be at the pre-application stage (EN0110019) and would include land east and west of the A140 within its Order Limits, including part of the land within the south of this Siting Zone.

3.6.21 Further constraints within the land south of the A143 include multiple Grade II Listed Buildings located around Brome and Stuston, and areas of Grade 2 agricultural land.

3.6.22 While areas within the north of the A1066 and south of the A143 could represent a feasible area to construct a National Grid Substation, these were not the options taken forwards by the Scheme. As discussed, a location close to the solar sites that had been identified was preferred.

Table 3.3: Desktop Analysis for the three alternative options for a National Grid Substation

Considerations	Siting Zone 1	Siting Zone 2	Siting Zone 3
Internationally and nationally designated areas of the highest amenity, cultural, or scientific value	No statutory ecological or landscape designations within the zone. A Scheduled Monument: Venta Icenorum: Roman town and associated prehistoric, Anglo-Saxon and medieval remains is located within the north of the zone. Seven Grade II Listed Buildings around the Scheduled Monument. Five Grade II and one Grade II* Listed Buildings around Swainsthorpe. Three Grade II, one Grade II* Listed Buildings within Newton Flotman.	No statutory ecological or landscape designations within the zone. One Grade II Listed Building is located to the south of Station Road within the east of the zone.	No statutory ecological or landscape designations within the zone A Scheduled Monument is located south of Scole within the north of the Siting Zone. Multiple Grade II and II* buildings are scattered throughout the Siting Zone and in proximity to Brome, Stuston, and Yaxley.

Considerations	Siting Zone 1	Siting Zone 2	Siting Zone 3
Areas of local amenity value	A Local Nature Reserve is located within the north east of the siting zone. Several parcels of woodland priority habitats are located throughout the zone. A watercourse crosses the Siting Zone between Newton Flotman and Swainsthorpe. Area within the north around Dunston is identified as a Historic Park and Garden by the SNC Policies Map. Area east of the A140 is located entirely within the Rural River Valleys defined in SNC's Development Management Policies Document (Policy DM4.5). No Conservation Areas within the siting zone, but Shotesham Conservation Area located 400m to the east. No ancient woodland.	Several small strips of woodland priority habitat are located within the east of the zone. A watercourse crosses the Siting Zone from north – south. Located outside of the Rural River Valleys defined in SNC's Development Management Policies Document (Policy DM4.5) and other local designations. The siting zone is not located within, or in proximity to, a Conservation Area. No ancient woodland.	Area of lowland calcareous grassland priority habitat between the A1066 and A143, and deciduous woodland priority habitat south of the A143 within the siting zone. The River Waveney crosses the Siting Zone between the A143 and A1066. Area north of the A143 is located within the Rural River Valleys defined in SNC's Development Management Policies Document (Policy DM4.5). Scole Conservation Area located within the north east of the siting zone. No ancient woodland.
Screening provided by landform and existing features	Small parcels of woodland scattered throughout the zone. Field boundaries are generally sparsely lined with hedgerows.	Internal field boundaries generally are bordered by lines of hedgerows. Limited sections of screening from hedgerow along Station Road and strips of woodland within the siting zone.	Large areas of woodland to the north to the east of the B107. Limited screening from woodland within the south of the siting zone.
Visual, noise, and other environmental	Residential dwellings and a primary school associated with Newton Flotman and Swainsthorpe located within the south and centre of the zone, as well as along local	Siting zone includes residential dwellings along Moulton Road, Station Road, and Hales Street as well as commercial properties on Moulton Road.	Residential settlements of Yaxley, Brome, Waterloo, and Stuston fall within the siting zone. Area between the A1066 and A143 comprises the Diss driving range and Willows Caravan and

Considerations	Siting Zone 1	Siting Zone 2	Siting Zone 3
	roads such as Brickklin Lane. Crossed by Public Bridleways which run along several of the local roads which cross through the site. Swainsthrope BR2 is a restricted byway which crosses a field north of Swainsthorpe. No other PRoW cross the site. Dunston Hall Hotel, Spa and Golf Report located within the north of the zone. Small area of Flood Zone 3 within south and east of the zone.	North east area is crossed by Tivetshall St Margaret FP1 and FP2 running parallel from north to south. The south eastern parcel is crossed by Tivetshall St Margaret RP12 and FP11. The south western parcel is crossed by Gissing FP4 and Tivetshall St Margaret FP13. Area of Flood Zone 3 crossing north-south across the centre of the Siting Zone.	Camping Park. There are a limited dwellings to the west of the A140 opposite the industrial estate. Fields north of the A1066 are crossed by Scole FP34 Public Footpath. Fields south of A1066 crossed by FP36 and Byway open to all traffic Scole RB35. The area south of Stuston and west of Brome crossed by multiple Public Footpaths. Large areas of Flood Zone 2 and 3 associated with the River Waveney (a Main River) between the A142 and A1066.
Land use **Grade 1 – Red** **Grade 2-3 – Amber** **Grade 4 – Green**	The vast majority of the zone is undefined Grade 3 land, with small areas of Grade 2 and Grade 4, according to the Provisional Agricultural Land Classification.	The entire zone is undefined Grade 3 land according to the Provisional Agricultural Land Classification.	The zone is a mix of ALC Grade 2, 3, 4, and urban according to the Provisional Agricultural Land Classification. The majority appears to be Grade 3.

3.6.23 This review concludes that Siting Zone 2 is accessible from A/B roads, performs well against key environmental and technical criteria and avoids internationally and nationally designated areas of the highest environmental, cultural, or scientific importance, such as National Landscapes and SSSIs, and is a suitable location to consider for the location of a National Grid Substation. There is only one designated heritage asset, a Grade II Listed Building within the Siting Zone, limited strips of deciduous woodland priority habitats, and no ancient woodland or County Wildlife Sites. The Siting Zone is crossed by Public Footpaths which would require consideration in the design and layout of the substation.

3.6.24 The Applicant initially selected an area within the north east of this Siting Zone. Notwithstanding, and for the reasons given in **Section 3.5** above, given the conflict with the consented solar farm, the proposed location of the National Grid substation needed to move and Sub-Site 1B to the north was identified as performing well against the environmental and technical criteria of NPS EN-5 and the Horlock / Holford Rules. The proposed National Grid Substation Site can still be adequately accessed from Station Road, via the BESS site, is also not located within any statutory ecological, landscape, or

heritage designations, and sits entirely within Flood Zone 1. Alternative land options within Siting Zone 2, to the south of Station Road, and to the west of the railway line was not selected as a willing landowner was not forthcoming. Land to the east of the railway line is preferable as it negates the need for a crossing of this infrastructure.

3.6.25 A review of alternative locations of the selected PoC, based on accessibility, proximity to the 400kV Bramford to Norwich line, and environmental / technical criteria revealed that these sites either present similar or more constraints than the location within Sub-Site 1B. Siting Zone 1 is relatively constrained by existing infrastructure, other potential development schemes in the area, and environmental (specifically heritage) designations. While areas within Siting Zone 3 could present a reasonable alternative, the distance from the initially identified solar sites meant that this site is less preferable.

3.7 BESS

3.7.1 The criteria required for a new National Grid Substation, i.e. accessibility from the SRN etc, were also important considerations for the location of the BESS, and that identifying a location for the BESS that was proximate to the National Grid Substation would be preferable from an access perspective, and in limiting the extent of grid connection infrastructure across the Scheme.

3.7.2 The general location of the BESS was identified at the EIA Scoping Stage adjacent to Option 4A. Locating the BESS in proximity to the National Grid Substation has the benefit of minimising transmission losses, maximising storage efficiency, providing effective grid balancing and supporting a faster and more reliable reaction to power outages and disruptions. It also brings together some of the taller infrastructure of the Scheme with the overhead lines, minimising the spatial distribution of these taller elements as far as practicable across the greater geographical area of the Site.

3.7.3 The BESS Site was selected on the basis of its proximity to the PoC and access from Station Road, and with consideration of minimising landscape and visual, heritage and noise impacts from the BESS as far as practicable. The BESS would be located, at the closest point, approximately 200m from the closest residential property, 470m from the closest listed building and 50m from the closest PRoW.

4. Methodology for Identification and Assessment of Solar Sites

4.1.1 There is no prescribed methodology in national planning policy or guidance for site selection in relation to solar development. Paragraph 4.3.9 of NPS EN-1 (Ref 2Ref 1) states that *'This NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective'* and Paragraph 2.3.5 of NPS EN-3 (Ref 4Ref 3) is clear that in general, the government does not seek to direct applicants for renewable energy infrastructure to specific sites. Instead, NPS EN-3 Paragraph 2.3.9 recognises that *'most renewable energy resources can only be developed where the resource exists and where economically feasible, and because there are no limits on the need established in Part 3 of EN-1, the Secretary of State should not use a consecutive approach in the consideration of renewable energy projects (for example, by giving priority to the re-use of previously developed land for renewable technology developments)'.*

4.1.2 Paragraph 3.3.62 of NPS EN-1 recognises that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure to meet urgent provision for energy security and legally binding net zero targets. Section 4.2 of NPS EN-1 defines solar as a low carbon energy generating technology and affords all solar NSIPs CNP infrastructure status. In accordance with National Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref 5Ref 5), the electricity transmission infrastructure associated with the Scheme also benefits from CNP infrastructure status.

4.1.3 The purpose of this section is to set out the staged approach to solar site selection and to demonstrate how other sites, which may be potentially suitable to accommodate the Scheme, perform relative to the sites where the Scheme is proposed to be located, taking into account a range of planning, environmental, and operational factors.

4.2 Stage 1: Approach to Identification of an Area of Search for Solar Sites

4.2.1 The first stage of assessment requires the identification of an area of search, based on an available PoC, and the general irradiance levels and topography of the area.

Point of Connection

4.2.2 There is consensus between government and industry that the single biggest obstacle to the deployment of renewable energy is the capacity of the electricity grid and long delays for grid connections.

4.2.3 As set out within **Section 3**, an initial PoC was considered at the Norwich Main Substation. Concurrently with the discussions with National Grid with respect of the PoC, the Applicant identified an initial 20km search radius from the Norwich Main Substation for sites to be included in the project. The radius of the Search Area was established as a commercially viable cable distance for taking into account the capacity, distance from the grid connection, underground cable costs, capital costs and market conditions at the time. However, areas closer to the PoC are more preferable in principle due to the benefits of a shorter cable route, which include ease and timeliness of key infrastructure delivery, minimisation of disruption to residents and businesses along the route, and reduced environmental disturbance and cost.

4.2.4 It should be noted that the size of the search areas adopted for solar NSIPs varies depending on the nature of the site, location of the PoC and area characteristics. As an example, other consented solar NSIPs have adopted the following search areas:

- Helios: 5km;
- Longfield: 5km;
- Mallard Pass: No search area adopted; suitable site found within close proximity to existing National Grid Substation;
- Cottam: 20km;
- Gate Burton: 8km search area with constraints mapped to 15km;
- West Burton: 20km;
- Byer Gill Solar: 6km to 12km;
- Oaklands Farm Solar Park: 10km;
- Tillbridge: 15km; and
- Stonestreet Green Solar: 5km.

4.2.5 Limiting the distance of solar development from the PoC is consistent with Paragraph 2.10.17, NPS EN-3 which states *'to maximise existing grid infrastructure, minimise disruption to existing local community infrastructure or biodiversity and reduce overall costs, applicants may choose a site based on nearby available grid export capacity.'*

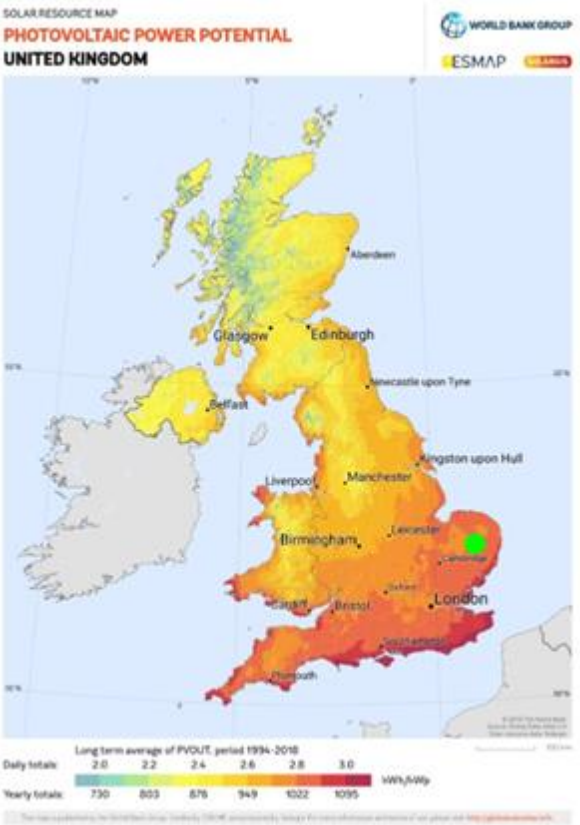
Irradiance and Topography

4.2.6 As noted in Paragraph 2.10.11-12 of NPS EN-3, irradiance is a key consideration in identifying a potential site as the amount of electricity generated on site is directly affected by irradiance levels. Irradiance levels

are in turn affected by surrounding topography, with an uncovered or exposed site of good elevation and favourable south facing aspect more likely to increase year-round irradiance levels.

4.2.7 Norfolk represents a good location within the UK to construct a utility-scale solar project as it is an area that benefits from higher levels of and irradiance compared to other parts of the UK and has potential availability of large areas of flat land. This, combined with an available PoC via the transmission line made Norfolk suitable for solar development.

4.2.8 Figure 6.2 from the **Statement of Need [EN0110014/APP/7.11]** shows a map of PV power potential in the UK **(Insert 5)**. Areas of higher irradiance are identified by colours towards the red end of the spectrum, while areas of lower irradiance are towards the blue end of the colour spectrum. The approximate location of the Scheme is shown by the green point.



Insert 5: PV power potential in the UK (Ref 10)

Site Size and Shape

4.2.9 The Applicant proceeded to consider, at a high level, sites that could potentially accommodate a solar project to utilise the grid capacity available.

4.2.10 According to paragraph 2.10.9 in NPS EN-3, *'Along with associated infrastructure, a solar farm currently requires between 1.6 and 2.25 hectares*

(4-5.6 acres)[88] for each MW of output. However, this will vary significantly depending on the site, with some being larger and some being smaller. This is also expected to change over time as the technology continues to evolve to become more efficient'.

4.2.11 For a grid connection of 500 MW, a site size of approximately 1,000ha (excluding cable route) was needed. At this stage in the process, the Applicant generally seeks to find a site or combination of sites which is around 10% larger than is needed to provide flexibility for additional mitigation measures and other constraints that may become known through the design development process. Therefore, the Applicant searched for an area of approximately 1,100ha to accommodate the Solar PV Array, associated infrastructure such as BESS and substations, and mitigation and enhancement measures such as landscaping.

4.2.12 An initial review did not reveal a single site of 1,100 ha. Therefore, the Applicant considered both contiguous land parcels and land parcels near one another.

4.3 Stage 2: Approach to Exclusion of Environmental and Planning Constraints

4.3.1 Stage 2 of the site selection assessment applies a high-level assessment of the area of search, using publicly available data and an assessment of local and national planning policy to identify any planning, environmental or spatial constraints to be excluded from the area of search. **Table 4.1** below provides details of the constraints identified and excluded at Stage 2.

Table 4.1: Environmental Constraints and Considerations

Constraint	Policy Consideration
Agricultural Land Classification and Land Type	Where practicable applicants should utilise suitable previously developed land, brownfield land, contaminated land or industrial land. Where the use of agricultural land is necessary, planning policy seeks to minimise impacts on the best and most versatile agricultural land (defined as grades 1, 2 and 3a), preferably use land that is not classified as best and most versatile (grades 3b, 4 and 5). For the purposes of Stage 2, all ALC grade 1, 2 and 3 land was excluded from the search area.
Flood Zones 2 and 3	Planning policy expects the avoidance of Flood Zones 2 and 3 for development and the application of a sequential approach to the location of development. NPS EN-5 expects electrical connection infrastructure to be resilient to flooding. Whilst solar is generally compatible with flood risk areas, the Applicant adopted a sequential approach

Constraint	Policy Consideration
	and excluded Flood Zones 2 and 3 from its initial search for sites.
Nationally Designated Landscapes	The presence of any National Landscapes or National Parks were considered and sites directly within these areas for the Scheme were excluded from the area of search. For the purposes of the 20km search area, the relevant designation excluded was the Broads National Park.
Designated international and national ecological and geological sites	The following designations were identified and any land covered by these designations was excluded: Sites of Special Scientific Importance (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA), SPA protection buffer, Ramsar sites and National Nature Reserves (NNR). In addition, ancient and non-ancient woodland was also excluded.
Designated national and local archaeological designations and built heritage assets	The presence of any Scheduled Monuments, World Heritage Sites, Registered Battlefields, and Registered Parks and Gardens; dense concentrations of listed buildings; and Conservation Areas was excluded from the area of search.
Proximity to sensitive human receptors	Consideration was given to the proximity of nearby sensitive human receptors which include residential dwellings, populated areas / villages.
Other designations	Norwich and South Norfolk do not have Green Belt. No local planning allocations were excluded from the initial site search.

4.3.2 The above categories are mapped onto **Figure 6 Planning and Environmental Constraints within 20km of Norwich Main Substation** at **Appendix B**.

4.3.3 The following sections set out how the above categories informed the search for suitable sites.

Agricultural Land Classification

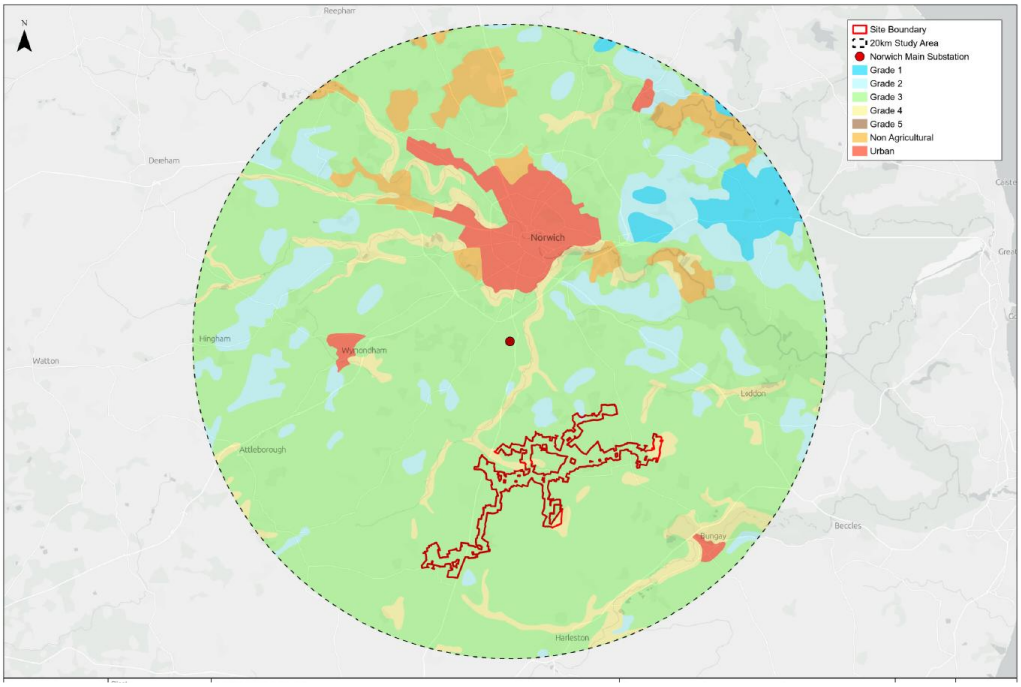
4.3.4 Paragraph 2.10.23 of NPS EN-3 recognises that '*at this scale, it is likely that applicants' developments will use some agricultural land. Applicants should explain their choice of site, noting the preference for development to be on suitable brownfield, industrial and low and medium grade agricultural land*'.

4.3.5 Best and most versatile (BMV) agricultural land is defined as land in grades 1, 2 and 3a of the Agricultural Land Classification. Land that is not classified as BMV constitutes medium and low-grade agricultural land (grades 3b, 4 and 5).

4.3.6 Solar farms are temporary structures and unlike most built development and other renewable energy proposals (such as energy from waste plants) they do not constitute significant permanent development resulting in the loss of

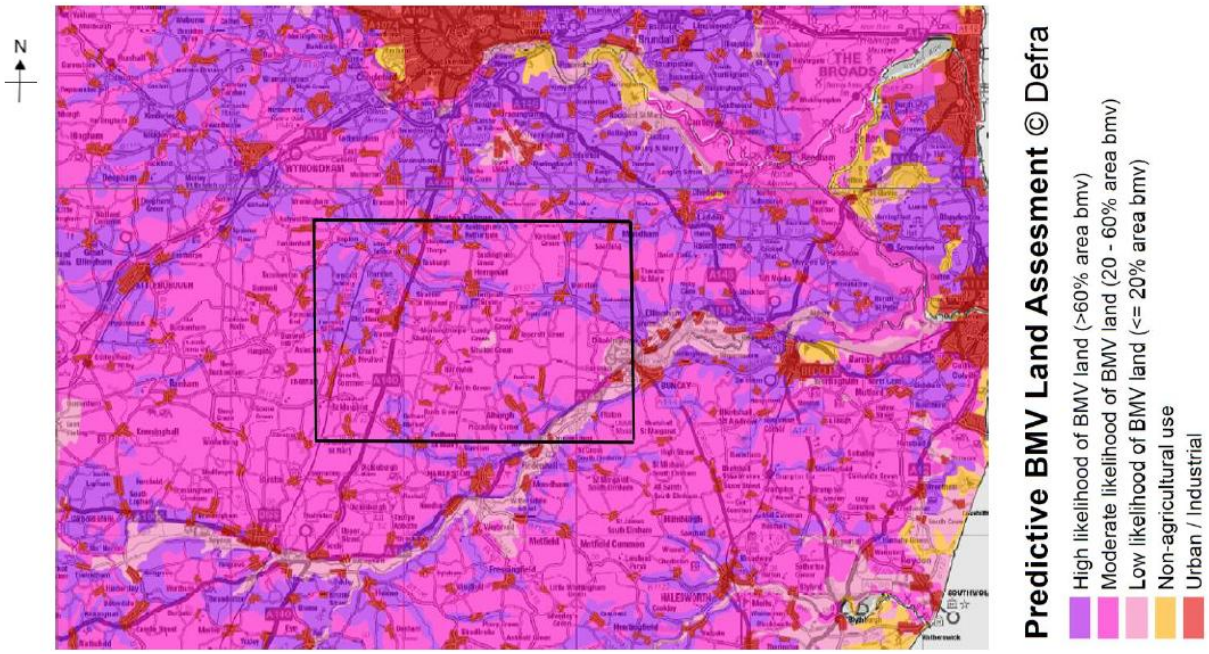
agricultural land. However, in accordance with planning policy, the site selection process initially sought to exclude land that the available data identifies as being within an agricultural land classification category that is, or includes, best and most versatile land.

4.3.7 ALC was an important factor for the Applicant when evaluating the Sites. The Applicant considered ALC in its site selection process by reviewing Natural England's 1970s Provisional Agricultural Land Classification (Ref 12) and Agricultural Land Classification - Post 1988 Survey (Ref 13) datasets. **Insert 6** shows the area of the Order Limits (and the wider search area) is predominantly undifferentiated Grade 3, with scattered pockets of Grade 2 and Grade 4 land. The ALC map does not differentiate between Grades 3a and 3b.



Insert 6: Natural England's 1970s Provisional Agricultural Land Classification Map (20km search area from Norwich Main Substation)

4.3.8 Natural England has also published a series of maps showing the 'likelihood of BMV land' (Ref 14). Natural England's map showing the likelihood of BMV land indicates the Order Limits largely as a moderate likelihood of BMV land, with pockets of higher likelihood near to the A140 Norwich Road and along the Hempnall Beck. Limited areas of low likelihood of BMV are shown between Norwich and Diss.



Insert 7: Predictive Likelihood of BMV, Wider Area

4.3.9 As can be seen from **Figure 6 Planning and Environmental Constraints within 20km of Norwich Main Substation** (at **Appendix B**)**,** land within the 20km search area is predominantly 3 or above (BMV) with pockets of land that could be non-BMV. As set out within **ES Volume 1, Chapter 15: Soils and Agricultural Land [EN0110014/APP/6.1.15]**, Norfolk as a County has an estimated area (from the provisional ALC maps) of 479,000ha of agricultural land, of which over 433,000ha is Grades 1, 2 and 3 (undifferentiated between Grades 3a and 3b). Natural England estimate that 42% of agricultural land is BMV. Statistically about 40% of undifferentiated Grade 3 is therefore anticipated to be Grade 3a. Using this as an estimate, the proportion of BMV land in Norfolk is therefore approximately 53%, which is higher than the national average. For South Norfolk, the proportion is 42%, equivalent to the national average.

4.3.10 As confirmed in **ES Volume 1, Chapter 15 – Soils and Agricultural Land [EN0110014/APP/6.15]**, the Order Limits was identified as likely to be some of the lowest quality land in the wider area (based on the Natural England mapping). It is evident that, in respect of initial site selection within a reasonable distance of the initial grid connection point, no land was identified as likely to be of a lower quality or overall proportionate lower mix of BMV quality land.

Flood Zones 2 and 3

4.3.11 As set out in Paragraphs 5.8.6 – 5.8.12 of NPS EN-1, '*The aims of planning policy on development and flood risk are to ensure that flood risk from all sources of flooding is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to steer*

new development to areas with the lowest risk of flooding' (i.e. the Sequential Test). . . '*Where new energy infrastructure is, exceptionally, necessary in flood risk areas (for example where there are no reasonable available sites in areas at lower risk), policy aims to make it safe for its lifetime without increasing flood risk elsewhere and, where possible, by reducing flood risk overall. It should also be designed and constructed to remain operational in times of flood'* (i.e. the Exception Test).

4.3.12 In light of the above and adopting the sequential approach, areas of land in Flood Zones 2 and 3 were excluded from the search for potential sites, with land at lower risk of flooding considered.

Nationally Designated Landscapes

4.3.13 As set out in Paragraphs 5.10.7 to 5.10.8 of NPS EN-1, National Landscapes and National Parks have the highest status of protection in relation to landscape and natural beauty.

4.3.14 From the earliest consideration of site selection, the Applicant was aware of the significance of sensitive landscapes in the local area because of the presence of the Broads National Park which is partially situated in the 20km search area, but excluded from consideration for solar development.

Designated International and National Ecological and Geological Sites

4.3.15 Internationally and nationally designated biodiversity sites are afforded high protection in national and local planning policy, NPS EN-1 and NPS EN-3. Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar Sites, Sites of Specific Scientific Importance (SSSI) and National Nature Reserves (NNR) were therefore identified and avoided.

4.3.16 Notable sites within the 20km search area from Norwich Main Substation such as the Broads SAC, Broadland Ramsar and SPA, Breckland Forest SSSI, Breckland SPA / SAC, and Yare Broads and Marshes SSSI, were excluded from consideration for solar development.

4.3.17 Other notable sites within the search area and in proximity to the Scheme were excluded, namely: the Norfolk Valley Fens SAC, Shotesham-Woodton Hornbeam Woods SSSI, Forncett Meadows SSSI, Fritton Common SSSI, Pulham Market Big Woods SSSI, Aslacton Parish Land SSSI, and Hedenham Wood SSSI.

4.3.18 Ancient woodland has also been excluded. This includes Sexton Wood, Spring Wood, Little Wood, Brooke Wood, and Great Wood.

Designated National and Local Heritage Assets

4.3.19 Paragraph 5.9.28 of NPS EN-1 places great weight on the conservation of designated heritage assets. The more important the asset, the greater the weight should be.

4.3.20 In the initial high-level review of the 20 km search area, the Applicant identified and avoided designated heritage assets, namely Scheduled Monuments, Registered Battlefields, Registered Parks and Gardens, Conservation Areas, and dense concentrations of Listed Buildings.

Proximity of a Site to Dwellings

4.3.21 Paragraph 2.10.19 of NPS EN-3 recognises that *'Utility-scale solar farms are large sites that may have a significant zone of visual influence'*. Given the potential for visual amenity and glint and glare impacts on human receptors, the Applicant excluded urban areas such as Norwich and Wymondham from consideration.

Planning Designations

4.3.22 Norwich does not have a Green Belt. No local planning designations have been factored into the initial constraints mapping, but were considered where appropriate in the later stages of Site Evaluation.

4.4 Stage 3: Approach to Identification of Suitable Solar Sites

4.4.1 Stage 3 of the site selection applies the key operational criteria for large scale solar development – site size and land assembly; and topography to identify potential suitable sites for solar within 20km of Norwich Main Substation. The use of previously developed (brownfield) land has also been considered. The following sections explain the criteria applied to the unconstrained areas identified at Stage 2. As mentioned above, sites where there were physical constraints such as watercourses were still considered at this stage, although it was recognised that a larger site area would be required as a result of the constraint.

Topography

4.4.2 Flat or gently south-facing slopes are considered most suitable and beneficial for solar to maximise electricity generation. Therefore, this factor has influenced the focus on Norfolk as the preferred area for the Scheme, the general topography of which is relatively flat, making it particularly suitable for solar energy.

4.4.3 Topographical constraints within the unconstrained areas have been identified and mapped. As flatter land is generally considered to be optimal,

land with a gradient of 3% or less was mapped for Stage 3 as shown on **Figure 7 Unconstrained Land (<3% gradient) within 20km from Norwich Main Substation** at **Appendix B**. This land has been taken forward to the Stage 4 assessment therefore identifying the flattest areas of land within the unconstrained area.

Site Size and Land Assembly

4.4.4 Large areas of undeveloped, open land are required for large scale solar development as they have less vegetation to be removed prior to installation of the solar infrastructure. The selection of large open areas also reduces the amount of buffering required for tree root protection and the avoidance of shading when compared to using smaller fields or built-up areas, and can therefore reduce the solar development's impact on vegetation such as hedgerows and trees.

4.4.5 An available single site of 1,100ha within sufficient proximity to the Norwich Main Substation was not identified. The Applicant therefore considered smaller individual sites that could be connected.

4.4.6 The minimum individual site size and overall area threshold is based upon the Applicant's economic analysis of the MW output per hectare to be achieved taking into consideration infrastructure costs including the grid connection and the need for a percentage of the land to provide appropriate environmental mitigation, if required. A smaller development area results in higher unit costs and an assessment was made as to the maximum cost and minimum site area threshold that would be viable for the Scheme to hit the target financial metrics.

4.4.7 In the Applicant's experience, the minimum area for an individual site for large scale solar is at least 40 ha of contiguous land. This is the minimum site size threshold considered by the Applicant to be viable (based upon the balance of costs of connecting infrastructure between individual sites and electricity losses from the multiple connection cabling necessary) to form part of a network of sites in close proximity covering an area of approximately 1,100ha. The sites making up an NSIP scale scheme should also be located in relative proximity to each other to ensure the level of voltage is maintained. This is the land area (including 10% contingency but excluding the land required for the cable route) required for a solar development to support the 500MW grid capacity available.

4.4.8 Areas of unconstrained land of at least 40ha which were viable to be joined with other areas to form an approximate 1,100 ha area were therefore considered within Stage 4 to be potentially suitable sites for the Scheme.

Previously Developed Land

4.4.9 Opportunities to locate Solar PV Panels on previously developed land / brownfield land, contaminated land, industrial land, and commercial rooftops were explored as per NPS EN-3 Paragraph 2.10.21-23.

4.4.10 Each Local Planning Authority is required to keep a register of previously developed land suitable for residential development. The latest data for the area of search is located in brownfield registers prepared by South Norfolk and Broadland District Council, Breckland Council, and East Suffolk Council.

- South Norfolk (Ref 15) and Broadland District Council (Ref 16) Brownfield Site Registers;
- Breckland Council Brownfield Register (Ref 17); and
- East Suffolk Council Brownfield Register (Ref 18).

4.4.11 The brownfield register of Norwich City Council was reviewed. However, given their urban location, which meant close proximity to sensitive receptors, and lack of available sites large enough to deliver the 1,100ha required in proximity, these sites were not considered further. Of the brownfield sites identified from a review of the East Suffolk Council and Broadland Council brownfield registers, no sites were identified above 1ha within a 20km radius.

4.4.12 **Table 4.2** below contains details of all brownfield sites within the 20km search area that are 1ha and above in size under each Local Planning Authority. Sites smaller than 1ha were discounted due to their inability to provide a viable land parcel of at least 40ha in combination with other land due to inefficiencies in both layout and required connection between sites.

4.4.13 Of the sites over 1ha in size, none of the sites are large enough to provide a viable land parcel of at least 40 ha that could be developed as part of a network of sites near to the Norwich Main Substation, therefore no individual brownfield site from the register provides an adequate area to facilitate a large scale NSIP solar project.

4.4.14 No suitable previously developed sites were identified that covered a sufficient area to accommodate a 500MW utility-scale solar project. Previously developed land is therefore not considered a reasonable alternative to the Scheme.

Table 4.2: Assessment of Previously Developed Land identified from the Brownfield Registers within the Search Area from Norwich Main Substation

Brownfield Ref	Location	Size (ha)	Comments:
South Norfolk and Broadland District Council			
B/STR/001	Former Hamper People, 31 Norwich Road, Strumpshaw	1.2ha	Has planning permission and is built out
B/LIN/001	Lingwood Primary School, Chapel Road, Lingwood	1.2ha	Permissioned, under construction
B/GLP/001	Land at Former Little Plumstead Hospital, Hospital Road	9.7ha	Permissioned and built out
B/COL/001	Land at Jordans, Station Road, Coltishall	1.8ha	No permissions
B/WES/001	Weston Hall, Weston Hall Road, Weston Longville	2.16ha	Permission granted.
S/GRE/001	Orchard Farm, Frith Way, Great Moulton	Approx 1.096ha	The brownfield register states that the site has planning permission. Its location is within Great Moulton so would not be suitable.
S/HAR/004	Land off Station Hill	Approximately 1.87ha.	Local plan allocation with planning permission. Urban location within Harleston.
S/WYM/001	Former Sale Ground, Cemetery Road, Wymondham	Approximately 1.86ha.	Local plan allocation with planning permission. Urban location within Wymondham.
S/COL/001	Colney Hall, Watton Road, Colney	Approximately 25.8ha.	Local plan allocation. Close proximity to residential area of Norwich. Most of the site taken up by woodland.
Breckland Council			
BLR_01	Land south of Whitehouse Lane, Attleborough (Former Grampian Food Site Buckenham Road)	Not known. The planning application for this site is for 5.5ha.	Site has received planning permission and is under construction.

Commercial Rooftops

4.4.15 Consideration was given to commercial rooftops within the 20km search area. However, no commercial rooftops or combined premises of an adequate area to facilitate a 500MW utility-scale solar project or provide a viable network of sites in proximity to the PoC were identified. Achieving this capacity would require securing agreements with a large number of land

ownerships over an extensive geographic area, making the Scheme unviable.

4.4.16 In accordance with paragraph 4.3.27 of NPS EN1, which states *'Alternative proposals which mean the necessary development could not proceed, for example because the alternative proposals are not commercially viable or alternative proposals for sites would not be physically suitable, can be excluded on the grounds that they are not important and relevant to the Secretary of State's decision.'*, commercial rooftops are therefore not considered a reasonable alternative to the Site.

4.4.17 Additionally, commercial buildings and residential properties function as both electricity consumers and generators, which limits their ability to contribute meaningfully as a low-carbon, renewable alternative to conventional sources of electricity production. Rooftop solar is not an alternative option for grid-scale electricity generation; rather, it should be deployed alongside utility-scale solar projects to support the broader transition to renewable energy.

4.5 Stage 4: Identification of Suitable Solar Sites

4.5.1 As shown by **Figure 8 ALC Grade 3 Unconstrained Land and the EIA Scoping Boundary within 20km of Norwich Main Substation** at **Appendix B**, it was considered that, given the limited extent of non-BMV land within the 20km search area from the Norwich Main Substation, the use of BMV land was inevitable as acknowledged by NPS EN-3 paragraph 2.10.23. Therefore, the Applicant went on to consider Grade 3 agricultural land within the 20km search area.

4.5.2 A search for sites was undertaken with the help of land agents. It was considered desirable to compile a site in as few land ownerships as possible to minimise legal complexities and project costs, as well as avoiding extensive cable routing between sites. The land agents therefore used their professional knowledge to provide details of potentially willing landowners with large scale land holdings within the 20km area.

4.5.3 From this search and further discussions with landowners (sites that now form the Scheme sites) were identified within unconstrained, ALC Grade 3 land. A desktop assessment of these sites was undertaken against the development constraints of these particular areas and against a range of planning, environmental and operational considerations with regard to relevant national and local planning policy and the optimal functionality of a large-scale solar development.

4.5.4 Information sources which include GIS data, online mapping and planning policy documents have been used to inform the assessment. The evidence has then been considered by planning and environmental professionals who have awarded a category of red, amber or green against each assessment

indicator based on professional judgement (see **Appendix A**). A statement setting out the justification for each categorisation has also been provided.

4.5.5 As set out in **Section 3**, following discussions with National Grid, it was considered to be unviable to connect to the Norwich Main Substation due to capacity constraints, and it was confirmed that an alternative PoC would be required. A grid connection agreement was made on the basis that the Applicant is required to find and consent the land required for a new National Grid Substation and sites for the solar and BESS infrastructure. The search for a suitable National Grid site as set out within section 3 above, identified a location at Site 1B, south of Great Moulton, as the most appropriate location for the PoC to the transmission infrastructure (reasonable alternatives to this PoC have been considered above, in **Section 3** of this SSA, and were not considered to be more preferable to Site 1B).

4.6 Stage 5: Approach to the Assessment of Alternative Solar Sites

4.6.1 The sites which had already been identified from Stage 4 above all lie within 20km from the PoC location south of Great Moulton, and were therefore considered to still to be viable, and the Applicant had established that landowners were willing to voluntarily enter into land agreements for these sites.

4.6.2 Notwithstanding, having concluded that the location for the PoC and new National Grid Substation south of Great Moulton was the appropriate location for the PoC, the Applicant also considered alternative sites within a 20km radius from this PoC as part of their site selection assessment. The search area is shown on **Figure 9 – Search Area from the Point of Connection** at **Appendix B**. Whilst the preference would be to secure sites as close to the PoC as possible, the site selection mapping in Appendix B shows 5, 10, 15, and 20km radii from the PoC situated at Site 1B.

4.6.3 Stage 5 of this SSA identifies alternative solar sites for assessment (Potential Development Areas (PDA)) for the location of the Scheme by applying the key operational criteria for large scale solar development – site size and land assembly; topography; and environmental constraints that were considered for the initial selected sites within the 20km search area from Norwich Main. This search was conducted to explore whether there were any potentially non-BMV or less constrained sites within 20km of the new PoC south of Great Moulton.

4.6.4 In line with the policy expectation set out in paragraph 2.10.21 of NPS EN-3 that brownfield and previously developed land is preferrable, the Applicant reviewed the brownfield registers, commercial rooftops, and previously developed land that was considered for Stage 3 within a 20km radius from the PoC, now also including Mid Suffolk Council's brownfield register (Ref 19). The following brownfield sites were identified:

Table 4.3: Assessment of Previously Developed Land identified from the Brownfield Registers within the Search Area from the Point of Connection

Brownfield Ref	Location	Size (ha)	Comments:
South Norfolk and Broadland District Council			
S/DIS/010	Diss, Frontier Agriculture, Sandy Lane, Diss	Approximately 14.19ha	Local plan allocation. Urban location within Diss adjacent to the railway line.
S/DIS/009	Land west of Nelson Road and east of Station Road	Approximately 1.5ha	Local plan allocation. Urban location within Diss next to Diss Railway Station.
S/DIS/003	Feather Factory site, Diss	Approximately 1.62ha.	Local plan allocation. Surrounded by residential dwellings to the north and west. Site appears to be under construction and occupied by a supermarket.
Breckland Council			
BLR_06	Mellor Metals, Attleborough Road, Great Ellingham	Approximately 1.6ha	An application ((3PL/2018/0386/O) has been approved for the development of up to 75 dwellings in this location in 2021.
Mid Suffolk District Council			
DC/21/06871/RES	Land north of Stoke Road and west of Clint Road, Thorndon	1.27ha	Permissioned – Reserved Matters in July 2022 (Planning reference DC/21/06871/RES)

4.6.5 As explained in **Section 4.2**, no suitable previously developed sites were identified that covered a sufficient area to accommodate a 500MW utility-scale solar project.

4.6.6 **Figure 10 Planning and Environmental Constraints within 20km of the Point of Connection** maps the planning and environmental constraints applied to the initial search area from Norwich Main Substation, to a 20km radius from the PoC. The unconstrained land is shown by **Figure 11 Unconstrained Land within 20km of the Point of Connection**. As per the policy expectation set out in paragraph 2.10.21 of NPS EN-3 that 'poorer quality land should be preferred to higher quality land avoiding the use of 'Best and Most Versatile' agricultural land where possible' ALC Grades 1-3 were excluded from this mapping.

4.6.7 As flatter land is generally considered to be optimal, land with a gradient of 3% or less was mapped as shown on **Figure 12 Topographic Gradient (Unconstrained Land + Slope < 3%) within 20km of the Point of Connection,** at **Appendix B**.

4.6.8 **Figure 13 Residual Unconstrained Land with Excluded Areas (Slope <3%, Minimum 40ha Site Size) within 20km of the Point of Connection**

identifies unconstrained alternative sites over 40ha which were viable to be joined with other areas to form an approximate 1,100ha, as a single site of 1,100ha was not identified. Areas that were not considered to be a suitable shape were not taken forward to the Stage 4 assessment (see **Figure 14 Selected Residual Unconstrained Land** at Appendix B).

4.6.9 The PDAs which were identified are shown on **Figure 15 Potential Development Areas** at Appendix B. These PDAs have been subjected to a desktop assessment to further understand the development constraints of these particular areas (as supported by **Figures 16-20** at **Appendix B**). The evaluation has involved the assessment of the areas against a range of planning, environmental and operational considerations which were developed having regard to relevant national and local planning policy and the optimal functionality of a large-scale solar development.

4.6.10 Consistent with the methodology applied at Stage 4, information sources which include GIS data, online mapping and planning policy documents were considered by planning and environmental professionals who have RAG-rated each PDA against the criteria informed by NPS EN-3 set out in **Appendix A,** based on professional judgement.

4.6.11 Ultimately, as explained in the assessment of the PDAs later in this report, following the Stage 5 evaluation, none of the PDAs proved suitable for development due to the constraints being identified. On this basis, the Applicant proceeded to consider potential areas of Grade 3 Agricultural land in the search area, as set out at Stage 6 below.

4.7 Stage 6: Consideration of Alternative Development Zones

4.7.1 Having not been able to identify suitable and available sites within the parameters defined for Stage 5, the Applicant went on to consider Grade 3 agricultural land within the 20km search area from the PoC. The output of the mapping exercise for this is shown on **Figure 21 ALC Grade 3 Unconstrained Land**. As was the case as illustrated in **Figure 8** (which mapped ALC Grade 3 land from the Norwich Main Substation), this introduced a significant amount of land within the 20km search area from the PoC which could potentially accommodate solar development.

4.7.2 As stated previously, land availability (i.e. the participation, or willingness of landowners to be involved in the project) is a key consideration for site selection because it is typical for the land to be leased rather than permanently acquired. Without willing landowners, acquiring land through compulsory acquisition powers would be necessary, which the Applicant has sought to avoid as far as practicable. The Applicant had identified sites suitable for the Scheme at the time that a PoC at Norwich Main Substation was under consideration; and considered these sites to remain suitable when the PoC was moved to Site 1B. Alternative land sufficient to

accommodate the Scheme did not come forward through the non-statutory and statutory consultation carried out during the DCO pre-application process.

4.7.3 Following the identification of Site 1B as the PoC, and to validate the site selection process previously carried out, the Applicant identified four alternative development zones (ADZ) within ALC Grade 3 land within the 20km search area from the proposed National Grid Substation at Site 1B, as shown on **Figure 22 ALC Grade 3 Unconstrained Land, The EIA Scoping Boundary, and Potential Alternative Development Zones** at **Appendix B**.

4.7.4 The reasons for the choice of these ADZs is set out below:

- The following areas of land within the 20km search area were excluded for consideration given the need for additional cable crossings:
  - land to the north and west of the A11 trunk road (which is situated to the north and west of the PoC);
  - land to the north of the A47 trunk road (which is situated to the north of the PoC and to the south of Norwich);
  - land to the south of the A143 and A1066 (which are situated to the south of the PoC).
- Land to the north and north west of the 20km search area was excluded due to a proliferation of larger settlements such Mulbarton, Stoke Holy Cross and Poringland.
- Land to the north and north east of the 20km search area is shown to have a 'High Likelihood of BMV Land' as set out on the Natural England Predictive ALC maps.
- The ADZs would deliver the requisite 1,100ha of land.
- The ADZs were considered to be reasonably representative of the area in which the Scheme Order Limits are situated in respect of planning and environmental constraints; and distance from the PoC;
- The ADZs are reasonably proximate to the PoC.

4.7.5 Other areas within the 20km search were not considered in more detail because suitable sites closer to a PoC had been identified. Sites located closer to the PoC are generally less harmful to the environment and there are potential significant constraints relating to sites located further away as described above (e.g. crossings of road networks). Paragraph 2.10.16 of NPS EN-3 recognises *'the distance from the solar farm to the network can have a significant effect on the commercial feasibility of a development proposal'* and paragraph 2.10.17 continues *'To maximise existing grid infrastructure, minimise disruption to existing local community infrastructure*

or biodiversity and reduce overall costs, applicants may choose a site based on nearby available grid export capacity'.

4.7.6 The ADZs were considered against the technical, planning and environmental criteria used for assessment purposes in this report, as a comparison against the chosen sites for the Scheme. However, whilst the ADZs may be suitable for solar development, the ADZs were not considered to be reasonable alternatives to the Scheme, given that the land within them has not been made available to the Applicant. As set out in paragraph 4.3.24 of NPS EN-1, the Secretary of State '. . .*should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals*.'

5. Solar Sites Assessment Results

Stage 1 and Stage 2: Area of Search and Environmental Considerations

5.1.1 The area of search from Norwich Main Substation is shown on **Figure 5 Search Area from Norwich Main Substation** at **Appendix B**). This shows the initial considered location for the PoC at the Norwich Main Substation with radii of 5km, 10km, 15km, and 20km to show the search area.

5.1.2 **Figure 6 Planning and Environmental Constraints** shows the planning and environmental constraints identified and excluded at Stage 2 in order to identify less constrained areas of land.

Stage 3 and 4: Identification of Suitable Solar Development Sites and Further Evaluation

Consideration of the 20km Search Area from Norwich Main Substation and Identification of the Scheme Sites

5.1.3 **Figure 7 Unconstrained Land within 20km from Norwich Main Substation** identifies unconstrained and <3% gradient lower grade (Grade 4 and 5) agricultural land in the search area.

5.1.4 Given the extent of Grade 3 (and above) land across the study area, the use of Grade 3 and potentially BMV land was considered to be unavoidable, as per paragraph 2.10.23 of NPS EN-3. **Figure 8 ALC Grade 3 Unconstrained Land** shows the unconstrained land, removing the exclusion of unclassified ALC Grade 3 land, which could comprise either land of Grade 3a or Grade 3b.

5.1.5 Consideration was then given to Grade 3 agricultural land within the 20km search area to identify suitable sites for land ownership. The site selection did not consider in detail every piece of unconstrained agricultural land available due to the large extent of land involved. Instead, the focus was on the large-scale land ownerships that were identified by land agents as having potentially willing landowners and ultimately the land parcels that landowners were willing to offer to the Applicant, and that made up the Sites put forward at EIA Scoping.

5.1.6 The land that came forward identified initially comprised 8 sites on land between the villages of Long Stratton, Tasburgh, Hempnall, Fritton, Lundy Green, Silver Green, Saxlingham Nethergate, Saxlingham Green, Woodton, Brooke, and Seething. Subsequent to the PoC being identified at land south of Great Moulton, Sites 1 and 2 were added to the Scheme. These Sites were taken forward and presented within the EIA Scoping Report **ES**

Volume 3, Appendix 2.1 East Pye EIA Scoping Report [EN0110014/APP/6.3.2.1]. As set out within the **Design Approach Document [EN0110014/APP/7.17]**, the Order Limits have been refined since the initial boundary selected at the EIA Scoping stage with some of the initially identified areas subsequently being removed as part of the design process.

Evaluation of the Sites for the Scheme

5.1.7 The following sets out the suitability of the identified land (now the Scheme Sites) against the site selection planning, environmental, and operational considerations that were applied at Stages 2 and 3 which accord with paragraphs 2.10.10 to 2.10.40 and paragraph 2.10.137 of NPS EN-3 that relate to '*factors influencing site selection*'.

- **Irradiance and Site Topography (EN-3 Paragraphs 2.10.11-2.10.12):** The sites were identified as being generally flat or gently undulating which made them suitable for solar energy;

- **Grid Connection (EN-3 Paragraphs 2.10.13-2.10.18):** As established by NPS EN-3 paragraphs 2.10.13-2.10.18, the availability of network capacity and distance from the Scheme to the existing network was a significant factor in site selection. The identified sites were all located within 20km of the Norwich Main Substation and were therefore considered to be commercially viable;

- **Proximity to Dwellings (EN-3 Paragraph 2.10.19):** The immediate surrounds of the Site are characterised by a network of villages, individual dwellings and businesses. However, it was considered that the design process, including the design of screening and buffer distances, would have regard to the proximity and effects on dwellings and potential visual effects on their occupants;

- **ALC and Land Type (EN-3 Paragraphs 2.10.20-2.10.26):** In respect of ALC and Land Type: NPS EN-3 paragraph 2.10.21 establishes that the use of BMV land should be avoided where possible, although at 2.10.23 it is recognised that developments will likely use some agricultural land. Based on the Natural England ALC maps the majority of the Scheme is comprised of Grade 3 agricultural land, with some smaller sections of Grade 4 and a very small sliver of Grade 2 land within Site 8. As detailed in the **ES Volume 1, Chapter 15 – Soils and Agricultural Land [EN0110014/APP/6.15],** an ALC survey of the Sites was undertaken, which excluded the CRC. This confirmed that land within the Sites of the Order Limits was a mix of mostly Grades 2 and 3a, with areas of Grade 3b, and small areas of Grade 4. BMV quality land within the Sites amounts to 829.1ha (78.7% of the Sites only; or 68.4% of the Order Limits). Whilst the Order Limits have been subject to detailed ALC surveys the sites were selected based on provisional ALC mapping. It is highly likely that any alternative sites considered in the 20km search area

would have similar levels of BMV land if they were subject to detailed ALC surveys.

- **Accessibility (EN-3 Paragraphs 2.10.27-2.10.31):** The Scheme sites are accessible for construction traffic from the SRN via the A140.
- **Public Rights of Ways (EN-3 Paragraphs 2.10.32-2.10.37):** Visibility includes views from a network of PRoW that pass through the Order Limits with two recreational routes: Via Beata Way and Boudicca Way and adjacent Common Land.
- **Security and Lighting (EN-3 Paragraphs 2.10.38-2.10.40):** The Order Limits are not located within an International Dark Sky Nature Reserve, although at the regional level they are located within a Rural Dark Landscape as defined by Norfolk County Council's Environmental Lighting Zones policy.

5.1.8 The sites were considered to be suitable against environmental and technical considerations:

- **Ecology and Biodiversity:** There are no international/European designated sites present within or adjoining the Site. There are also no national or local statutory designated sites for nature conservation within the Site, albeit there are numerous national (SSSI) and local designations in close proximity to the Site;
- **Landscape and Visual:** The Site is not subject to nationally designated landscapes. There are no statutory designated landscapes covering the Site. The closest statutory designation is the Broads National Park, which is 3.9km south of sub-Site 10A.
- **Land Use:** Predominantly agricultural (arable) fields crossed by farm tracks, roads, rural lanes, hedgerows, tree belts, scattered trees, watercourses, ponds, and PRoW. The Sites are in proximity to multiple residential settlements including Great Moulton, Tasburgh, Long Stratton, Hempnall, Seething, Fritton, Woodton, Saxlingham Nethergate, and Brooke.
- **Cultural Heritage:** The Site is not subject to statutory historic designations, although Listed Buildings are in the vicinity of the Site.
- **Flood Risk:** The majority of the Site is located within Flood Zone 1, with localised areas of Flood Zones 2 and 3 associated with the floodplains of Hempnall Beck and the River Tas. Land chosen for the Scheme has taken into account planning policy in respect of flood risk, as identified in this SSA, and sought to direct development to land at least risk of flooding. Most of the land within the Sites is at low risk of flooding. It is recognised that parts of the Sites overlap with areas of Flood Zone 2 and 3. However, as set out within Appendix A of the **Planning Statement**

[EN0110014/APP/7.14], a sequential approach to the design process has been adopted and critical infrastructure has been located outside of Flood Zones 2 and 3;

- **Site Size:** The Scheme Sites (as initially put forward at EIA Scoping) comprised a total area of 1,168.3ha (excluding the Cable Route Corridors (CRC), BESS site, and initial National Grid Substation site presented at EIA Scoping) and is therefore able to accommodate a solar farm of 500MW. Willing land owners have put forward land for the scheme which can be secured by agreement.

- **Field Shading:** The Sites generally consist of open rural fields with limited tree cover and woodland parcels. Therefore overshadowing and shading from nearby land uses was not considered to be an issue.

5.1.9 As such, the land initially selected when considering a connection to Norwich Main Substation, when set against site selection criteria, is clearly suitable and acceptable for an NSIP project.

Stage 5: Identification and Evaluation of Alternative Potential Development Areas

5.1.10 **Figure 9 Search Area from the Point of Connection** shows the proposed location for the PoC and National Grid Substation Site to the south of Great Moulton, off Station Road and beneath the Bramford to Norwich 400kV line, together with radii of 5km, 10km, 15km, and 20km.

5.1.11 **Figure 10 Planning and Environmental Constraints within 20km of the Point of Connection** shows the same planning and environmental constraints that were identified and excluded at Stage 2 in order to identify less constrained areas of land within 20km of the PoC.

5.1.12 **Figure 11 Unconstrained Land within 20km of the Point of Connection** shows the output from this mapping, identifying areas of less constrained land within 20km of the PoC.

5.1.13 **Figure 12 Topographic Gradient (Unconstrained Land + Slope < 3%) within 20km of the Point of Connection** shows the unconstrained land (Grade 4, 5, or unclassified land identified from the mapping at Stage 2), overlayed with a slope gradient of 3% or less. This did not significantly reduce the unconstrained land available. **Figure 13 Residual Unconstrained Land with Excluded Areas (Slope <3%, Minimum 40ha Site Size) within 20km of the Point of Connection** shows the residual unconstrained land after removal of any land which would not meet the 40ha threshold.

5.1.14 **Figure 14 Selected Residual Unconstrained Land within 20km of the Point of Connection** shows areas which were initially identified based on

the application of the Stage 2 criteria but which would did not meet the criteria applied at Stage 3 criteria and have therefore been discounted. These areas were not suitable due to irregularity of shape and size or could not be joined to other sites due to their isolation.

5.1.15 **Figure 15 Potential Development Areas** shows the five PDAs that were identified following the application of the above criteria. **Figure 16 Potential Development Area PDA 1 – Environmental Constraints** to **Figure 20 Potential Development Area PDA 5 – Environmental Constraints**, show a more detailed view of each of the PDAs identified, mapped against the various environmental constraints.

5.1.16 A desk-based review was undertaken against the planning, environmental, and operational considerations established by NPS EN-3 that were considered in the initial site selection. A list of considerations and the assessment methodology applied appears at **Appendix A**. The table in **Appendix C**, sets out the results of the assessment and the rating (red, amber, or green) given to each PDA for each of the categories assessed. A summary of the results for each PDA, including details on why they were discounted, is included below.

PDA 1

5.1.17 PDA 1 (**Figure 16a and 16b**) comprises three parcels of ALC Grade 4 land which form a total of approximately 414.5ha, which would not in itself be sufficient to accommodate a scheme of 500MW. However, the potential has been considered for the sites to form part of the Scheme, given their proximity to the Order Limits.

5.1.18 The northern parcel is located on land at Seething Airfield to the north east of Woodton and south west of Kirstead Green and is crossed by Toad Lane / Harvey's Lane and Seething Road. The north east area of this PDA is mostly occupied by buildings and landing strips associated with Seething Airfield, as well as a County Wildlife Site. A large area within the south eastern area is taken up by a parcel of deciduous woodland priority habitat, and it is further bordered to the south by Hedenham Wood SSSI and ancient woodland. The southwestern and northwestern areas of this parcel of PDA1 are incorporated within Sub-Site 10B and 10D, CRC14, and Sub-Site 10E.

5.1.19 The middle parcel mostly comprises agricultural fields, although also includes dwellings and agricultural buildings associated with the settlement of Topcroft and Rookery Farm, dwellings along Church Road and Rookery Lane, and Topcroft St Margaret's Church and commercial properties. Three Grade II and one Grade II* Listed Buildings are further located within this parcel. While sites within this parcel could accommodate solar development, the proximity to sensitive visual and heritage receptors would need to be considered within the design of landscape screening.

5.1.20 The southern parcel is located on land to the west of Barondale Lane, to the south of Hempnall Green. Two strips of deciduous woodland priority habitat run through the centre of the Site, and the southern portion towards Room Lane is occupied by Hardwick Airfield. However, a triangular area within the west of the site was taken forwards as an option (Site 3A) for solar development, and presented at the EIA scoping stage but subsequently removed from the Scheme owing to a combination of factors, including: limited highway access, the presence of Spring Wood Ancient Replanted Woodland (with bat roosts), part of the Spring Wood Hempnall County Wildlife Site is within the northern section of Sub-Site 3A, a high unexploded ordnance risk, and evidence of the land having previously formed part of a deer park. The detailed ALC surveys further identified that Sub-Site 3A was also largely classified as BMV quality land (Grade 2) (as discussed in the Design Approach Document **[EN0110014/APP/7.17]**.

PDA 2

5.1.21 PDA 2 (**Figure 17**) comprises two land parcels located on land north of The Street. The first parcel is north of St Margaret South Elmham, and the second is just north of All Saints' South Elmham. Both land parcels are situated to the south of the A143, which would therefore need to be navigated by cable crossings to enable connection to the Scheme sites if these parcels were selected, as the parcels total 105.5ha ha in area, and therefore would not be sufficient by themselves to accommodate a 500MW solar farm. The parcels further contain Listed Buildings (Grades I and II) and are within 2km of seven Scheduled Monuments. Furthermore, they are isolated from other PDAs, and the Scheme so it is not considered possible to combine them with other parcels to form a viable site.

PDA 3

5.1.22 PDA 3 (**Figure 18**) is comprised of seven land parcels, which comprise 492.74ha in total, the majority of which are south of the A1066 which would be a key constraint in cable routing to the grid connection. The parcels are split around the settlements of Smallworth, Blo'Norton, Thelnetham, Redgrave, South Lopham, Wortham, and one isolated parcel to the north east at Fersfield Common. The most northern parcel is adjacent to the settlement of Gissing. Visual effects associated with residential receptors within these settlements are therefore likely. Sites would likely be accessible from the A1066 to the north and B111 or B1113, although routing would potentially pass through residential areas.

5.1.23 Two of the southern parcels are adjacent to Redgrave & South Lopham Fens Ramsar, an international statutory designation, which is also designated as an SSSI and National Nature Reserve. Weston Fen SSSI and SAC, Hopton Fen SSSI, Blo'Norton and Thelnetham Fens SSSI, and Bugg's Hole Fen Theltenham Fen SSSI, Burgate Wood SSSI, and Waveney and Little Ouse Valley Fens SAC National Nature Reserve are all located adjacent or within 1km to the PDA. Therefore, this PDA would be likely

significantly constrained by nearby statutory designations. The Conservation Area of South Lopham, Redgrave, and Hopton all lie within 500m of the PDA.

5.1.24 The majority of the sites are also within the 15km-20km distance from the PoC, and therefore the cable corridors would need to navigate past intervening settlements and designations.

PDA 4

5.1.25 PDA 4 (**Figure 19**) is formed of five parcels in a linear strip on the edge of the 20km radius which total 867.9ha, with the most northern parcel located south of Shropham, and the most southern located to the south and west of Harling Road and East Harling settlements. The total parcel area is therefore close to being able to deliver the amount of land required for a 500MW solar farm. The PDA would likely be accessible from the A11 / B111 and A1066 / West Harling Road / The Street, although construction traffic would potentially need to be routed through East Harling village.

5.1.26 In terms of ecological constraints, the PDA is adjacent to Breckland Forest SSSI and Breckland SPA to the south, as well as Middle Harling Fen SSSI to the east of the southern parcel. The southern parcels are also within 2km to the east of East Harling Common SSSI and a parcel of ancient woodland is located adjacent to the north of the northern site. This represents a significant ecological constraint. There would be likely visual effects associated with the adjacent East Harling village and Conservation Area, although some natural screening exists in the form of woodland blocks. Six Scheduled Monuments are located within 2km of the PDA, which itself includes several Grade II and one Grade I Listed Building.

5.1.27 Key considerations in this area include the distance from the PoC and the number of settlements in the intervening area between the sites and the PoC. The sites are further split across the A11 trunk road.

PDA 5

5.1.28 This PDA (**Figure 20**) is split across multiple sites south of Attleborough and would form the appropriate amount of land for the Scheme at approximately 1,712.2ha. The parcels distributed south of Attleborough, west of Old Buckenham, and north of Quidenham, split by the A11 trunk road to the north. However, much of the site is covered by woodland plantations and built development around Eccles Road, including the Snetterton Circuit racetrack. As explained above, the cable routing to the PoC from this PDA would need to route around multiple settlements, main roads, Tibbenham Airfield, and the Great Eastern Main Line. This PDA is located adjacent to three SSSIs and one SPA, and within 500m of a further SSSI. Four Grade II Listed Buildings and two Scheduled Monuments are located within the PDA. Two further Scheduled Monuments, and Quidenham and East Harling Conservation Areas are located within 500m.

Stage 6: Consideration of Alternative Development Zones (ADZs)

5.1.29 Following discounting PDAs 1 to 5, consideration was then given to Grade 3 agricultural land within the 20km search area. **Figure 21 ALC Grade 3 Unconstrained Land** shows there is a large extent of Grade 3 agricultural land within the search area.

5.1.30 Additional land sufficient to accommodate the Scheme has not come forward through the DCO pre-application process; and the Applicant has not approached other landowners in the search area, given that sufficient suitable land had already been identified and was available, as set out at Stage 3. As such no further PDA's have been identified, or were necessary to be explored from a policy perspective. Notwithstanding, the Applicant has considered alternative development zones (ADZs) in the 20km search area to enable consideration of the suitability of the Scheme land, when compared to other land which may similar or closer to the proposed PoC at the National Grid Substation.

Consideration of ADZs

5.1.31 **Figure 22 ALC Grade 3 Unconstrained Land, The EIA Scoping Boundary, and Potential Alternative Development Zones** maps four broad potential ADZs (ADZ1 to ADZ4) to be able to consider the suitability of the chosen land for the Scheme (which is also shown on this Figure).

5.1.32 The Applicant has considered the potential suitability of ADZ within **Table 5.1** below.

Table 5.1: Review of ADZ's

Indicator	ADZ 1	ADZ 2	ADZ 3	ADZ 4
Ecology and Biodiversity	Two SSSIs west of Hardwick and south of Fritton.	No statutory ecological designated sites other than SSSI north of Harleston.	No statutory ecological designated sites other than an SSSI south of Shelfanger	Two SSSIs north of Aslacton and south of Forncett St Peter.
Landscape and Visual	No statutory landscape designations within this ADZ, although there is the potential that sites within this zone would be located in closer proximity to the Broads National Park.	No statutory landscape designations within this ADZ. Residential settlements of Pulham Market, Pulham St Mary, Starston, Harleston, Dickleburgh, Rushall.	No statutory landscape designations within this ADZ. Residential settlements of Gissing, Burston, Winfarthing, Shelfanger, Banham, Kenninghall.	No statutory landscape designations within this ADZ. Residential settlements of Long Stratton, Forncett St Peter, Forncett End, Tacolneston, Bunwell, Carleton Rode, New Buckenham, Old Buckenham.

Indicator	ADZ 1	ADZ 2	ADZ 3	ADZ 4
Land Use	Predominantly agricultural fields. Residential settlements of Great Moulton, Long Stratton, Hardwick, Fritton.	Predominantly agricultural fields. Residential settlements of Pulham Market, Tivetshall St Margaret, Tivetshall St Mary, Pulham St Mary, Dickelburgh.	Predominantly agricultural fields. Tibbenham and Old Buckenham Airfield. Residential settlements of Winfarthing, Shelfanger, Burston, Gissing. Potential for conflict with the Norwich to Tilbury OHL project.	Predominantly agricultural fields. Residential settlements of Aslacton, Forncett St Peter, Bunwell Hill. Potential for conflict with the Norwich to Tilbury OHL project.
Cultural Heritage	Multiple Grade II Listed Buildings to the east of Great Moulton and west of the A140, as well as along the A140 and Grade II and Grade I Listed Buildings in Long Stratton, Wacton, Hardwick, and Fritton.	Clusters of Grade II Listed Buildings around Pulham Market, Tivetshall St Margaret, Tivetshall St Mary, Pulham St Mary, Dickelburgh.	Multiple Grade II Listed Buildings in Tibenham, Gissing, and Winfarthing as well as scattered around the fields within SSZ3. Scheduled Monument at Buckenham Castle further to the west.	Multiple Grade II Listed Buildings around Forncett St Peter, Forncett St Mary, Bunwell, Aslacton, and around the settlements further to the north.
Access for Construction Traffic	Potential for access from the A140 / A143, and local roads.	Potential for access from the A143 / B1332 or A143 / B1527, and local roads.	Potential access from A140 and B1134 or A1066 and B1077 / B111, which would likely pass through South Lopham / Garboldisham, and local roads.	Potential access from B1113 / A11 / Hargham Road, although routing would likely need to pass through Attleborough or Old Buckenham, and local roads.
Flood Risk	Areas of Flood Zone 3 associated with watercourses crossing ADZ1.	Areas of Flood Zone 3 associated with watercourses crossing ADZ2.	Areas of Flood Zone 3 associated with watercourses crossing ADZ2.	Areas of Flood Zone 3 associated with the River Tas.
Field Shading	Generally open rural fields with limited tree cover and woodland parcels.	Generally open rural fields with limited tree cover and woodland parcels.	Generally open rural fields with limited tree cover and woodland parcels.	Generally open rural fields with limited tree cover and woodland parcels.
Grid Connection	There could be potential solar sites located west of the A140 and east of Great Moulton, south of Wacton and Long Stratton which would be within 5km of the PoC.	There could be potential solar sites located south of Great Moulton and the B1134, west of the A140 which would be within 5km of the PoC.	Connection to the PoC would be required to cross the Great Eastern Main Line and route around Tibenham Airfield.	Connection to the PoC would be required to cross the Great Eastern Main Line and potentially the River Tas.
Topography	Generally flat.	Generally flat.	Generally flat.	Generally flat.
Site Size	Potentially fields that could be	Potentially fields that could be	Potentially fields that could be	Potentially fields that could be

Indicator	ADZ 1	ADZ 2	ADZ 3	ADZ 4
	connected to form a site size of 1,100ha	connected to form a site size of 1,100ha	connected to form a site size of 1,100ha	connected to form a site size of 1,100ha

5.1.33 Whilst the ADZs may be suitable for solar development, the ADZs were not considered to be reasonable alternatives to the Scheme, given that the land within them has not been made available to the Applicant. Although the ADZs are identified as unclassified Grade 3 land by Natural England's Provisional ALC Grade mapping, it is considered likely that the proportion of BMV land would be similar to that of the Sites which benefit from detailed ALC surveys. It is not considered appropriate or proportionate to undertake surveys for the large areas of Grade 3 surrounding the PoC to determine their ALC grade which may not be available for the Scheme.

5.1.34 In line with paragraph 2.10.16 of NPS EN-3, the distance between the sites identified at Stage 3 and the National Grid Substation meant the Scheme was commercially feasible. Therefore, the ADZs were not considered in further detail.

6. Conclusion

6.1.1 This SSA has described the robust approach the Applicant has taken to the selection and assessment of land for a new National Grid Substation and PoC; and sites to accommodate the solar development.

6.1.2 There is a demonstrable urgent and enduring need for renewable energy development in the UK, as set out in the National Policy Statements. The Scheme provides a significant opportunity to make a major contribution towards the government's aim to deliver a clean electricity system as a key enabler to delivering net zero by 2050.

6.1.3 The Applicant identified suitable land, with willing landowners wishing to participate in the Scheme, at the same time as undertaking discussions with NGET in respect of a grid connection offer.

6.1.4 The Applicant considers that it has followed a logical approach, starting with the siting zone of the proposed National Grid Substation along the existing 400kV overhead line between Norwich Main and Diss. The Applicant has undertaken a study to identify potential siting zones for a new National Grid Substation, as outlined in this SSA. The chosen location for the National Grid Substation avoids major designated areas of ecological or cultural importance, with only limited priority habitats and no heritage assets, County Wildlife Sites, or Ancient Woodland present.

6.1.5 The solar site selection assessment has followed a six-stage approach to identify and evaluate the proposed Scheme location and other potential areas for solar development.

6.1.6 Land within a 20km radius of the initial point of connection to Norwich Main substation has been considered; as has a 20km radius from the chosen PoC. Additional PDAs and ADZ's within the search area have been assessed in respect of the PoC at land to the south of Great Moulton.

6.1.7 Stages 2 and 3 of the assessment involved GIS mapping to exclude environmental and planning constraints including all Grade 1, 2 and 3 agricultural land and flood zones 2 and 3. Following the exclusion of various constraints, the residual land was reviewed against environmental operational considerations such as site size and land assembly, the availability of previously developed land (brownfield sites), and topography. Given the extent of ALC Grade 3 land, land agents identified of large-scale land ownership with potentially willing landowners. These sites were evaluated against operational and environmental criteria and were put forwards at EIA Scoping.

6.1.8 Subsequent to the PoC being identified at the National Grid Substation, the Applicant identified 5 PDAs on unconstrained areas of ALC grade 4, 5 and unclassified Grade 3 land and outside of flood zones 2 and 3 and within

20km from the PoC as potential reasonable alternatives. Stage 5 of the assessment involved evaluation of the 5 PDAs using readily available information sources to consider the suitability of these areas for solar development. The conclusion of the evaluation on these 5 PDAs was that whilst land within them could contribute land to the Scheme site; or in isolation or combination, could provide sufficient land to accommodate the Scheme, none of the land was found to be available and none were more suitable or more preferable to the chosen Scheme land.

6.1.9 On the basis that none of the initial PDAs identified were suitable, it was then necessary to consider previously discounted Grade 3 agricultural land and flood zones 2 and 3, within the 20 km search area. This resulted in the identification of 4 further Assessment Development Zones (ADZ's). These were considered at a high level against the same criteria as the PDA's.

6.1.10 Consideration of the ADZ's against the Scheme, show that they perform no better than the chosen Scheme sites, and notably the Applicant is not able to demonstrate that such sites are available for the Scheme. Policy in NPS EN-1 is clear in that site selection work should be undertaken on a proportionate basis and that any alternative would need to be a reasonable alternative (and would be expected to deliver the same capacity in the same timeframes).

6.1.11 The Applicant's site selection process and evaluation accords with the approach to the consideration of alternatives set out in section 2.10 of NPS EN-3. The Applicant considers that it has demonstrated compliance with the relevant site selection criteria set out in NPS EN-1, NPS EN-3 and NPS EN-5.

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Appendix A Assessment Indicators and Evaluation Criteria

Land Use

A.1.1 Does the potential development area have any existing land uses/development allocations/safeguarded areas/extant planning permissions which would potentially conflict with the proposed development having regard to the following evaluation criteria?

- Number and type of existing land uses within and adjacent to the potential development area;
- Extant planning permissions within the potential development area;
- Local plan/emerging local plan development allocations within the potential development area;
- Number and location of public rights of way within the potential development area; and
- Proximity to urban areas.

	The PDA has the potential to conflict with a large number of uses, extant planning permissions and policy allocations which would be difficult to avoid.
	The PDA has the potential to conflict with existing land uses, extant planning permissions and policy allocations which can be avoided.
	The PDA has no land use conflicts

Deliverability of Grid Connection

A.1.2 Assessment Indicator: Is the potential development area's grid connection likely to encounter constraints e.g. crossing of roads, rivers and railway and sensitive environmental designations and require significant land take? The assessment will consider:

- Type and number of constraints and designations; and
- Length of connection.

	The PDA has potential to have significant constraints to achieve its grid connection which would be very difficult to mitigate/overcome.
	The PDA has potential to have some constraints to achieve its grid connection.
	The PDA is unlikely to encounter any constraints to achieve its grid connection.

Ecology and Biodiversity

A.1.3 Assessment Indicator: Is the potential development area likely to adversely impact any (a) internationally, nationally or locally designated site of ecological, biological or geological importance, (b) habitats identified as being of principal importance for the conservation of biodiversity having regard to the following evaluation criteria?

- Proximity of designated sites;
- Level of designation and sensitivity of those designated sites; and
- Potential for provision of mitigation measures.

	The PDA has potential to have a significant adverse impact on (a) an internationally, nationally or locally designated site of ecological, biological or geological importance, (b) protected species, (c) habitats identified as being of principal importance for the conservation of biodiversity, which may be difficult to mitigate.
	The PDA has potential for some adverse impact on (a) an internationally, nationally or locally designated site of ecological, biological or geological importance, (b) protected species, (c) habitats identified as being of principal importance for the conservation of biodiversity, which could be mitigated through appropriate buffers and management measures.
	The PDA is unlikely to impact upon on (a) an internationally, nationally or locally designated site of ecological, biological or geological importance, (b) habitats identified as being of principal importance for the conservation of biodiversity.

Landscape and Visual

A.1.4 Assessment Indicator: Is the PDA likely to adversely impact a locally or nationally designated landscape, or sensitive viewpoints, having regard to the following evaluation criteria?

- Proximity of the potential development area from locally or nationally designated landscape, or sensitive viewpoints;
- Sensitivity and number of locally or nationally designated landscapes, or potentially sensitive viewpoints such as from public rights of way or other public locations;
- Proximity of the PDA from local community receptors; and
- Potential for provision of screening or other mitigation measures.

	The PDA has the potential to have a significant adverse impact on a locally or nationally designated landscape, or important/sensitive viewpoints, which may be difficult to mitigate.
	The PDA has potential to have some adverse impact on a locally or nationally designated landscape, or important/sensitive viewpoints, which may be difficult to mitigate.
	The PDA is unlikely to have an adverse impact a locally or nationally designated landscape, or important/sensitive viewpoints, other than one which is unlikely to be difficult to mitigate..

Cultural Heritage

A.1.5 Assessment Indicator: Is the PDA likely to adversely impact designated heritage assets, having regard to the following evaluation criteria?

- Proximity to designated heritage assets;
- Level and sensitivity of designated heritage assets; and
- Potential for screening the PDA from the asset.

	The PDA has potential to have harm to a large number of designated heritage assets, which may be difficult to avoid and mitigate.
	The PDA has potential to have harm to a large number of designated heritage assets but could incorporate mitigation e.g. buffers/screening or has potential to have harm to a small number of designated heritage assets which may be difficult to mitigate/avoid.
	The PDA is likely to cause harm to a small number of designated assets and can accommodate appropriate buffers/mitigation measures to reduce impacts.

Access for Construction Traffic

A.1.6 Assessment Indicator: Is the local road network, from the primary road network to the potential development area, suitable for HGV access, having regard to the following evaluation criteria?

- General suitability of the public highway;
- Distance to the primary road network;
- Sensitivity of land uses along the route to the primary road network;
- Physical or engineering constraints (bridges, level crossings, visibility, access points etc); and
- Access to fields without having to remove hedgerows.

	The local road network has significant constraints to HGV access.
	The local road network has some constraints to HGV access.
	The local road network is suitable for HGV access.

Flood Risk

A.1.7 Assessment Indicator: Is the potential development area likely to be constrained by the risk of flooding, having regard to the following factors?

- Proximity to nearby watercourses; and
- Proportion of the PDA within Flood Zone 2 or 3.

	The majority of the PDA is within an area with moderate or significant risk of flooding
	The majority of the PDA is within an area with no or low risk of flooding, but part of the area is within an area with a moderate or significant risk of flooding.
	The PDA is entirely within an area with no or a low risk of flooding.

Solar Array Shading

A.1.8 Assessment Indicator: Is the potential development area likely to be constrained by features which would result in shading having regard to the following factor?

- Type and coverage (number) of features that might shade e.g. trees / woodland.

	The PDA has field boundary features which are likely to significantly constrain the solar array design
	The PDA has field boundary features which are likely to moderately constrain the solar array design.
	The PDA has field boundary features which are unlikely to constrain the solar array design.

Topography

A.1.9 Assessment Indicator: Is the potential development area affected by an undulating terrain of multiple gradients? The assessment will consider:

- The proportion of the PDA that is undulating / has varied topography.

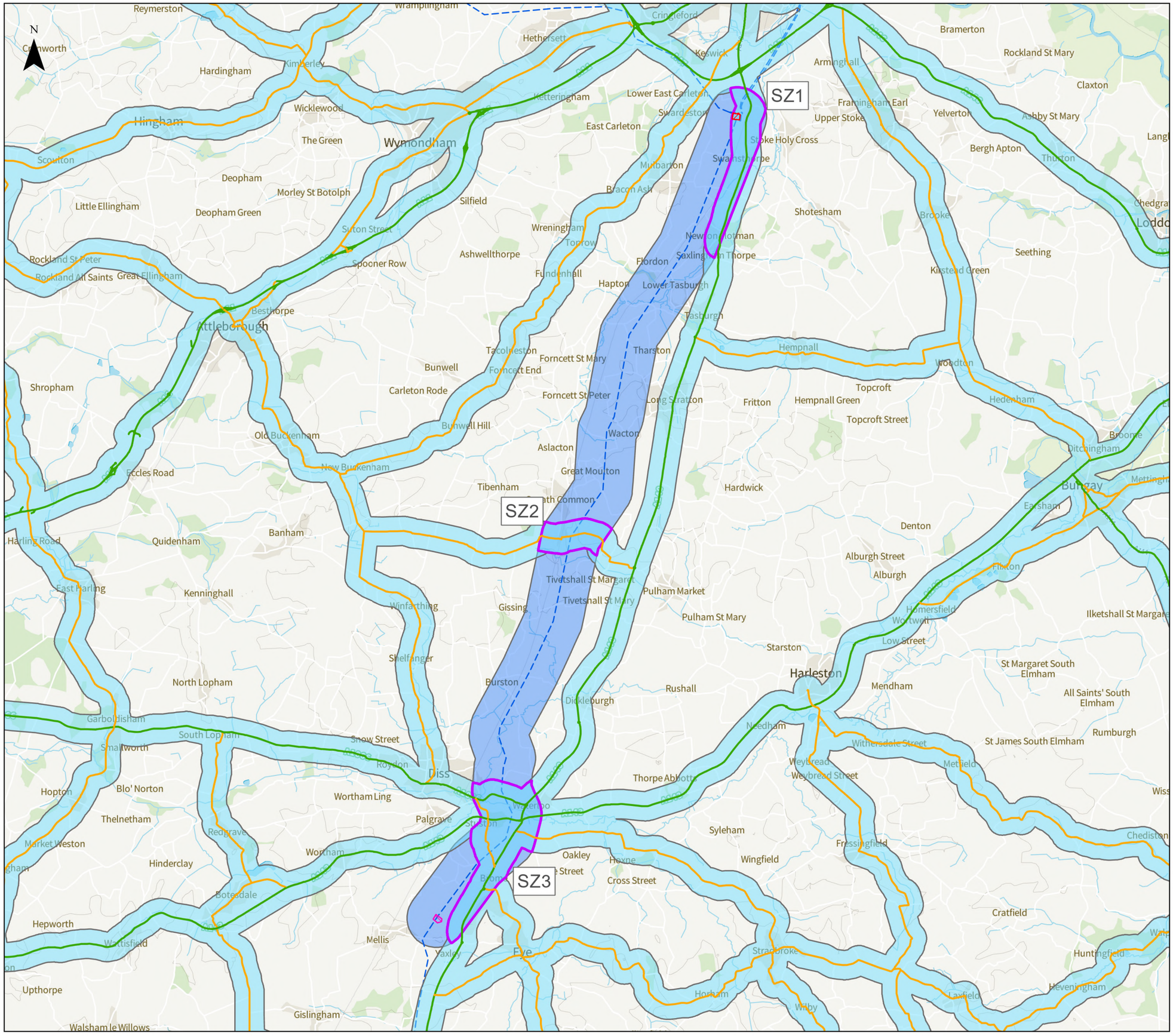
	The terrain of the PDA is likely to significantly constrain the solar array design.
	The terrain of the PDA is likely to moderately constrain the solar array design.
	The terrain of the PDA is unlikely to constrain the solar array design.

Site Size

A.1.10 Assessment Indicator: Is the PDA of sufficient size to accommodate a scheme of 500MW? The assessment will consider:

	The PDA does not provide sufficient land to accommodate a 500 MW scheme and is too isolated from other potential development areas that could be linked.
	The PDA does not provide sufficient land to accommodate a 500 MW scheme but is close to other potential development areas that could be linked.
	The PDA provides sufficient land required to accommodate a 500 MW scheme.

Appendix B Figures: Assessment Mapping Results



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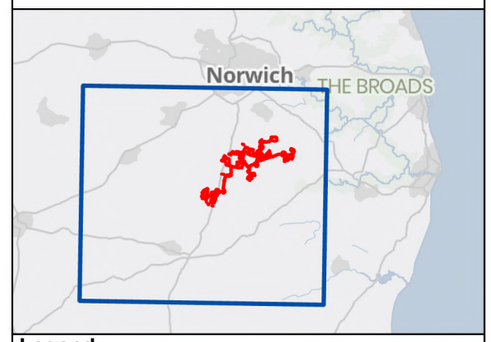

Legend

- Norwich Main Substation
- Yaxley Substation
- Substation Siting Zones (500m buffer from A&B Roads, 1km from OHL)
- 500m Buffer from A & B Roads
- Overhead Line
- 1km Buffer from OHL

Road Class

- A Road
- B Road

0 1 2 4 6 8 km

1:125,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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National Grid Substation, Alternative Siting Zones

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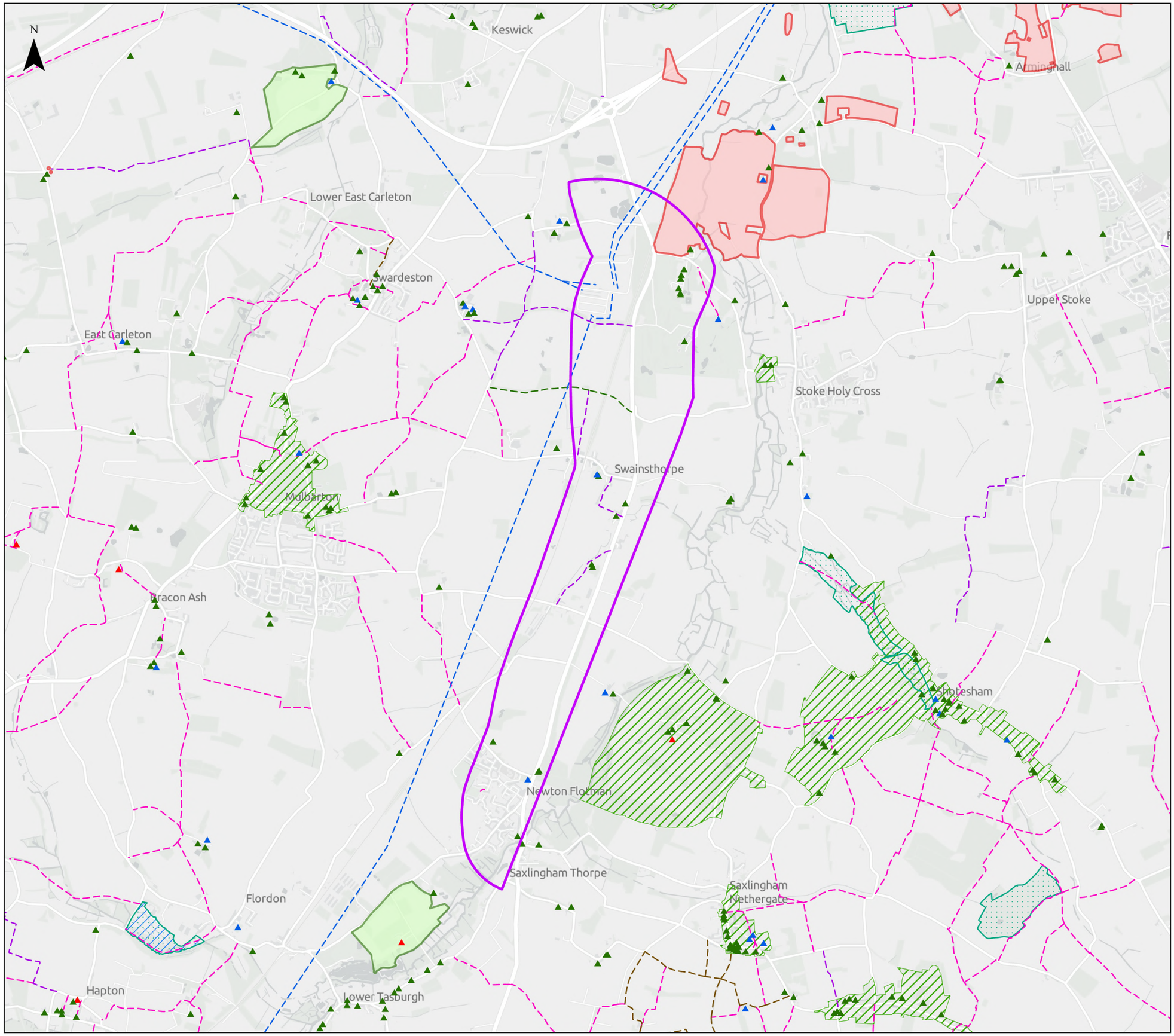

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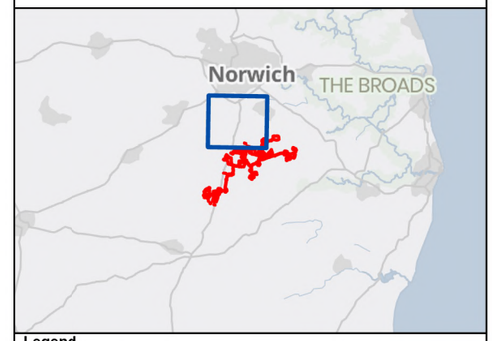

Legend

- Substation Siting Zone 1
- Overhead Line
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Scheduled Monument
- Conservation Area
- Registered Park/Garden

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Byway Open to All Traffic
- Restricted Byway

0 1 2 km

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APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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National Grid Substation, Alternative Siting Zone 1

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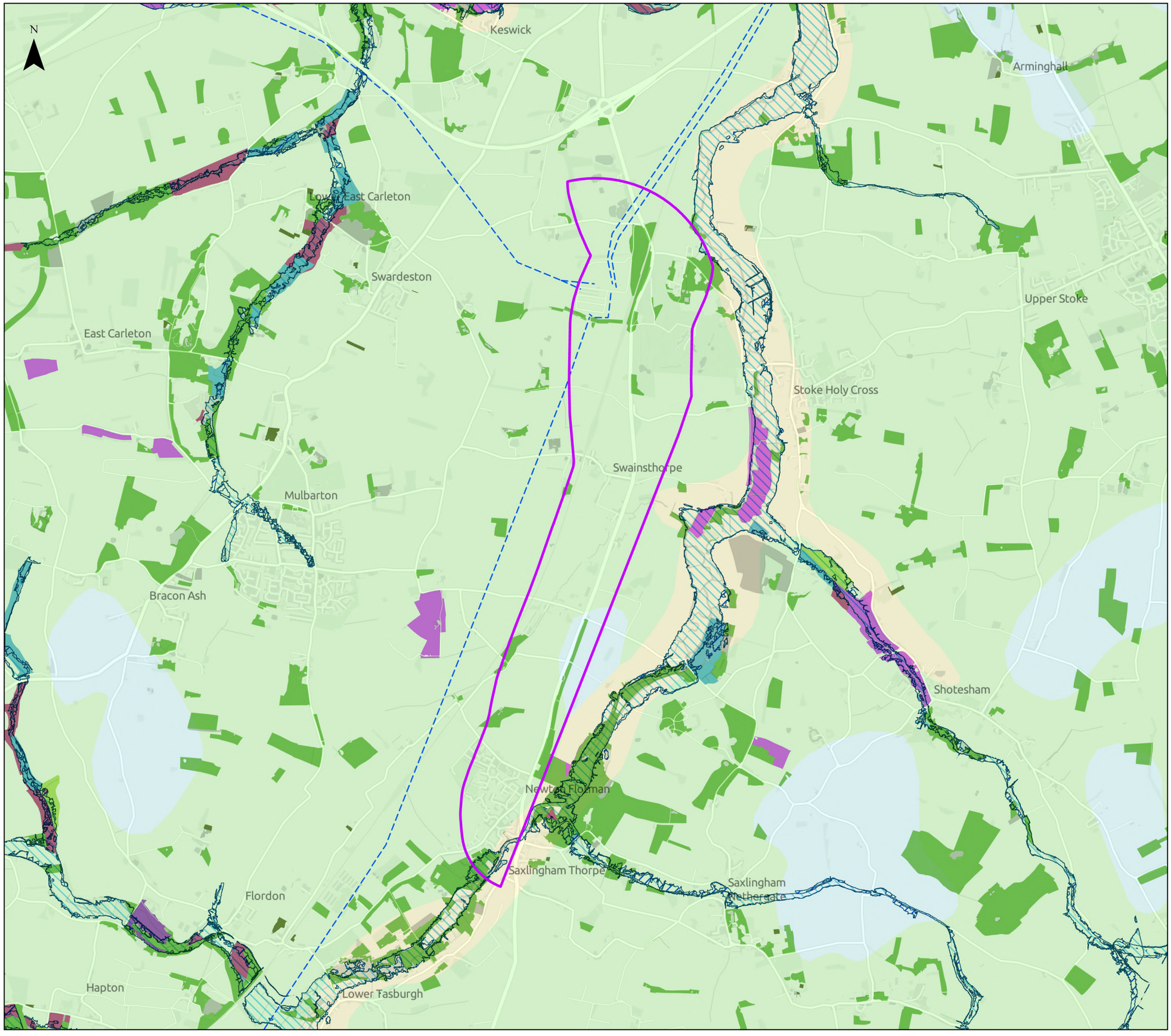

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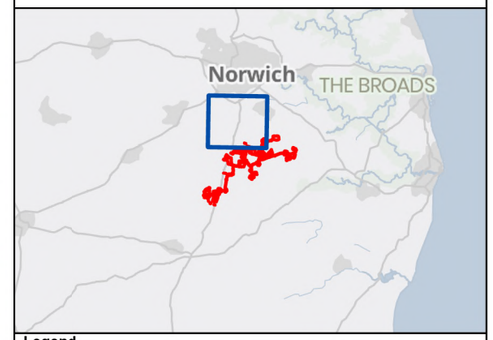

Legend

- Substation Siting Zone 1
- Overhead Line

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lowland fens
- Lowland meadows
- No main habitat but additional habitats present
- Ponds
- Purple moor grass and rush pastures
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4

0 1 2 km

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APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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National Grid Substation, Alternative Siting Zone 1

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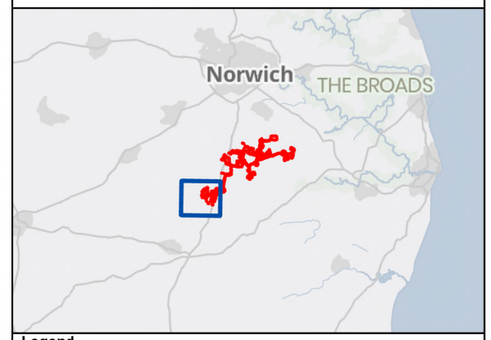

Legend

- Substation Siting Zone 2
- Overhead Line
- Conservation Area

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Restricted Byway

Ancient Woodland

- Ancient & Semi-Natural Woodland

0 0.5 1 km

1:20,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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National Grid Substation, Alternative Siting Zone 2

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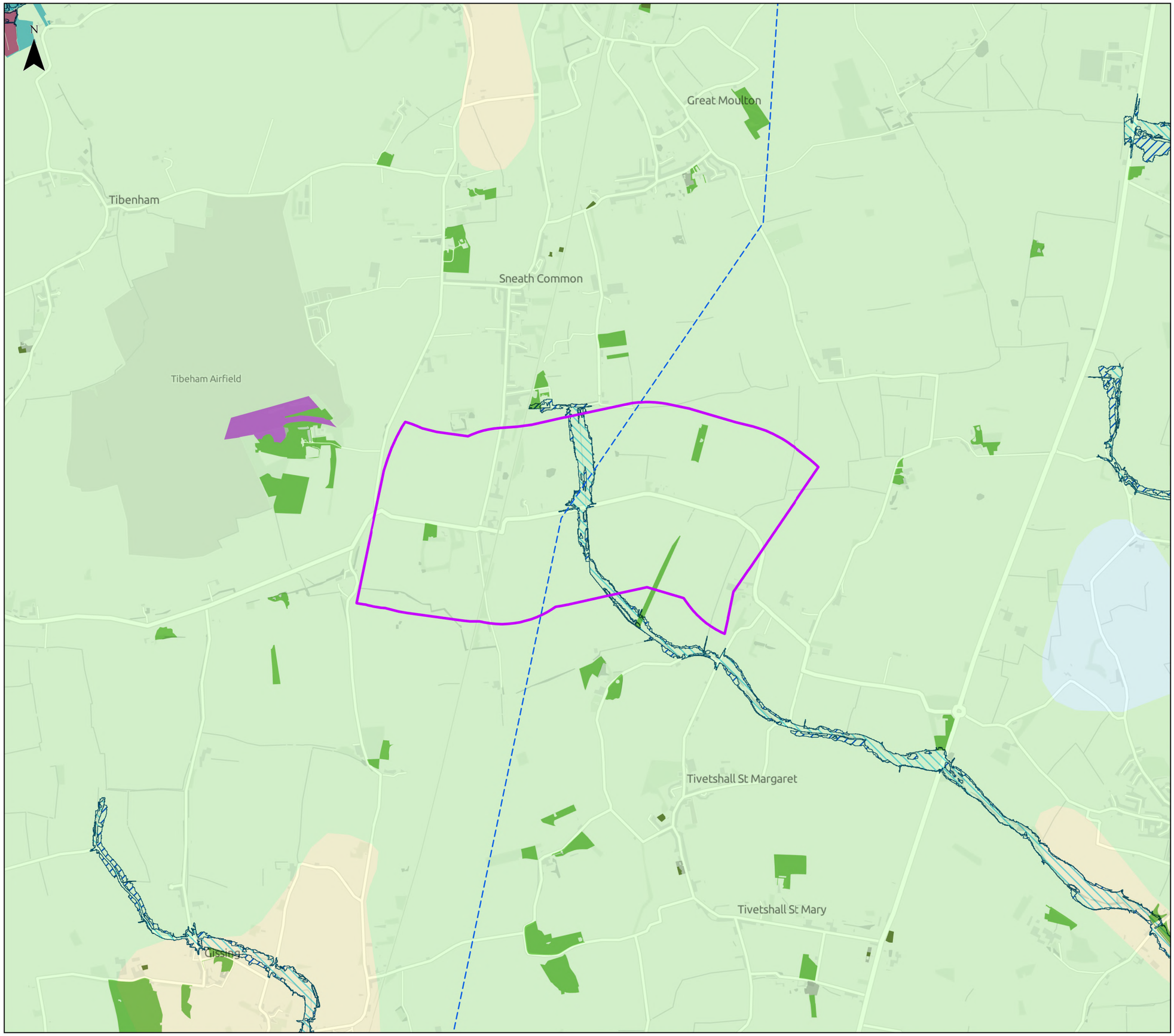

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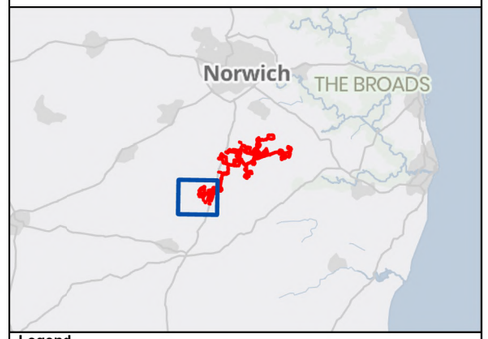

Legend

- Substation Siting Zone 2
- Overhead Line

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lowland fens
- No main habitat but additional habitats present
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4

0 0.5 1 km

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National Grid Substation, Alternative Siting Zone 2

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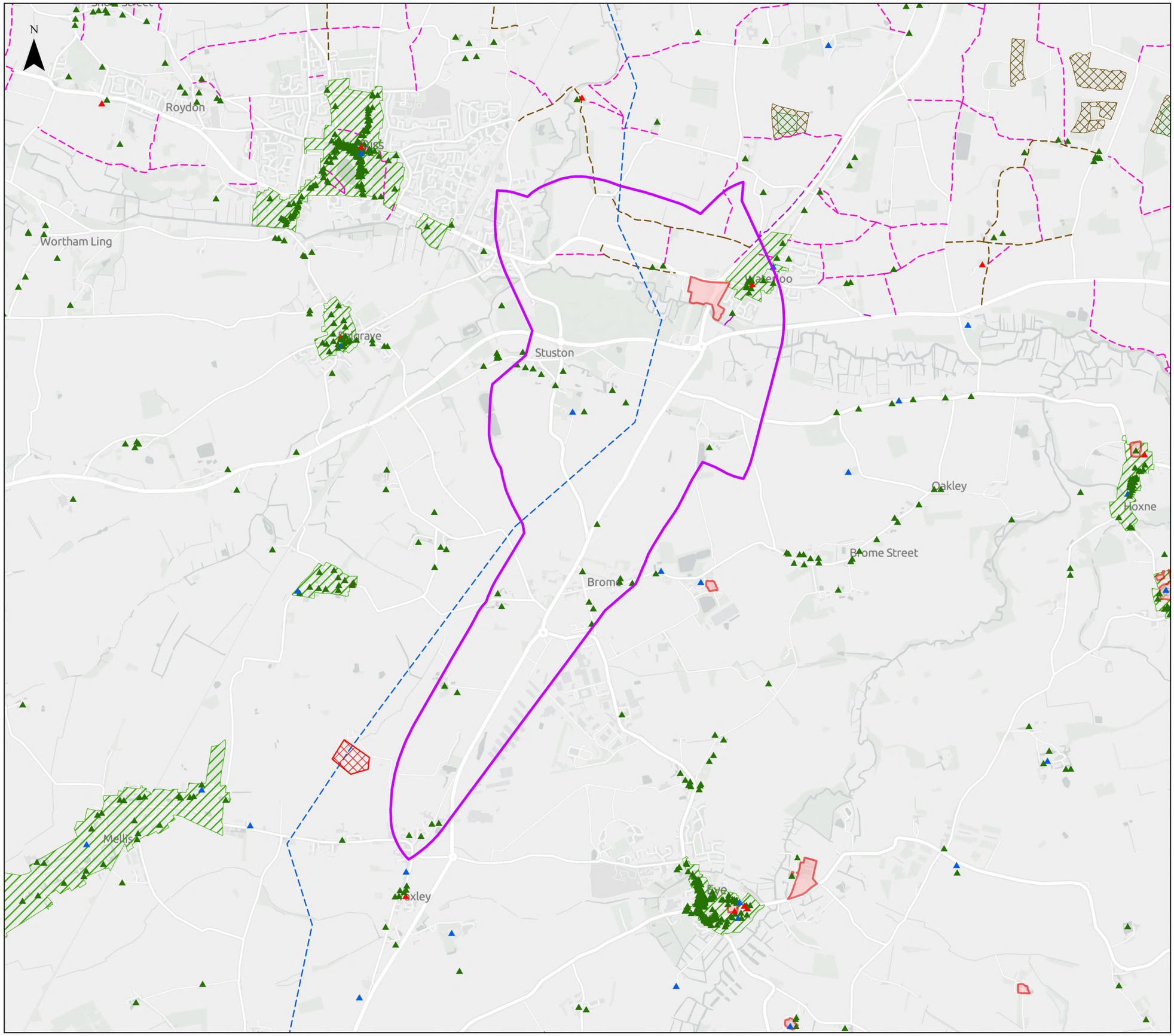

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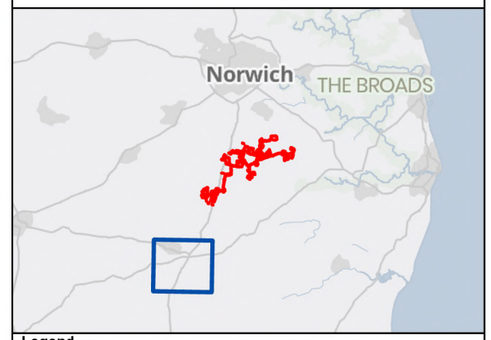

Legend

- Substation Siting Zone 3
- Yaxley Substation
- Overhead Line
- Scheduled Monument
- Conservation Area

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Restricted Byway

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

0 1 2 km

1:30,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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National Grid Substation, Alternative Siting Zone 3

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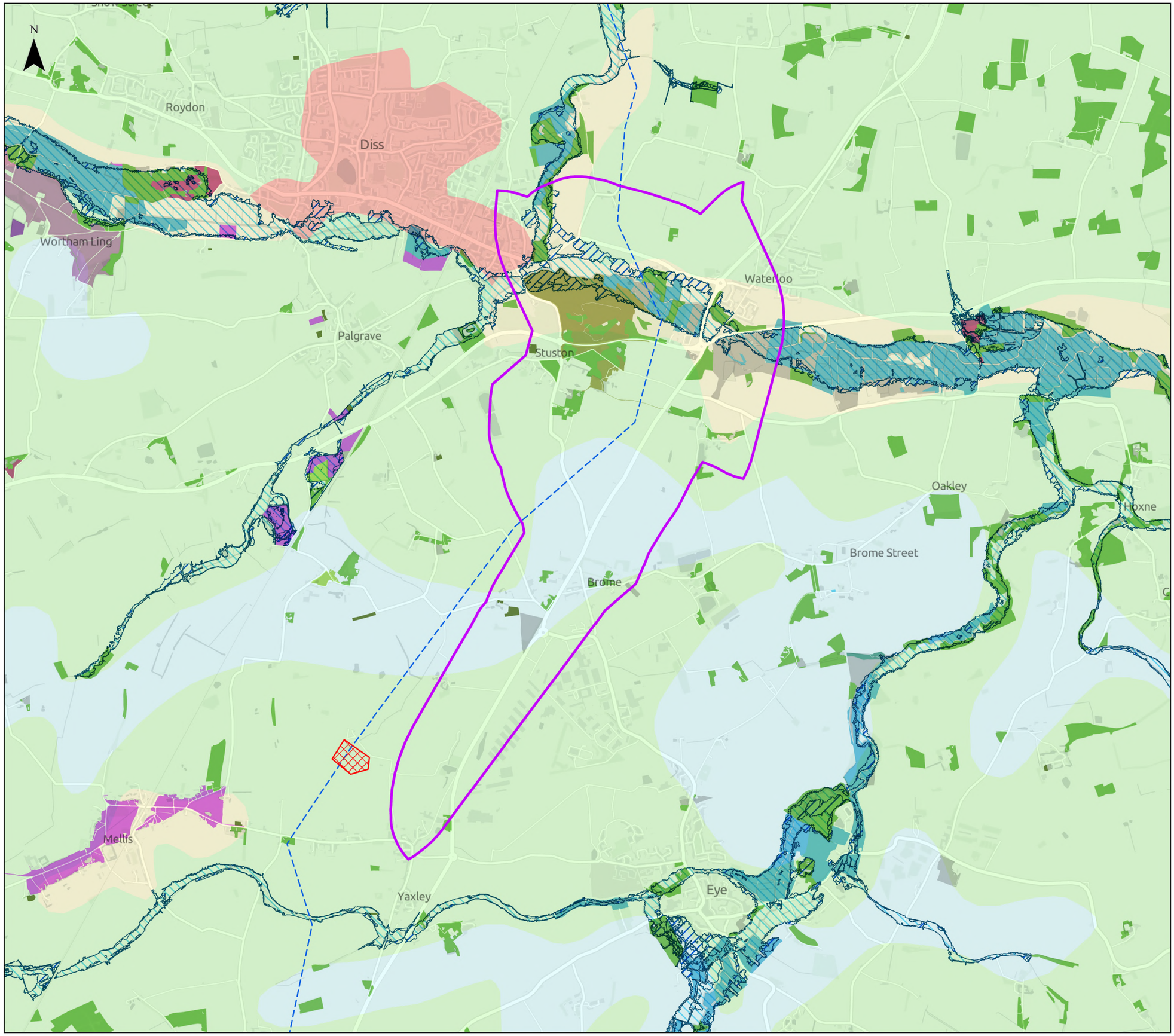

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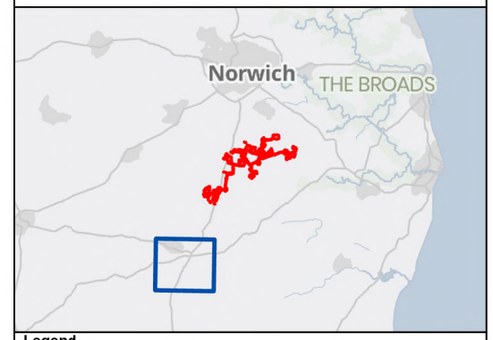

Legend

- Substation Siting Zone 3
- Yaxley Substation
- Overhead Line

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lowland calcareous grassland
- Lowland fens
- Lowland heathland
- Lowland meadows
- No main habitat but additional habitats present
- Ponds
- Purple moor grass and rush pastures
- Reedbeds
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4
- Urban

0 1 2 km

1:30,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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National Grid Substation, Alternative Siting Zone 3

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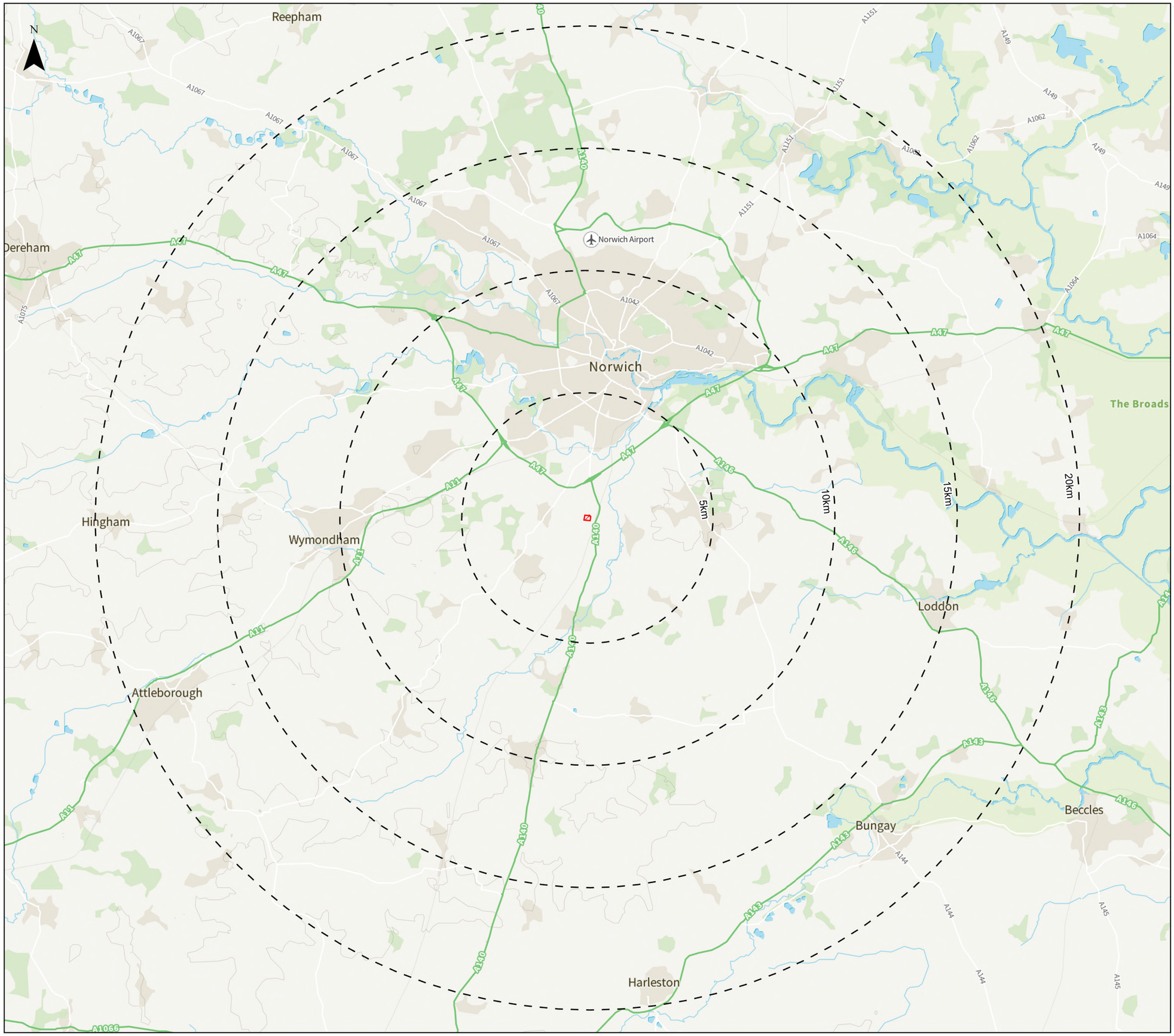

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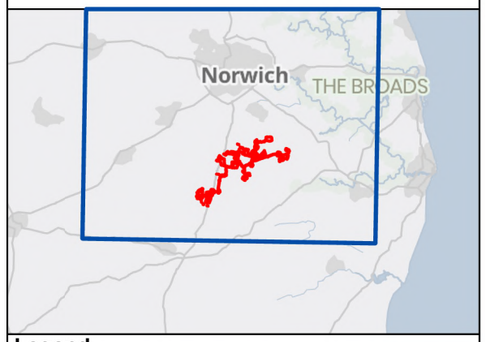

Legend

- Norwich Main Substation
- Study Area (Buffers from Norwich Main Substation)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
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Search Area from Norwich Main Substation

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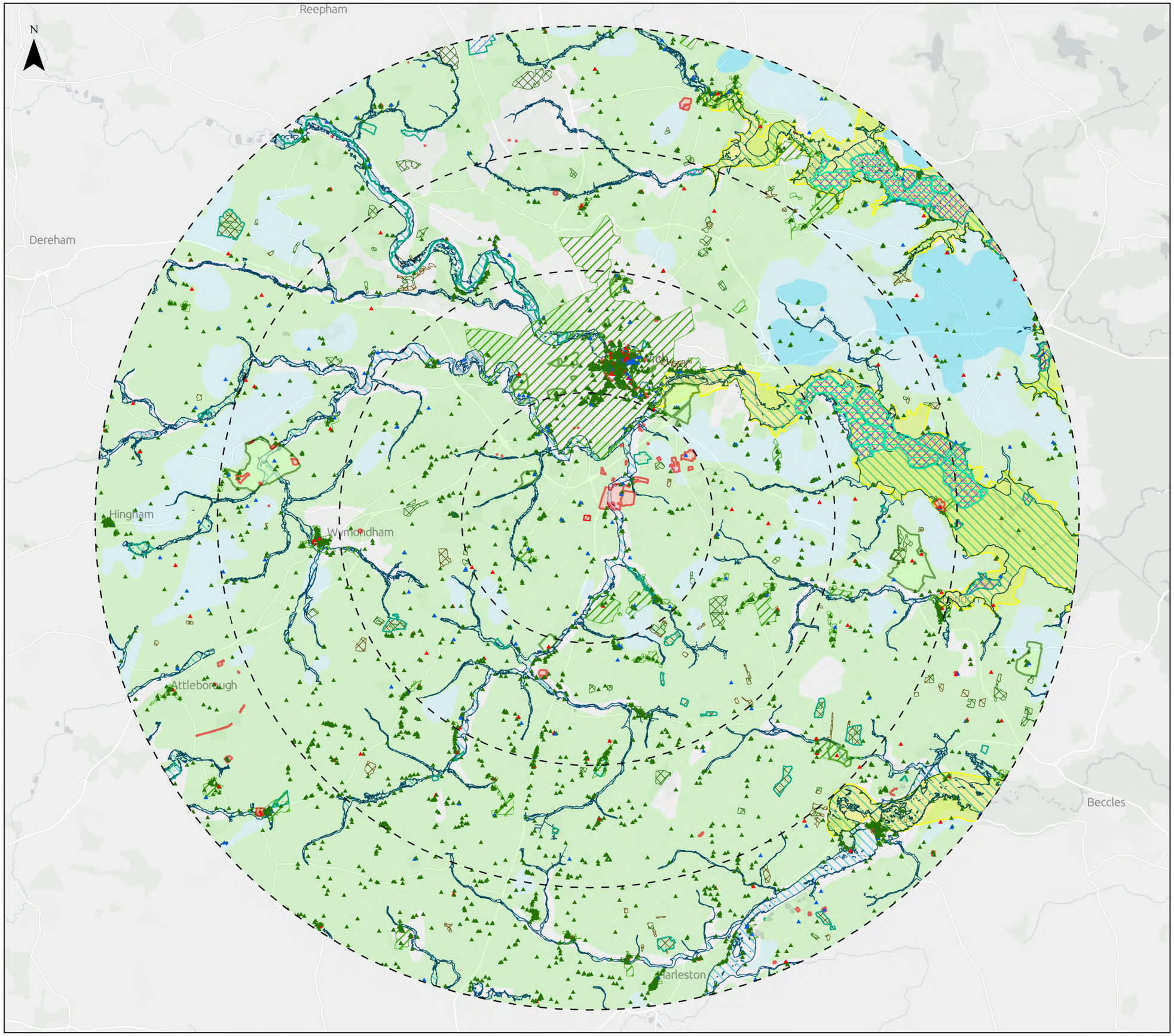
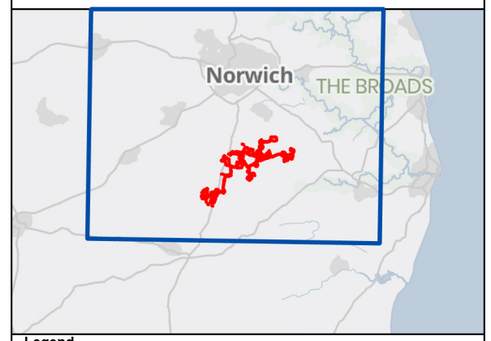


Island GREEN POWER



Legend

- Norwich Main Substation
- Study Area (Buffers from Norwich Main Substation)
- National Nature Reserve (NNR)
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Ramsar
- Scheduled Monument
- Conservation Area
- Registered Park/Garden
- The Broads National Park

Listed Buildings

- I
- II
- II*

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 1
- Grade 2
- Grade 3

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 6	Date: 02/03/2026
Drawn: TB	Checked: SC

Planning and Environmental Constraints within 20km of Norwich Main Substation

Sheet 1 of 1
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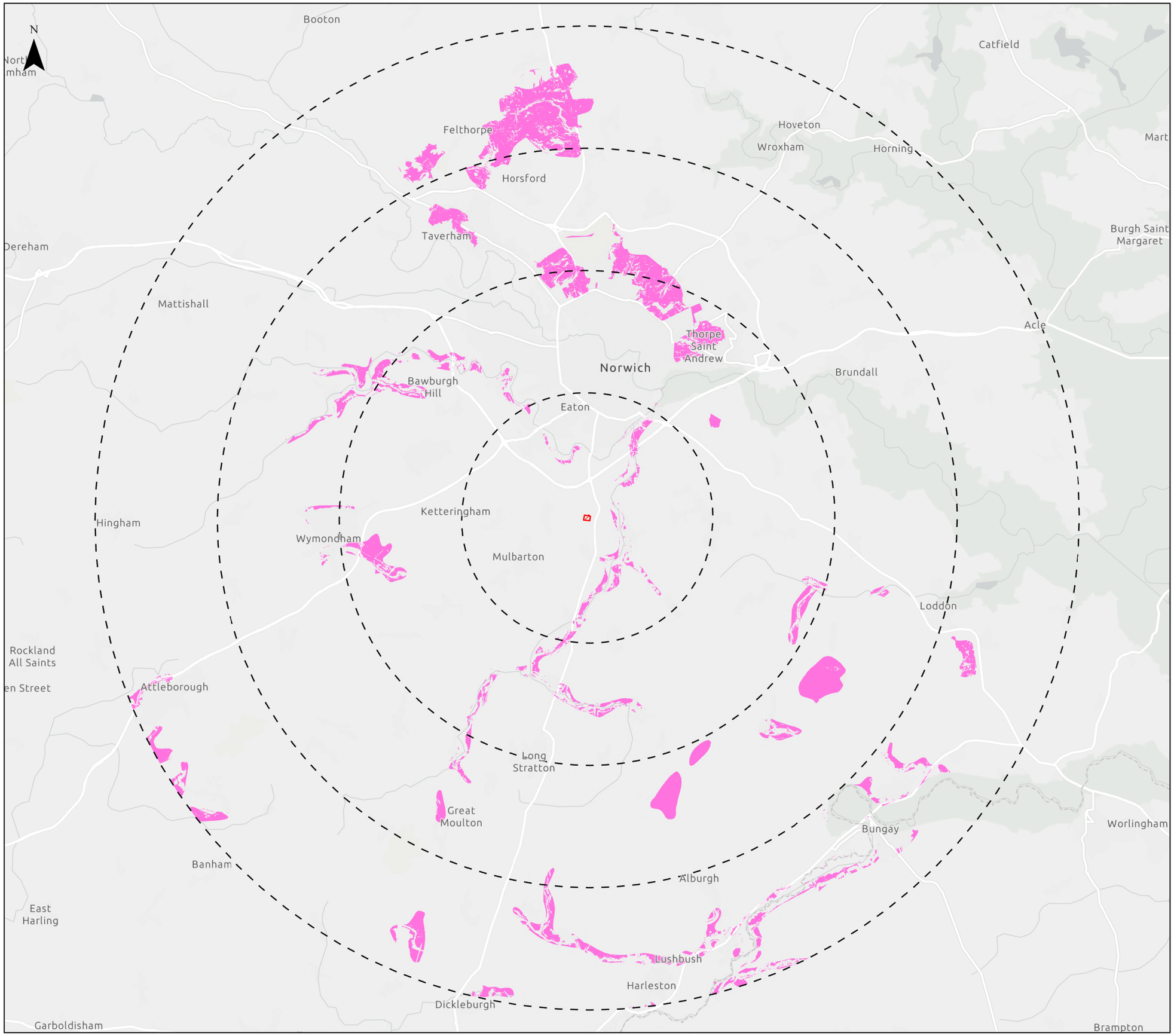

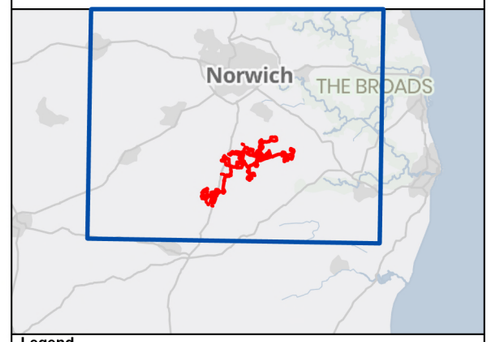

Legend

- Norwich Main Substation
- Study Area (Buffers from Norwich Main Substation)
- Unconstrained Land (<3% Gradient)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 7	Date: 03/03/2026
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Unconstrained Land within 20km of Norwich Main Substation

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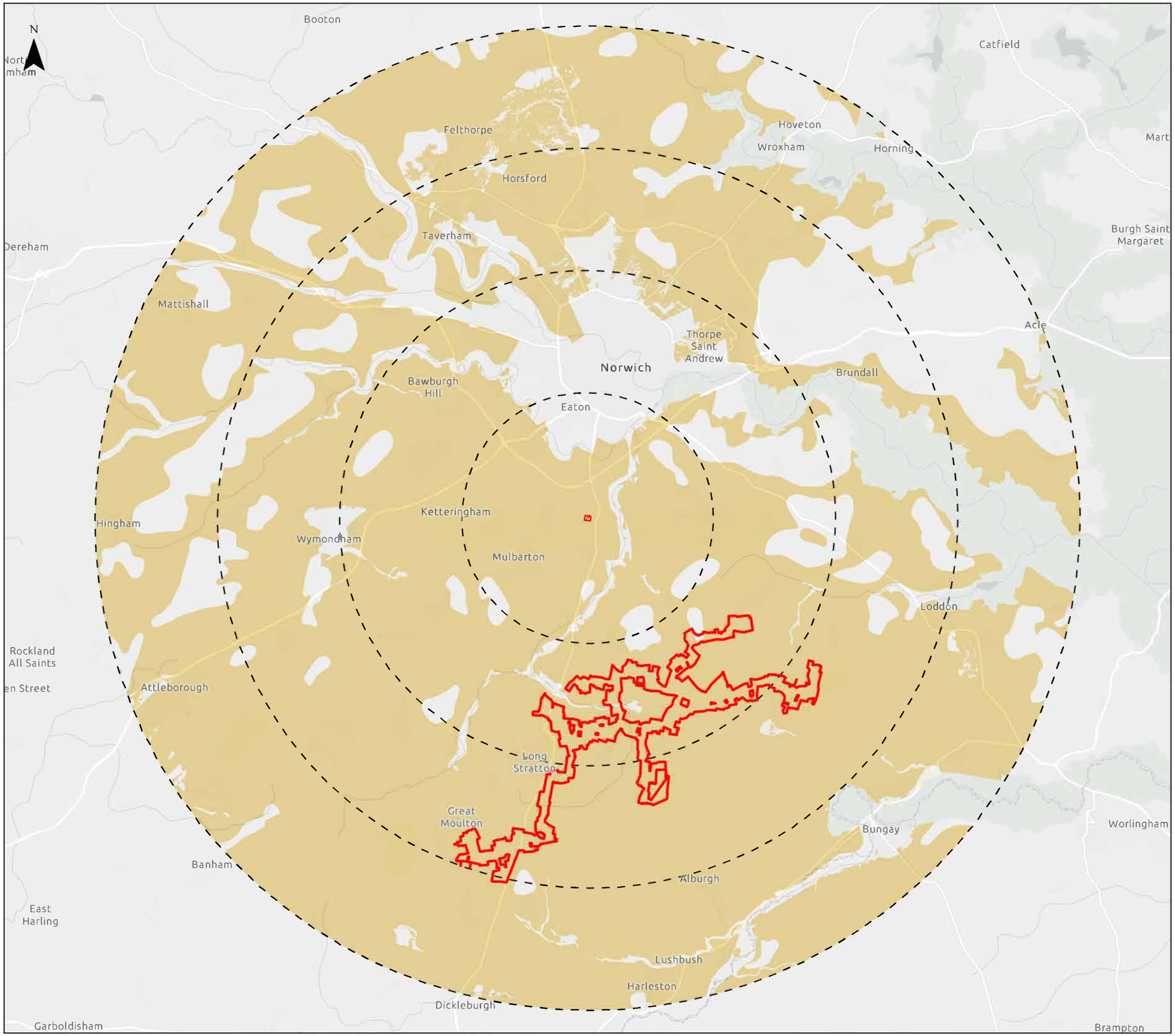

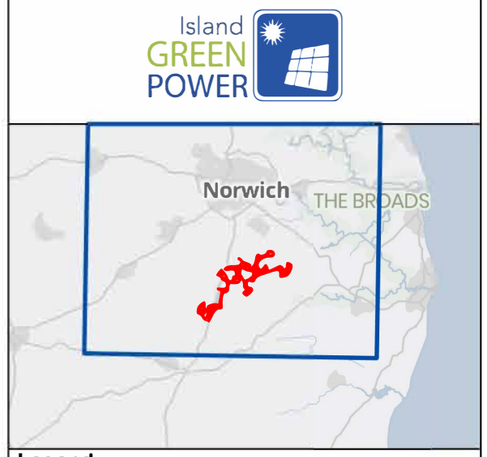

Legend

- EIA Scoping Boundary
- Norwich Main Substation
- Study Area (Buffers from Norwich Main Substation)
- Unconstrained Land, Including ALC Grade 3 (<3% Gradient)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 8	Date: 02/03/2026
Drawn: TB	Checked: SC

ALC Grade 3 Unconstrained Land and the EIA Scoping Boundary within 20km of Norwich Main Substation

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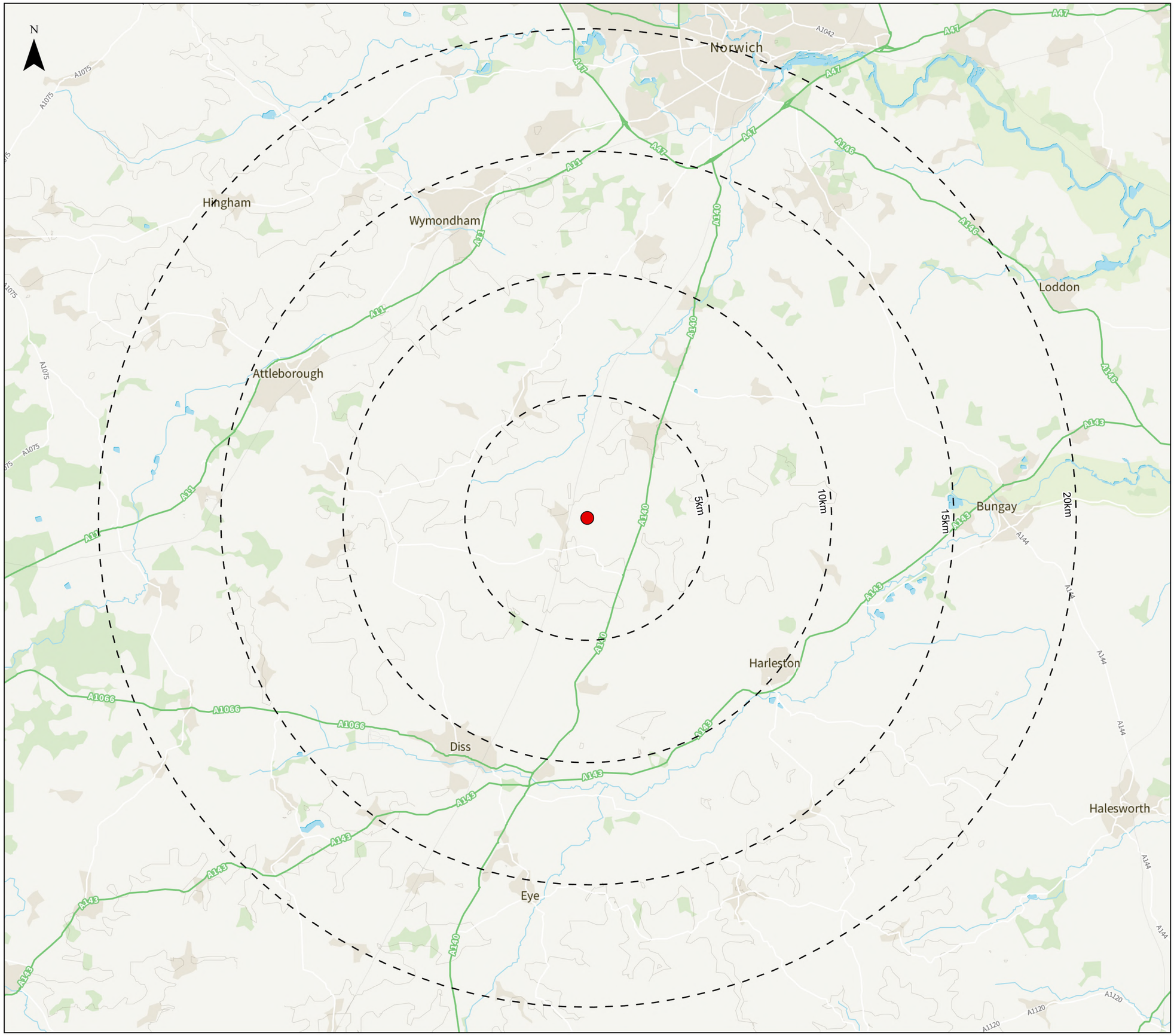
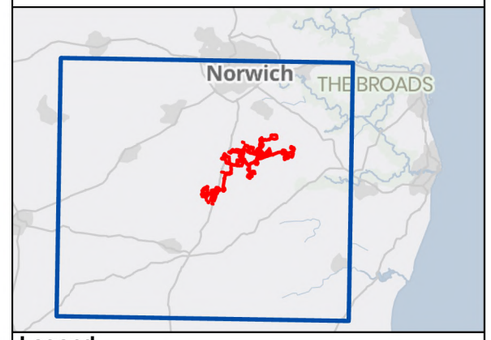


Island GREEN POWER



Legend

- Point of Connection
- Study Area (Buffers from Point of Connection)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 9	Date: 24/02/2026
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Search Area from the Point of Connection

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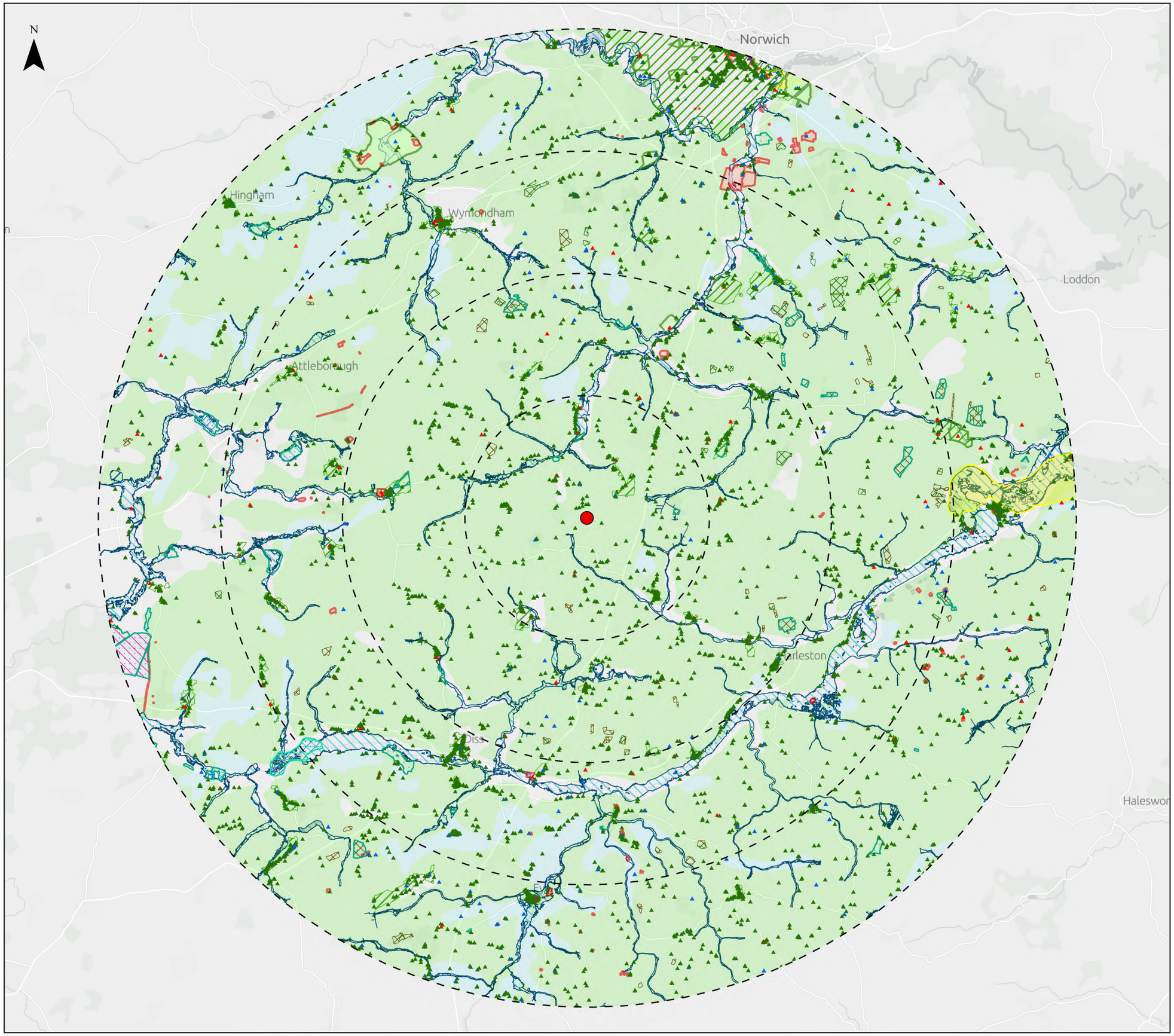
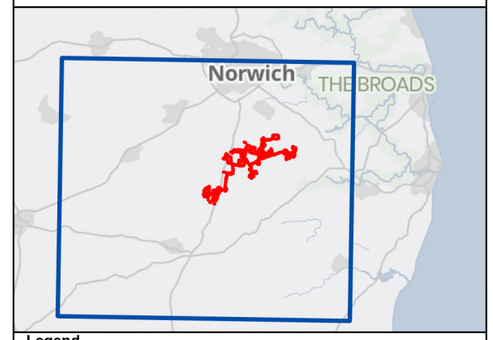


Island GREEN POWER



Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Ramsar
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Scheduled Monument
- Conservation Area
- Registered Park/Garden
- The Broads National Park

Listed Buildings

- I
- II
- II*

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 10	Date: 02/03/2026
Drawn: TB	Checked: SC

Planning and Environmental Constraints within 20km of the Point of Connection

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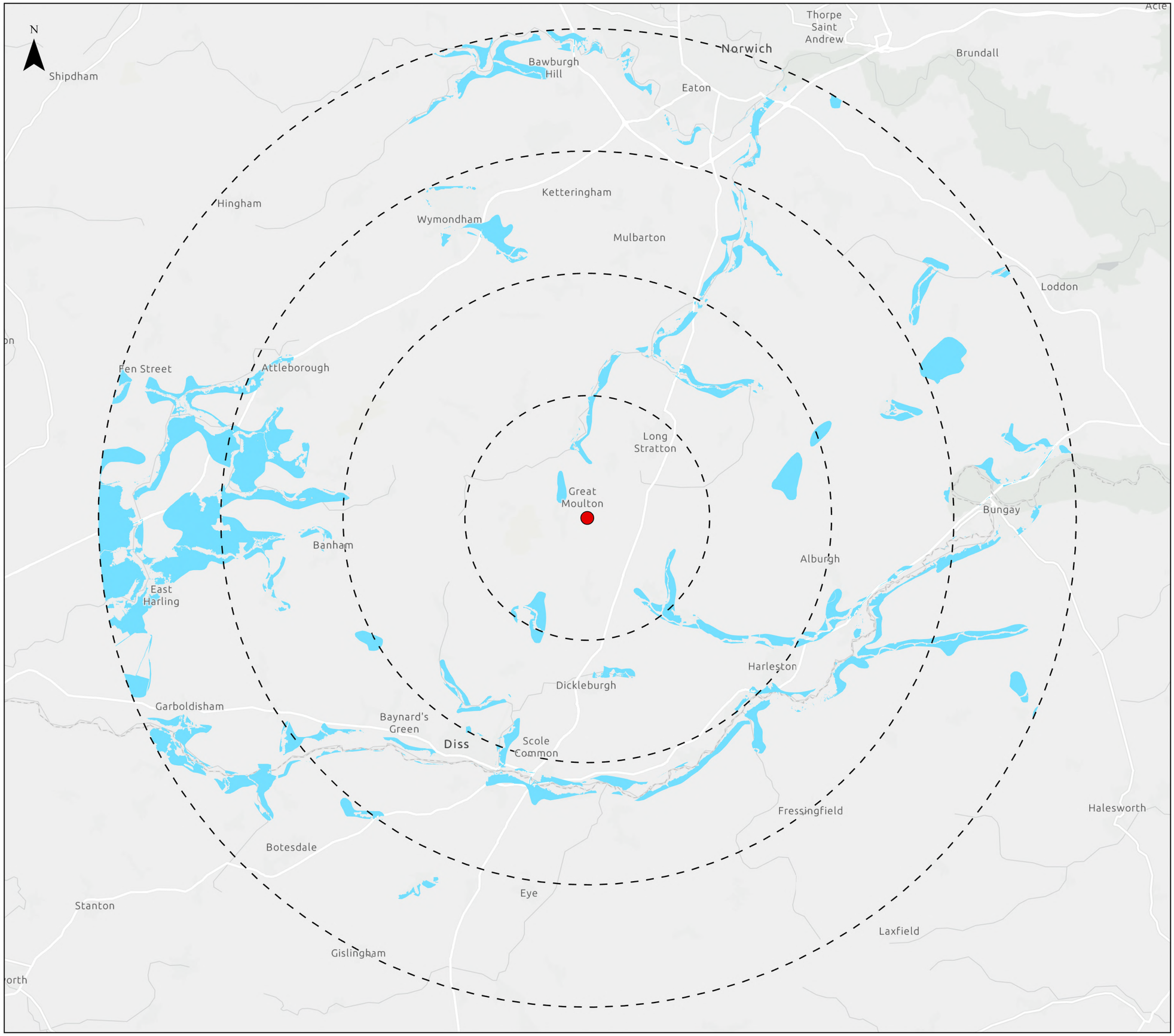

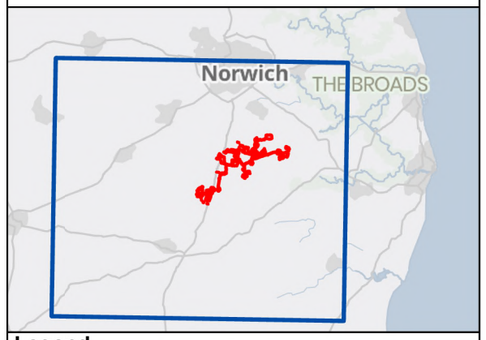

Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 11	Date: 27/02/2026
Drawn: TB	Checked: SC

Unconstrained Land within 20km of the Point of Connection

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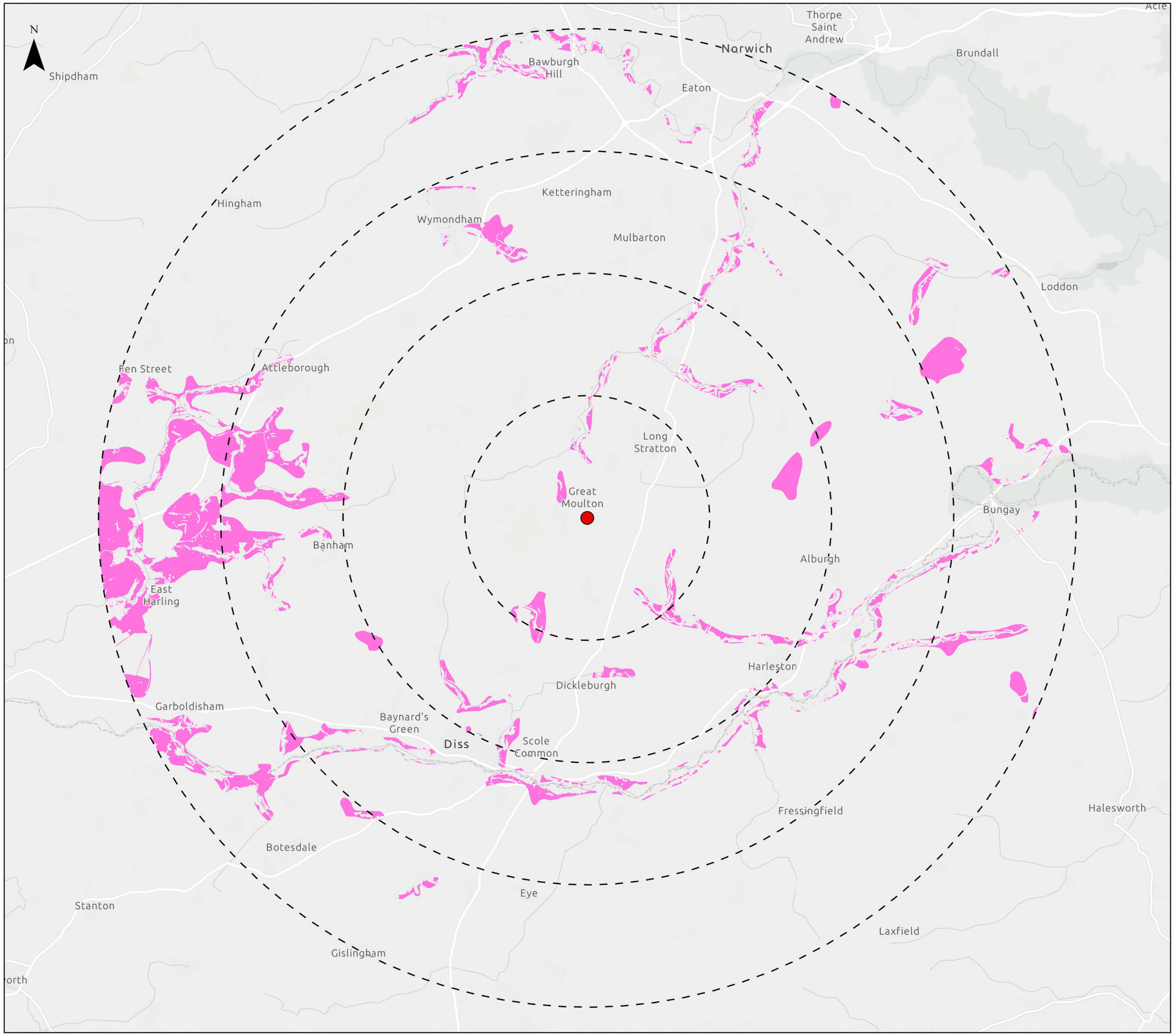

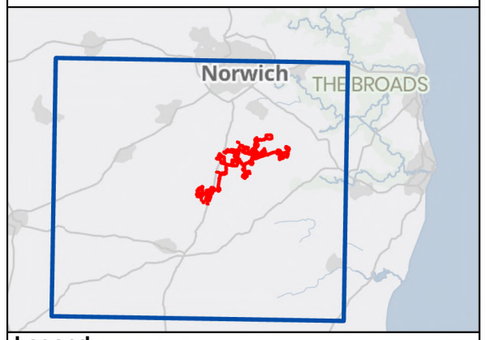

Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land (<3% Gradient)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 12	Date: 27/02/2026
Drawn: TB	Checked: SC

Topographic Gradient (Unconstrained Land + Slope < 3%) within 20km of the Point of Connection

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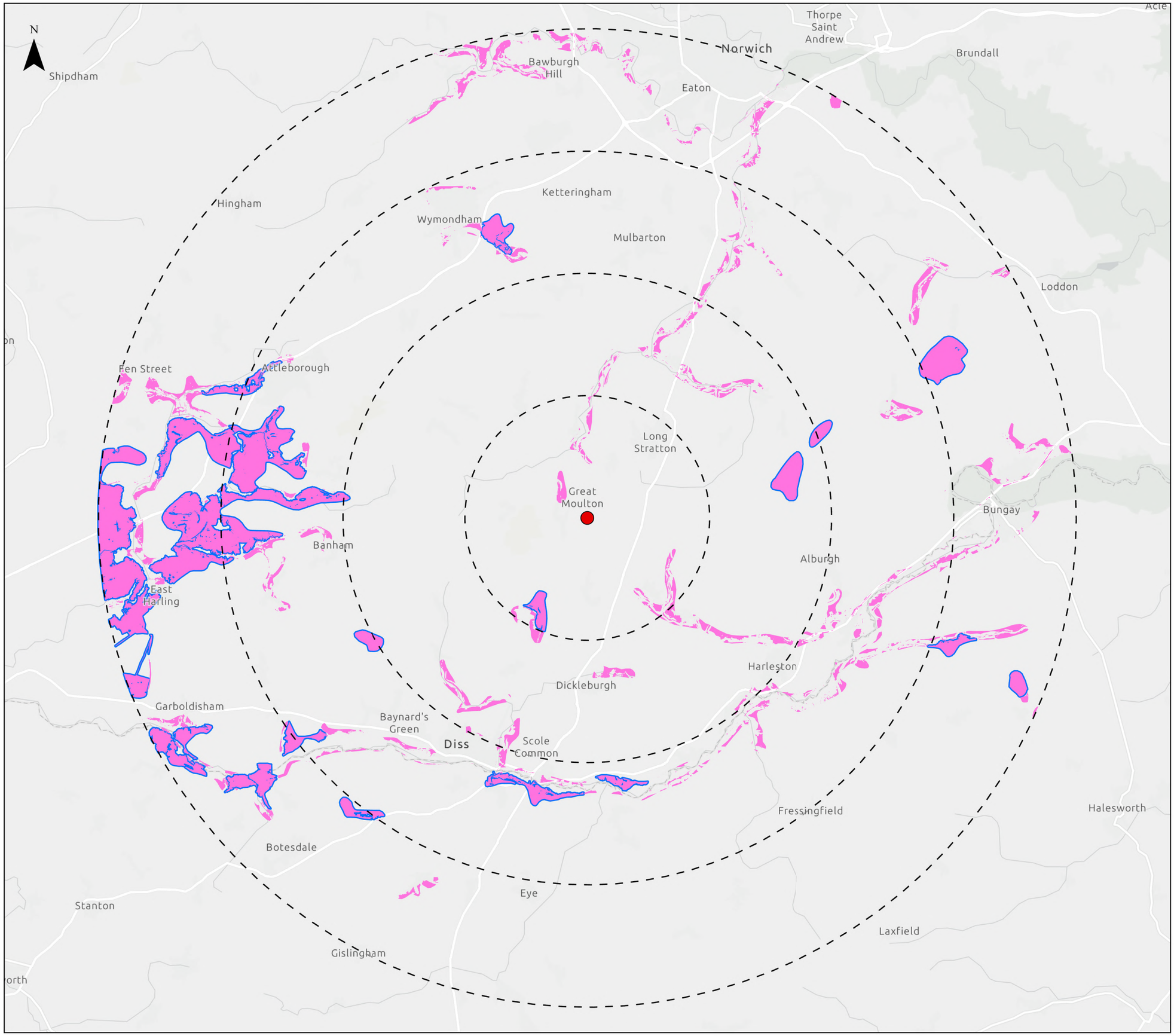

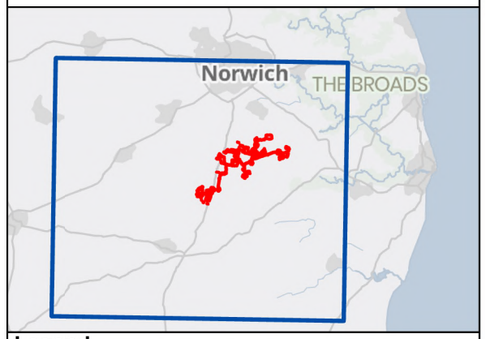

Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land (<3% Gradient)
- Unconstrained Land (<3% Gradient, >40ha)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 13	Date: 27/02/2026
Drawn: TB	Checked: SC

Residual Unconstrained Land with Excluded Areas (Slope <3%, Minimum 40ha Site Size) within 20km of the Point of Connection

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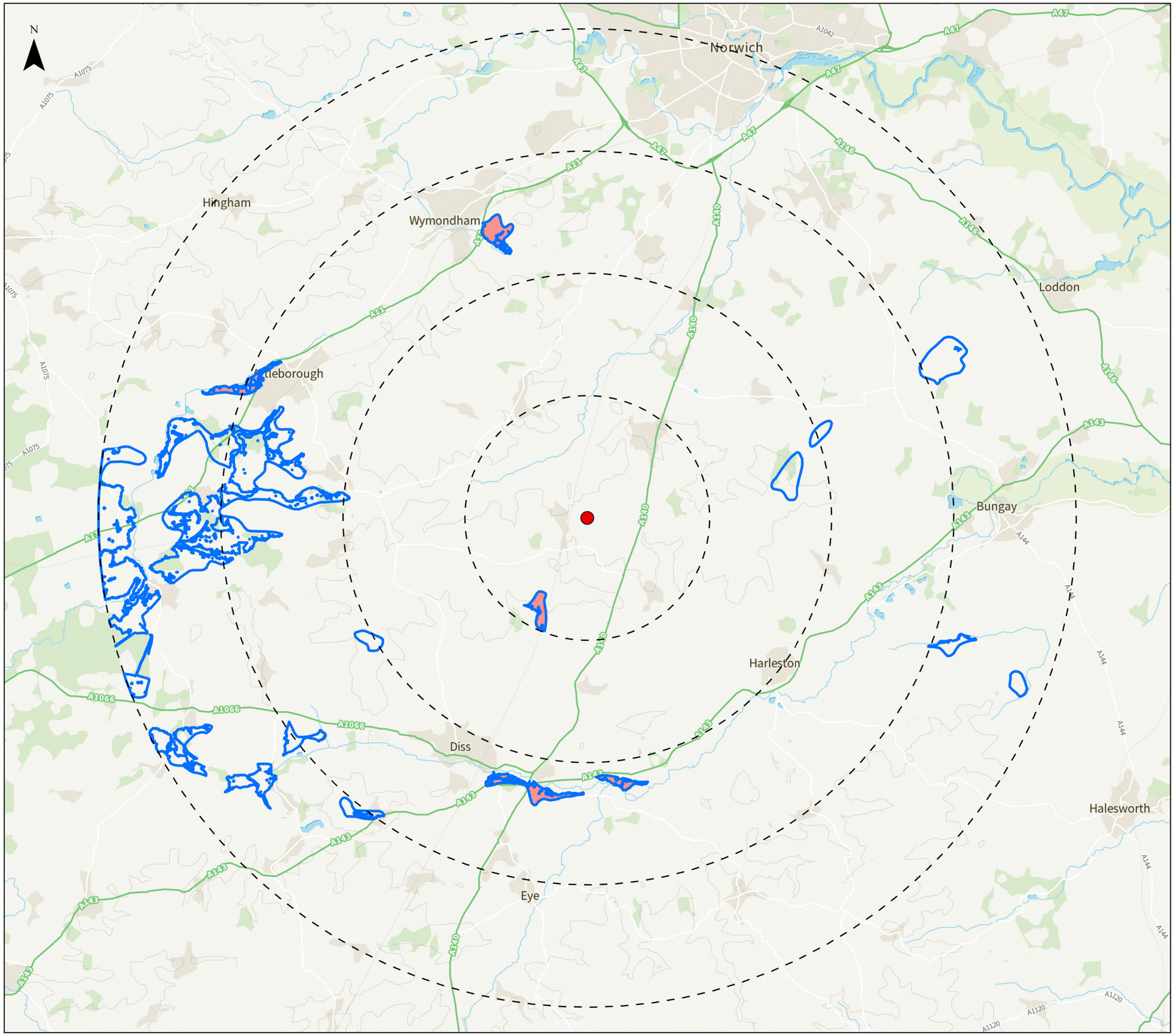
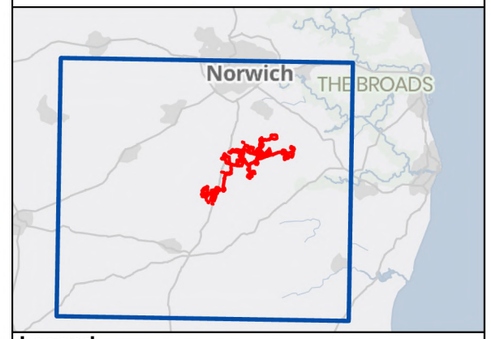


Island GREEN POWER



Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land (<3% Gradient, >40ha)
- Area Not Suitable due to Proximity, Shape, and/or Size

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 14	Date: 24/02/2026
Drawn: TB	Checked: SC

Selected Residual Unconstrained Land within 20km of the Point of Connection

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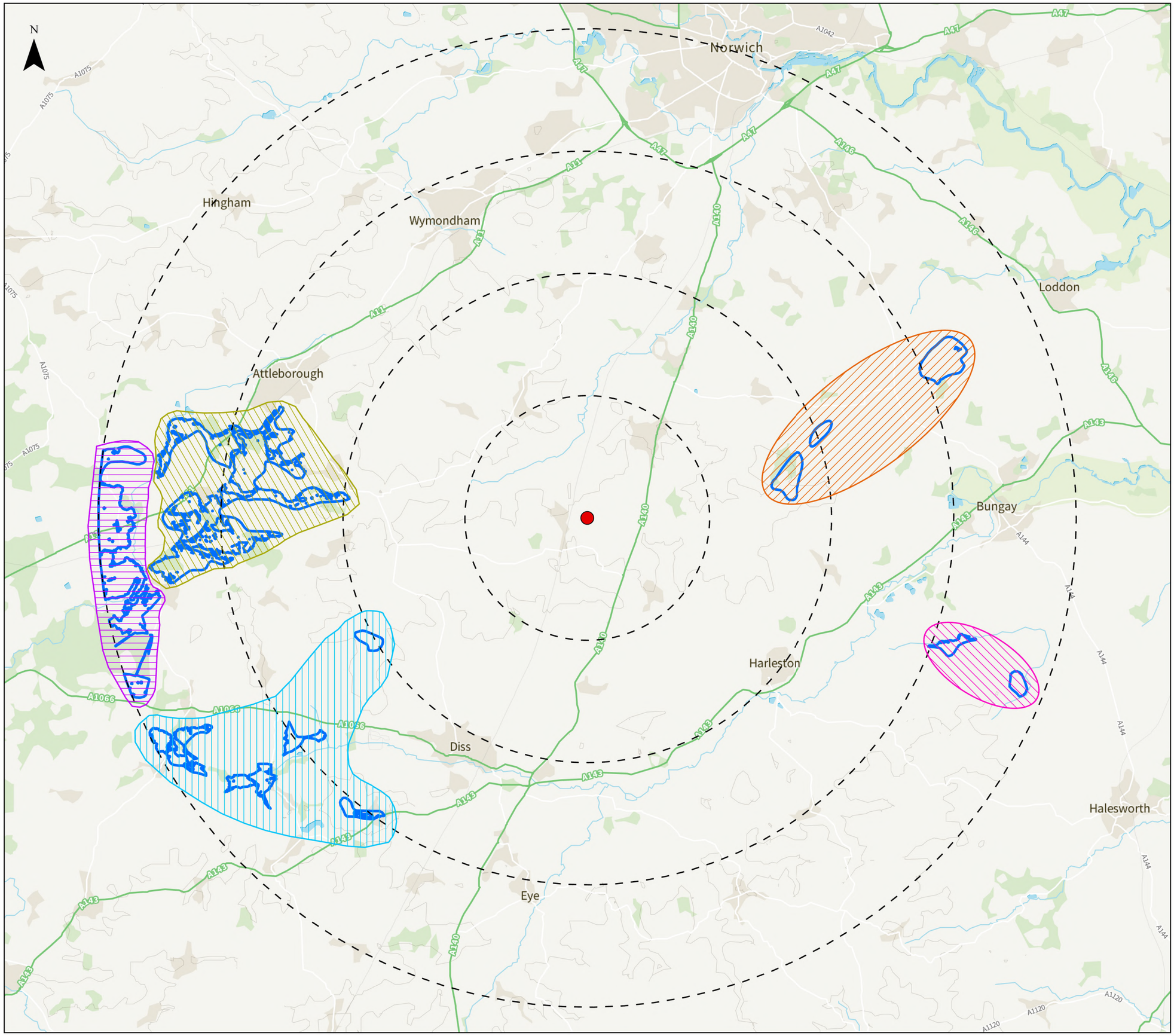
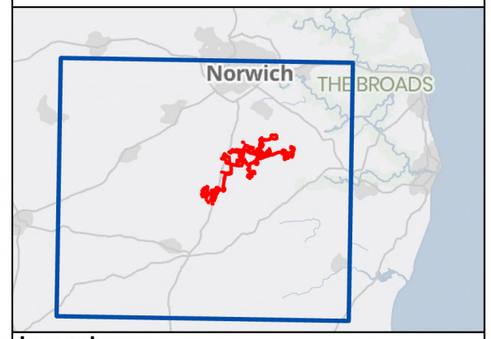


Island GREEN POWER



Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land (Slope <3%, >40ha)

Potential Development Areas

- PDA1
- PDA2
- PDA3
- PDA4
- PDA5

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 15	Date: 27/02/2026
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Potential Development Areas

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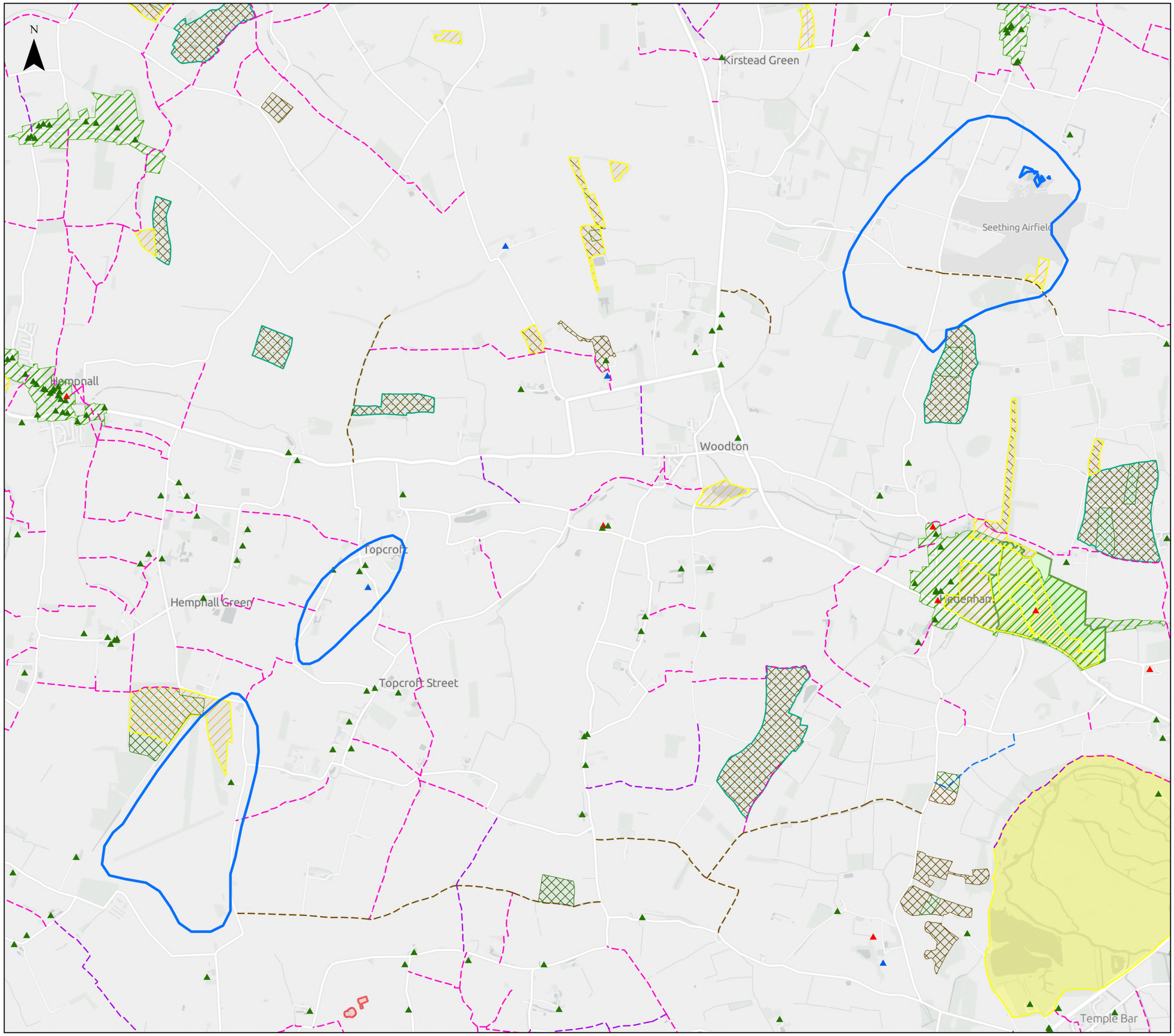

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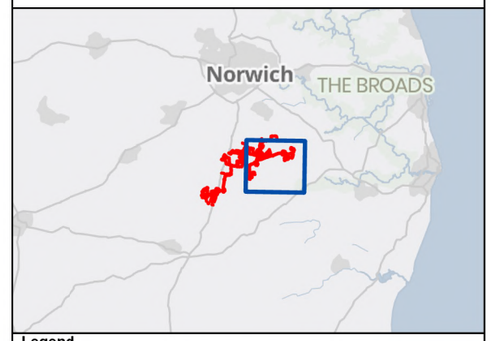

Legend

- Potential Development Area 1
- Site of Special Scientific Interest (SSSI)
- Scheduled Monument
- Conservation Area
- County Wildlife Sites (CWS)
- Registered Park/Garden
- The Broads National Park

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Byway Open to All Traffic
- Restricted Byway

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

0 1 2 km

1:30,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 16a	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 1 – Environmental Constraints

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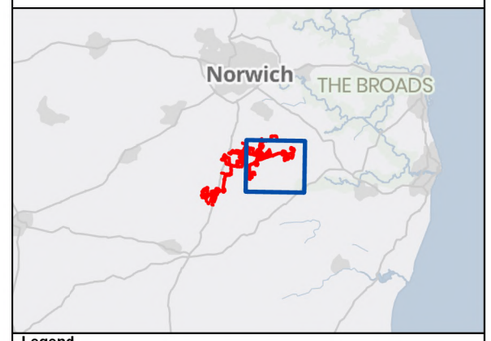

Legend

- Potential Development Area 1

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lowland fens
- Lowland heathland
- No main habitat but additional habitats present
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4

0 1 2 km

1:30,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 16b	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 1 – Environmental Constraints

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N

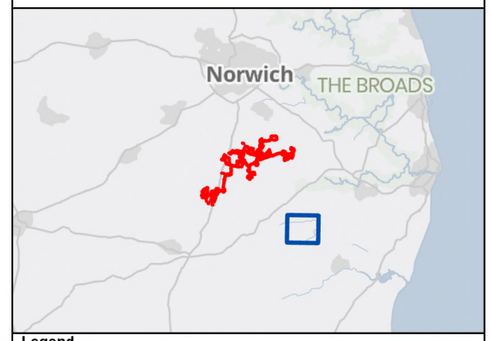
St Margaret South Elmham

All Saints' South Elmham

St James South Elmham

Rumburgh

Island GREEN POWER



Legend

- Potential Development Area 2
- Site of Special Scientific Interest (SSSI)
- Scheduled Monument

Listed Buildings

- I
- II
- II*

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lowland meadows
- No main habitat but additional habitats present
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 3
- Grade 4

0 0.5 1 km

1:16,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 17	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 2 – Environmental Constraints

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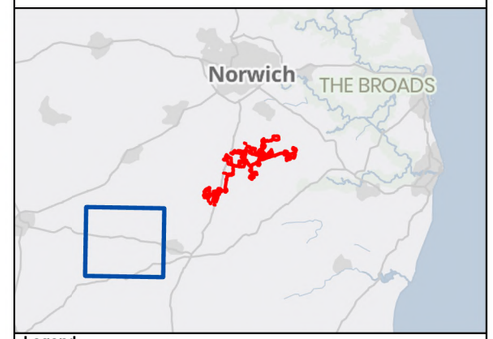

Legend

- Potential Development Area 3
- National Nature Reserve (NNR)
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Ramsar
- Scheduled Monument
- Conservation Area

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Restricted Byway

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

0 0.5 1 2 km

1:40,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 18a	Date: 26/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 3 – Environmental Constraints

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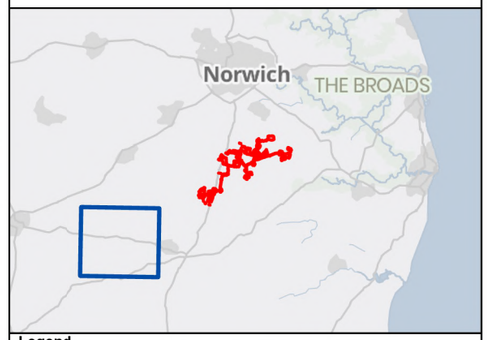

Legend

Potential Development Area 3

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland fens,Reedbeds
- Lowland heathland
- No main habitat but additional habitats present
- Ponds
- Purple moor grass and rush pastures
- Reedbeds
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4
- Non Agricultural

0 0.5 1 2 km

1:40,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 18b	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 3 – Environmental Constraints

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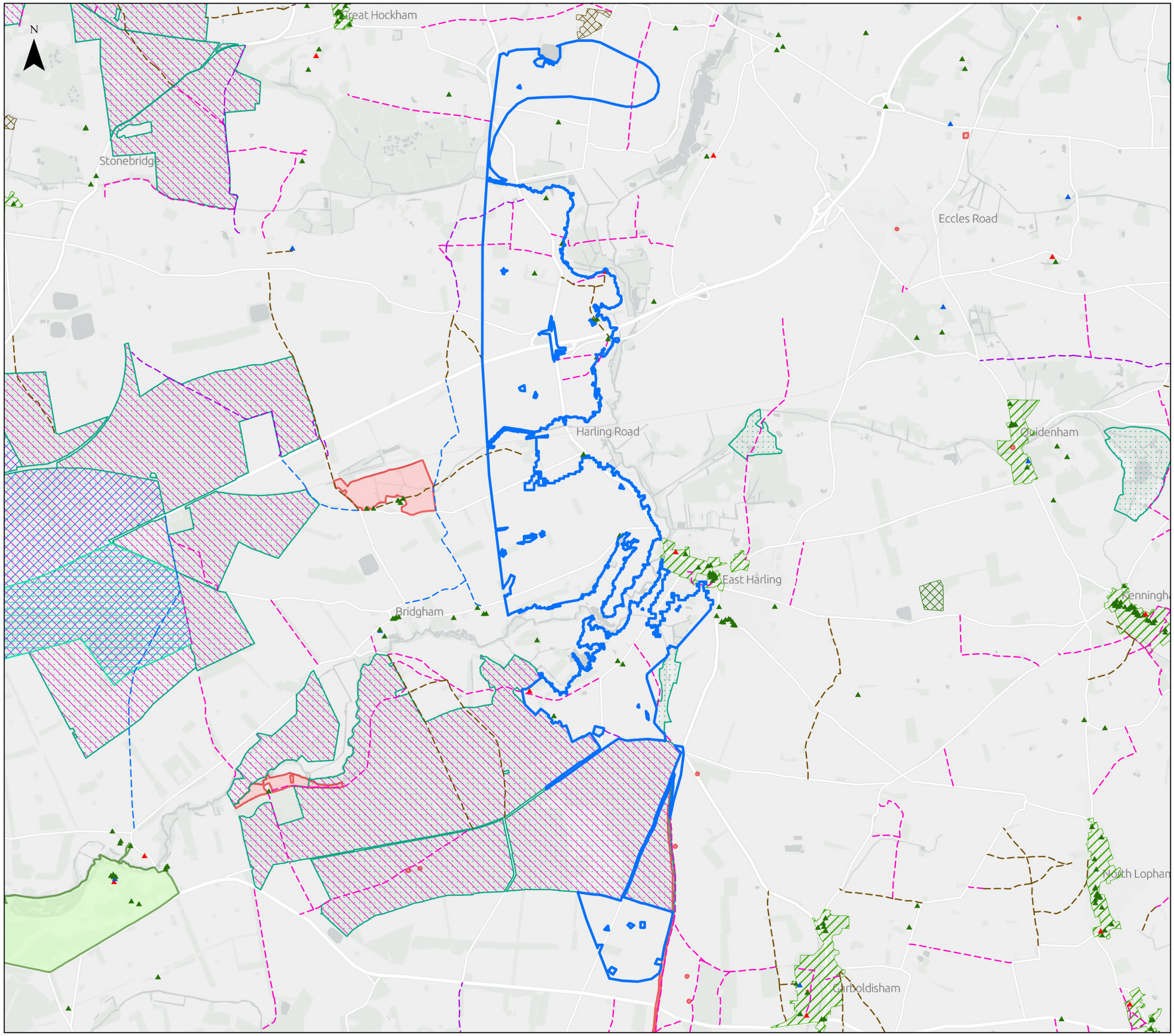

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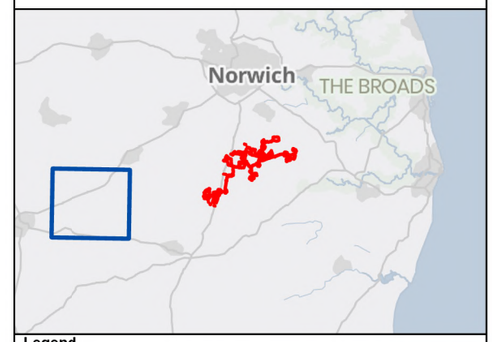

Legend

- Potential Development Area 4
- National Nature Reserve (NNR)
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Scheduled Monument
- Conservation Area
- Registered Park/Garden

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Byway Open to All Traffic
- Restricted Byway

Ancient Woodland

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

0 0.5 1 2 km

1:40,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 19a	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 4 – Environmental Constraints

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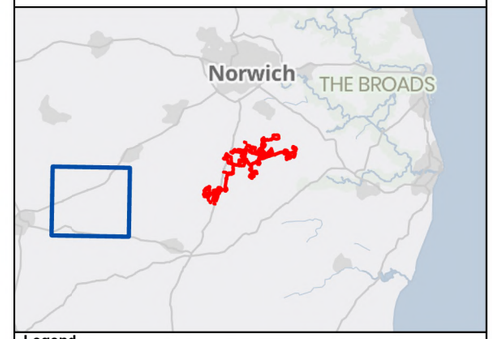

Legend

Potential Development Area 4

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lakes
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland fens,Reedbeds
- Lowland heathland
- Lowland meadows
- No main habitat but additional habitats present
- Ponds
- Purple moor grass and rush pastures
- Reedbeds
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4
- Non Agricultural

0 0.5 1 2 km

1:40,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 19b	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 4 – Environmental Constraints

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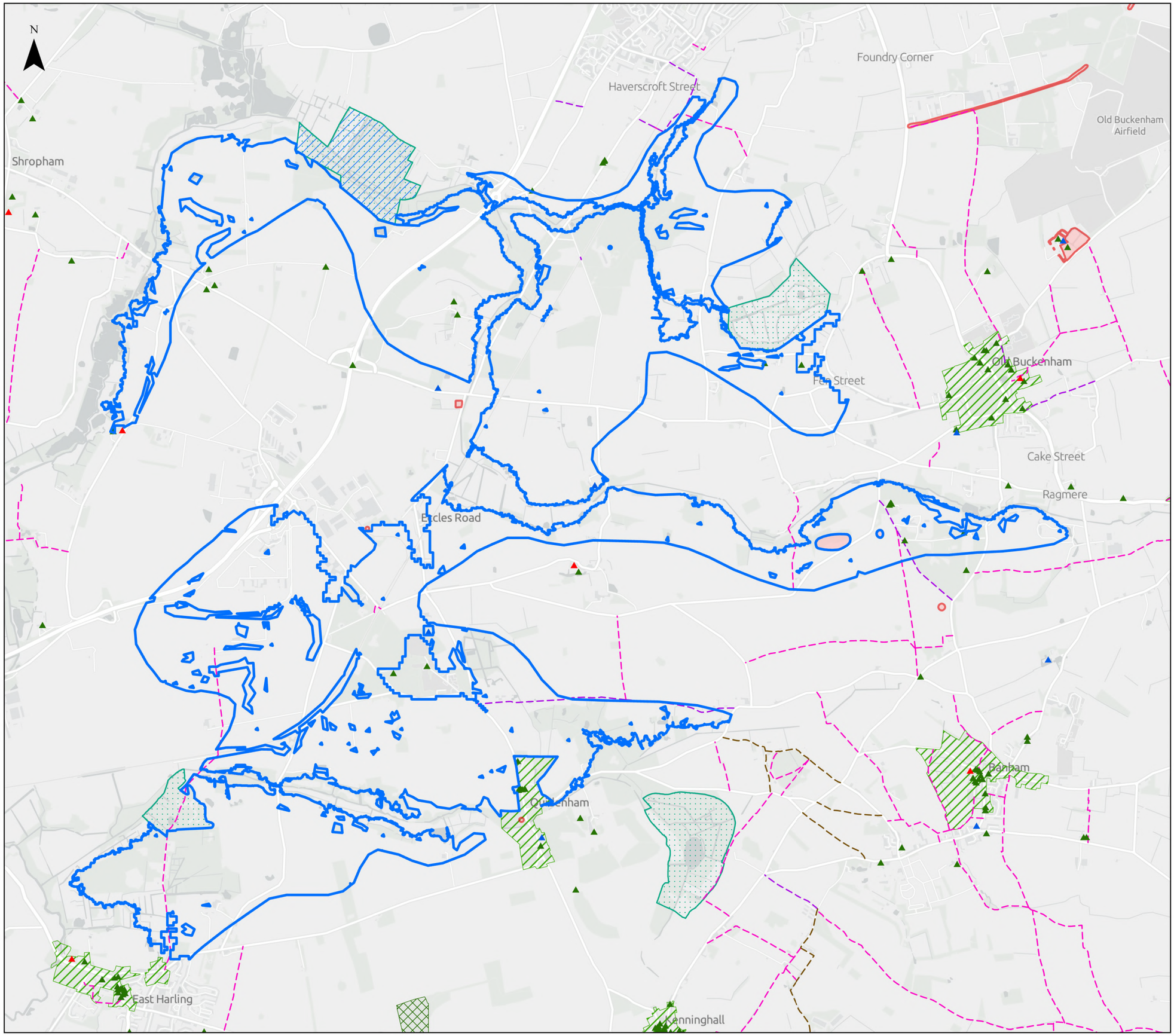

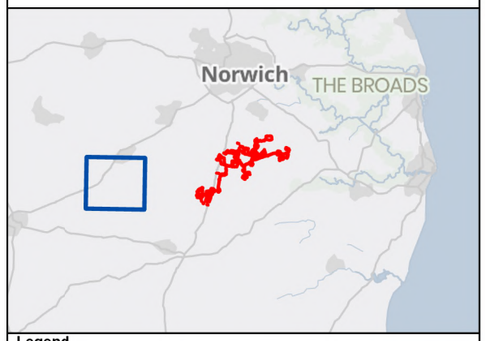

Legend

- Potential Development Area 5
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Scheduled Monument
- Conservation Area

Listed Buildings

- I
- II
- II*

Public Rights of Way

- Footpath
- Bridleway
- Restricted Byway

Ancient Woodland

- Ancient Replanted Woodland

0 1 2 km

1:30,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 20a	Date: 26/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 5 – Environmental Constraints

Sheet 1 of 1
Revision A

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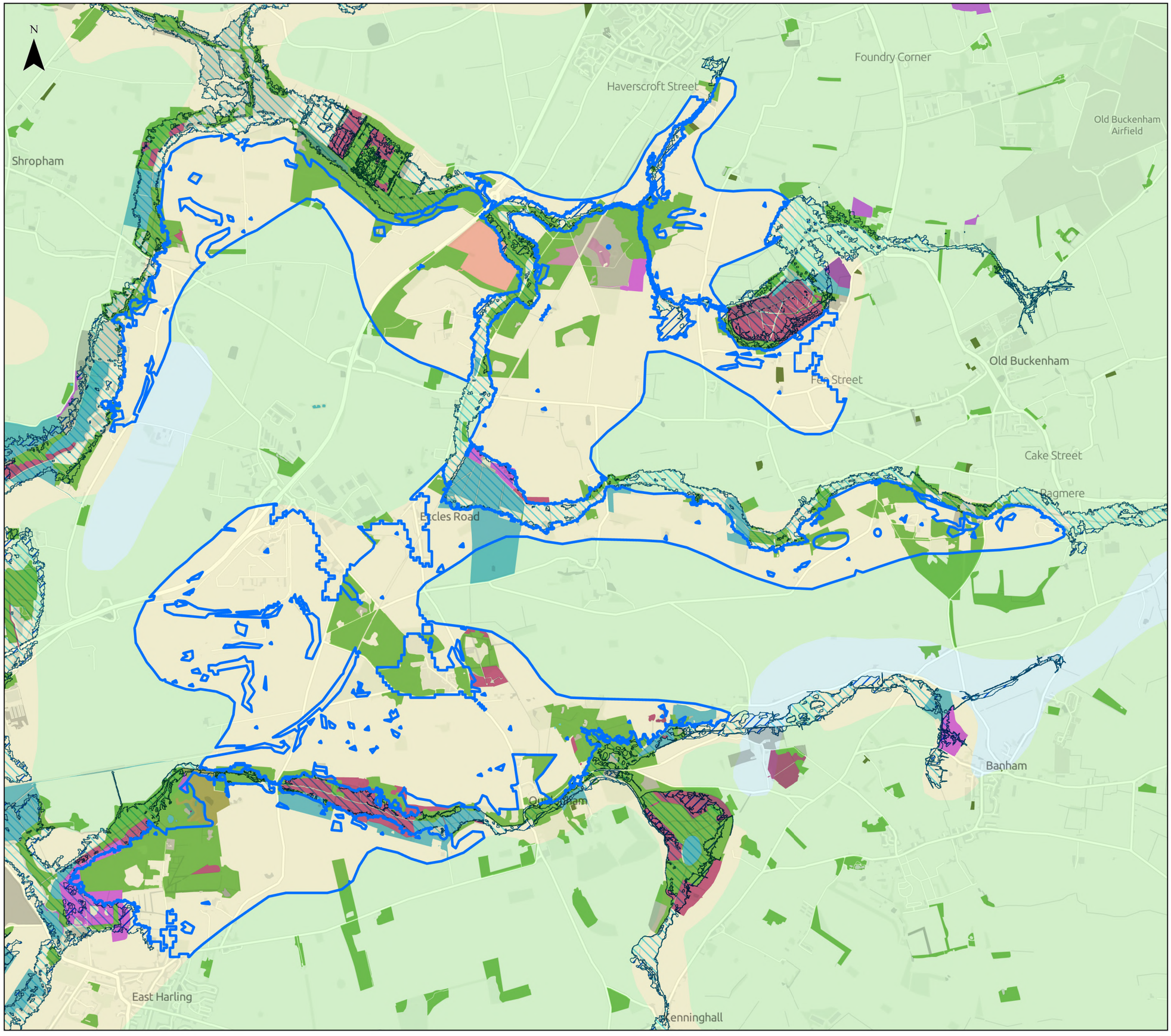
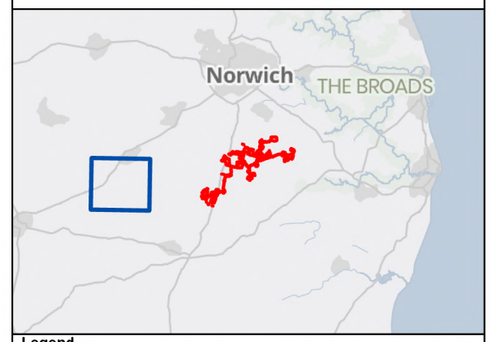


Island GREEN POWER



Legend

- Potential Development Area 5

Priority Habitats Inventory

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi improved grassland
- Lakes
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland fens
- Lowland fens,Reedbeds
- Lowland heathland
- No main habitat but additional habitats present
- Ponds
- Purple moor grass and rush pastures
- Reedbeds
- Traditional orchard

Flood Zones

- Flood Zone 3
- Flood Zone 2

Provisional Agricultural Land Classification

- Grade 2
- Grade 3
- Grade 4

0 1 2 km

1:30,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 20b	Date: 27/02/2026
Drawn: TB	Checked: SC

Potential Development Area PDA 5 – Environmental Constraints

Sheet 1 of 1
Revision A

East Pye SOLAR

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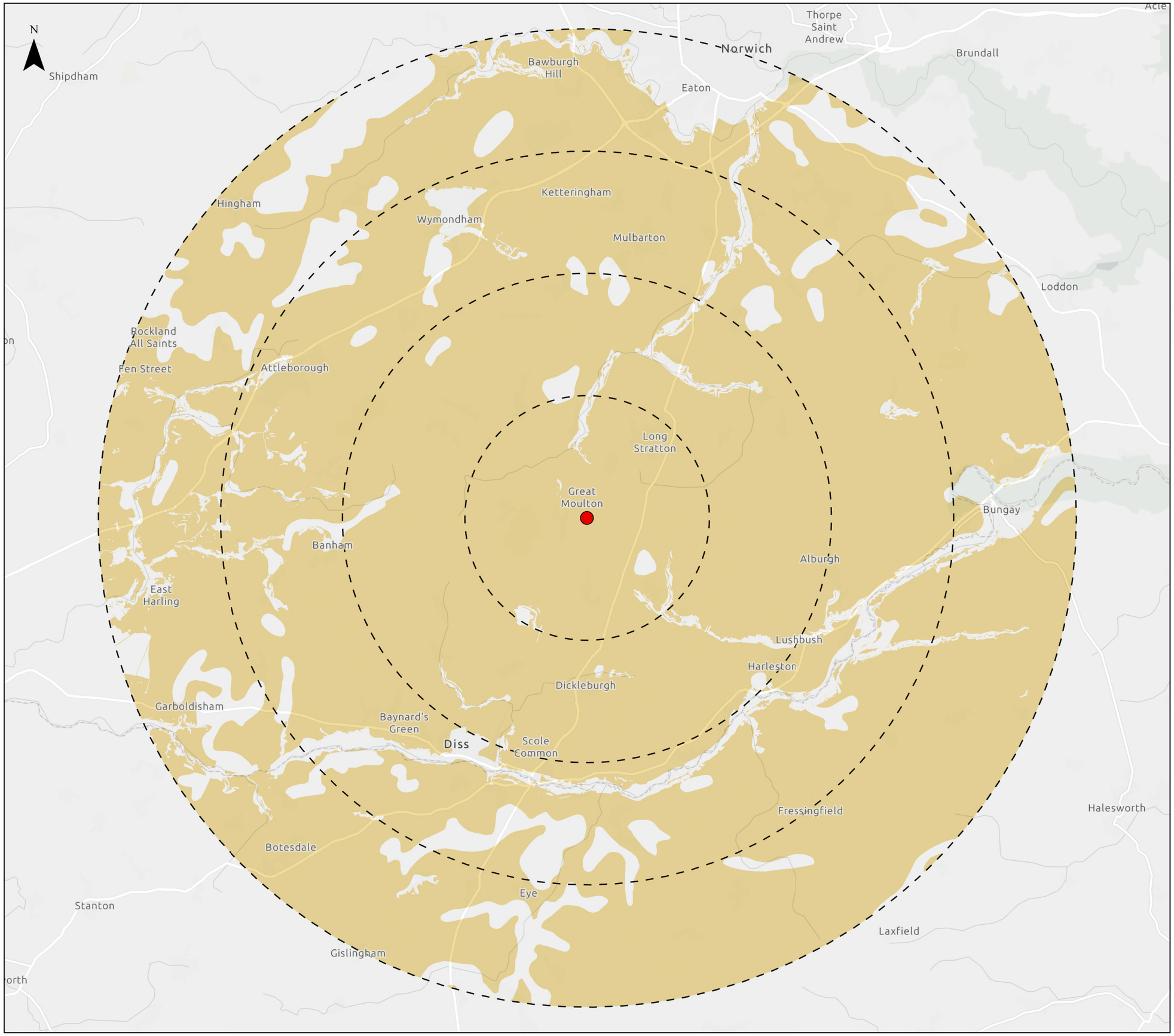

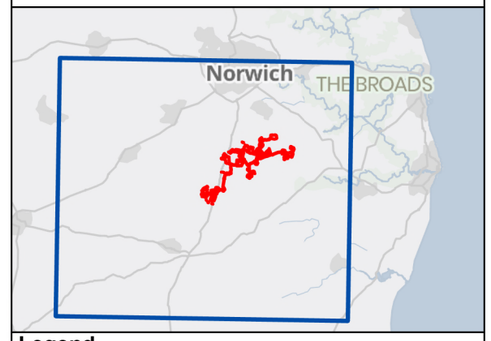

Legend

- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land, Including ALC Grade 3 (<3% Gradient)

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 21	Date: 02/03/2026
Drawn: TB	Checked: SC

ALC Grade 3 Unconstrained Land

Sheet 1 of 1
Revision A

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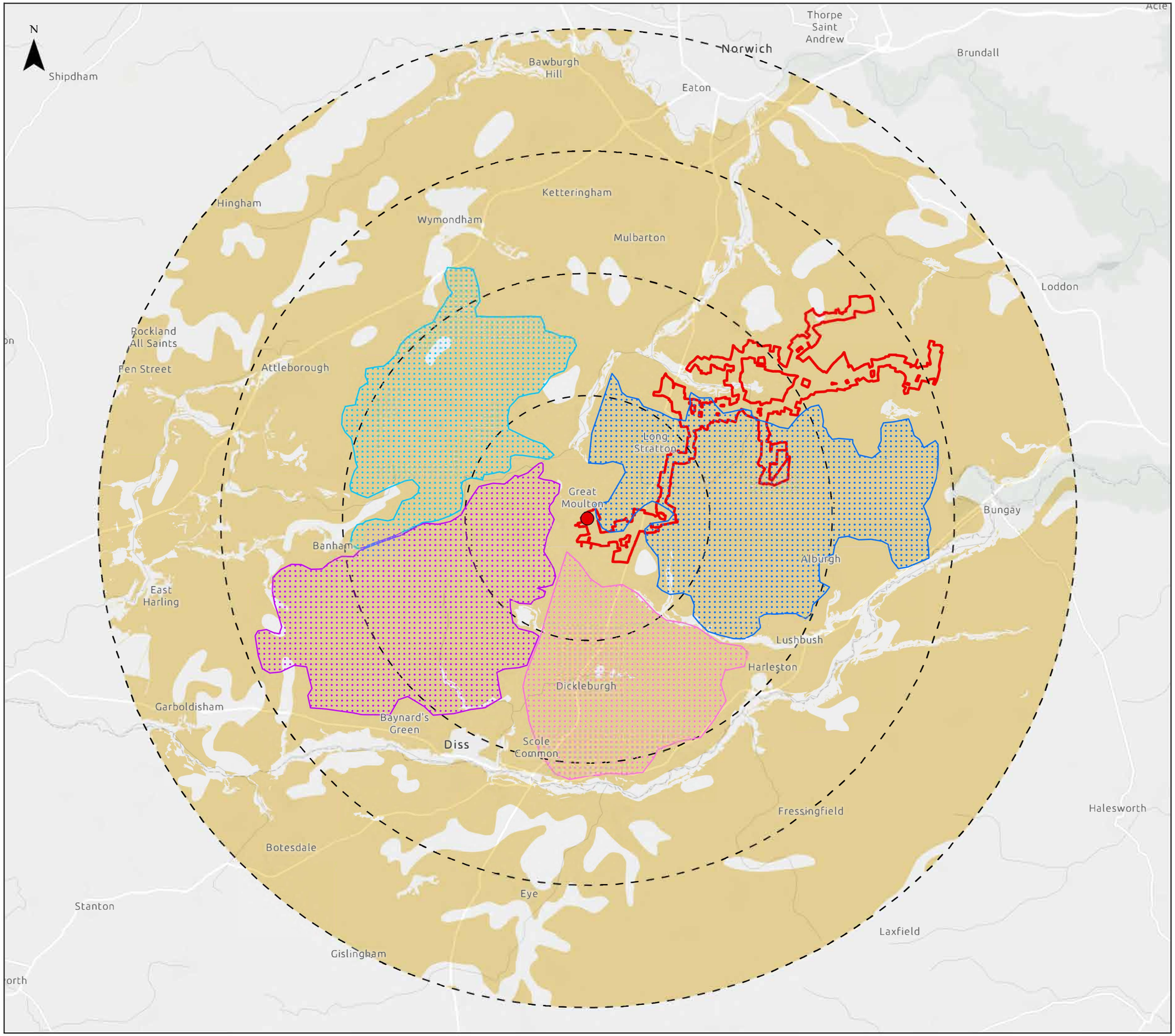

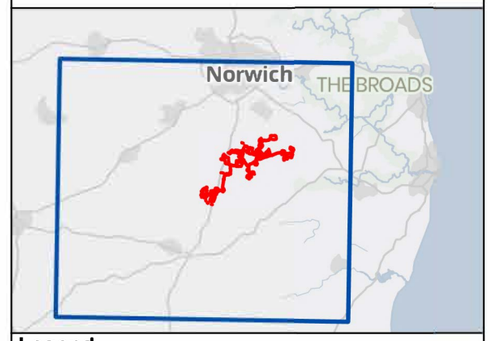

Legend

- EIA Scoping Boundary
- Point of Connection
- Study Area (5, 10, 15, 20km Buffer from Point of Connection)
- Unconstrained Land, Including ALC Grade 3 (<3% Gradient)

Alternative Development Zones

- ADZ1
- ADZ2
- ADZ3
- ADZ4

0 1 2 4 6 8 km

1:150,000 @ A3

APFP Regulation: 5(2)(q)	Application Doc No. APP/7.20
Ref: Figure 22	Date: 03/03/2026
Drawn: TB	Checked: SC

ALC Grade 3 Unconstrained Land, EIA Scoping Boundary, and Potential Alternative Development Zones

Sheet 1 of 1
Revision A

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Appendix C Potential Development Area Assessment Results

Indicator	The Scheme (EIA Scoping Boundary) (CRC Excluded)		PDA1		PDA2		PDA3		PDA4		PDA5	
PDA Size (ha)	1,168.3ha (for solar sites put forward at EIA Scoping)		414.5ha		105.5 ha		492.74ha		867.9ha		1,712.2ha	
PDA Location Description	Eleven land parcels between the villages of Great Moulton, Long Stratton, Tasburgh, Hempnall, Fritton, Lundy Green, Silver Green, Saxlingham Nethergate, Saxlingham Green, Woodton, Brooke, and Seething.		Three parcels. Two lie south west of Hempnall Green at Topcroft. The most northern parcel is located at Seething Airfield north of Woodton.		Two parcels at St Margaret South Elmham and All Saints' South Elmham.		Land split across seven parcels around the settlements of Smallworth, Blo'Norton, Thelnetham, Redgrave, South Lopham, Wortham, and one isolated parcel to the north east at Fersfield Common.		Five connected linear sites. The most northern site is just south of Shropham and the most southern south and west of Harling Road and East Harling.		Six connected, sprawling parcels distributed south of Attleborough, west of Old Buckenham, and north of Quidenham, split by the A11 to the north.	
Indicator	***RAG***	***Justification***	***RAG***	***Justification***	***RAG***	***Justification***	***RAG***	***Justification***	***RAG***	***Justification***	***RAG***	***Justification***
Ecology and Biodiversity **Study Area:** **500 m - Local Nature Reserves, Ancient Woodland** **2 km - national designations** **5 km - international designations**		There are no statutory ecological designations within the Scheme Sites. SSSIs located within 2km of the Sites include Pulham Market Big Wood SSSI, Shotesham-Woodton Hornbeam Woods adjacent to Sub-Sites 7F, 7G, and 7H, and Shotesham Common SSSI. Norfolk Valley Fens SAC is also located 2.3km north-west of Sub-Site 4A. Ancient Woodlands are present adjoining and surrounding the Sites, including the (replanted) Ancient Woodland (Spring Wood, Hempnall CWS) adjoining Site 3, Little Wood Ancient Woodland adjacent to Sub-Site 7H and Saxlingham Grove Ancient Woodland adjacent to Sub-Sites 7F/G. Ringers Grove Ancient Woodland sits adjacent to Sub-Site 8A.		There are no statutory designated sites within the PDA1 boundary. Hedenham Wood SSSI is located adjacent to the south of the northern parcel, and Tindall Wood, Ditchingham SSSI is located 1.5km to the south. Northern site is within impact risk zone of both SSSIs. Shotesham-Woodton Hornbeam Woods SSSI lies 1km to the north of the middle parcel at its nearest point. Middle site is within impact risk zone. Sexton Wood 3.10 km south east of the middle parcel. Fritton Common SSSI lies 2.4km west of the southern parcel. Southern site lies within impact risk zone. Hedenham Wood ancient woodland adjacent to the south of the northern parcel. Two further parcels (Long Row and Tindall Wood) over 500m beyond this. Spring Wood ancient woodland adjacent to the west of the southern parcel. Seething Observatory CWS overlaps with the northern parcel and Spring Wood CWS overlaps with the		There are no statutory designated sites within the PDA2 boundary. Most proximate ancient woodland is approximately 770m north of the northern site (Heavyland Wood). Most proximate SSSI (also an ancient woodland) is Abbey Wood, approximately 1.01km to the north of the northern parcel. Northern site is within impact risk zone. Laurel Farm Meadow Street SSSI 2km south west from the southern parcel. Southern site within impact risk zone. No other ecological designations.		There are no statutory designated sites within the PDA3 boundary. Two of the southern parcels are adjacent to Redgrave & South Lopham Fens Ramsar, an international designation, which is also designated as an SSSI and National Nature Reserve, as well as the Waveney and Little Ouse Valley Fens SAC. Hopton Fen SSSI located adjacent to the west of the western parcel (the site is within the impact risk zone) and Weston Fen SAC / SSSI located 927m to the west. Bugg's Hole Fen Thelnetham Fens SSSI located adjacent to the south of the western parcel (within impact risk zone). Blo'Norton and Thelnetham Fens SSSI adjacent to the east of the western parcel (within impact risk zone), as well as Waveny and Little Ouse Valley Fens SAC, both within 200m of the western and middle parcels.		There are no statutory designated sites within the PDA4 boundary. Breckland Forest SSSI and Breckland SPA is adjacent to the south of the southern parcels. Middle Harling Fen SSSI adjacent to the east of the southern parcel. Site lies within the impact risk zone for both. Southern parcels are also within 2km to the east of East Harling Common SSSI. Parcel of ancient woodland adjacent to the north of the northern site.		There are no statutory designated sites within the PDA5 boundary. Norfolk Valley Fens SAC and Swangey Fen, Attleborough SSSI adjacent to the north. Old Buckenham Fen SSSI adjacent to the north east. East Harling Common SSSI adjacent to the south west. Bridgham & Brettenham Heaths SSSI and Breckland SAC within 5km to the west. Kenninghall & Banham Fens with Quidenham Mere SSSI 430m south. Breckland Forest SSSI and Middle Harling Fen SSSI within 5km south. New Buckenham Common SSSI 1.8km east. No ancient woodland or LNRs within 500m.

Indicator	The Scheme (EIA Scoping Boundary) (CRC Excluded)		PDA1		PDA2		PDA3		PDA4		PDA5	
				southern parcel.No other ecological designations.				One parcel of ancient woodland within 400m of south eastern site. Other areas of ancient woodland 1km to north east of eastern parcel. and 1km south west from the isolated north eastern parcel.				
Landscape and Visual **Study Area:** **Within the PDA - PRoW** **5 km - National Landscape** **1 km - other receptors**		No national or local designations within or adjacent to the Sites. The Broads National Park is located 3.9km south of Sub-Site 10A. Visibility includes views from a network of PRoW that pass through the Sites with two recreational routes: Via Beata Way and Boudicca Way and adjacent Common Land.		Broads National Park 4.6km north east and 3.4km south of the northern parcel. The main land parcels are not crossed by any PRoW. Hedenham RB9/Seething RB13 Restricted Byways are located along Toad Lane south of the Seething Airfield. Part of Topcroft FP1 lies within the west of the middle parcel, and part of Topcroft FP9 lies within the east of the southern parcel.		Broads National Park 4.8km to the north of the western parcel. Crossed along the north east of the western parcel by Public Footpath 5A, 13, 19, and 1. Eastern parcel crossed by Footpath 26, 20 and 14 and south of the A11 by West Harling FP7 and FP6.		No National Parks or National Landscapes within 5km. Crossed by Public Footpaths north of the A11 including Snetterton FP2, Roundham FP3,		No National Parks or National Landscapes within 5km. Crossed by Public Footpaths to the north of Quidenham (e.g. Quidenham FP5 / BR6, Quidenham FP7 / Harling FP1) and west of Quidenham (Harling FP15, Harling, FP6, Harling FP2).		No National Parks or National Landscapes within 5km. Crossed by several PRoW.
Land Use		The land within the Order Limits comprises predominantly agricultural (arable) fields crossed by farm tracks, roads, rural lanes, hedgerows, tree belts, scattered trees, watercourses, ponds and PRoW. The Sites are bound by agricultural land, blocks of woodland, scattered individual properties and small villages including Great Moulton, Long Stratton, Tasburgh, Hempnall, Fritton, Lundy Green, Silver Green, Saxlingham Nethergate, Saxlingham Green, Woodton, Brooke and Seething.		Most of the northern parcel is occupied by buildings and landing strip used for Seething Airfield, as well as the Seething Control Tower Museum and Seething Observatory. Seething Airfield is a privately owned airfield and is the home of the Waveney Flying Group. Residential dwellings are located on land along Upgate Road and Harvey's Lane. Multiple dwellings and agricultural buildings associated with the settlement of Topcroft and Rookery Farm and along Church Road and Rookery Farm located within the middle parcel, as well as St Margaret's Church and Harvey Lane Garage. Dwellings and agricultural buildings associated with Park Farm and Springlane Farm located within the southern parcel, as well as		The western parcel includes built development around Valley Farm and is crossed by Flixton Road. The majority of the site appears to be in arable agricultural use. St Margarets Church is located along The Street (which also comprises CRoW access land) south of Flixton Road. A large proportion of the eastern parcel is CRoW access land. St Michael's church is located adjacent to the south. The northwestern corner of the site is also crossed by Uncle's Lane, along which a number of farmhouses and dwellings are located. Cleverlys Food shop and a number of other dwellings and businesses are located within the centre of the site.		Broomscot Common is located in the northern parcel, which is CRoW access land. A proportion of the northern parcel is covered by woodland associated (Oak Plantation, Fir Covert, Old Fen) and built development associated with Smallworth along the B111 Hopton Road and an unnamed road running parallel to the B111. The western parcel is crossed by Mill Lane, Common Road, and Buggs Hole Lane and includes several farmhouses and dwellings off these roads. Philip Thorrold Shooting Academy is also located within the site. A small portion of one of the parcels to the east is also covered by CRoW		The most northern road is split By Church Road. The majority of the parcel appears to be in arable agricultural use. The second parcel to the south is split by the B111 vertically and the A11 horizontally and includes several parcels of woodland and various dwellings and farmhouses. The third parcel to the south if adjacent to the west of an industrial estate at Harling Road and East Harling settlement. It appears to be predominantly used for arable agriculture. The second most southern parcel also includes settlements associated with Middle Harling and West Harling, and is crossed by West Harling Road. A large proportion of the most southern parcel is used for livestock. Nort western parcel north of the A11 overlaps with draft		A large proportion of the northern sites are taken up by woodland plantations, and the northern parcels are crossed by the A11, as well as smaller roads such as Hargham Road. There are various dwellings and farmhouses located within each of the parcels. Much of the land in the southern parcels is taken up by other areas of deciduous woodland priority habitat. Snetterton Circuit race track is also located within the southern parcels. Eccles School / White House School also lies within the centre of the southern parcels. Pending planning applications around Eccles Road which would overlap with this zone include an application for a business park, approved in July 2024 (3PL/2023/0925/O) and a hybrid application for a

Indicator	The Scheme (EIA Scoping Boundary) (CRC Excluded)	PDA1	PDA2	PDA3	PDA4	PDA5
		Barondale Lane and strips of woodland.		land. Both eastern parcels are crossed by roads, Fen Road and Hinderclay Road, as well as the B1113. A large industrial warehouse occupies the eastern parcel. The isolated south eastern parcel is mostly CRoW land and land associated with the built settlement of Long Green. Planning application for a solar farm (approved November 2024) north west of Redgrave would overlap the area.	allocation BRCK2840 of the Breckland Council Draft Local Plan Preferred Options (Barkers Farm).	hotel, café, offices, industrial uses and simulation centre, approved in June 2025 around the Snetterton Circuit. Land west and north of Eccles is allocated under the Breckland Council Draft Local Plan Preferred Options (Land off Falcon Road and Chalk Lane. Outline planning application for 4,000 dwellings and access south of Attleborough which would overlap with the north eastern parcel.
Cultural Heritage Study Area **500 m - Listed buildings, Registered Park and Garden and Conservation Areas** **2 km - Scheduled Monument**	There are no designated heritage assets within the Order Limits. Listed Buildings within 500m of the Sites include the Grade I listed Church of St Michael, Grade I listed Church of St Catherine, Grade II listed Barn north of the Old Rectory, Grade II listed Barn immediately north west of the Grade II Church Farmhouse. Saxlingham Green Conservation Area approximately 5m north of Sub-Site 7D. Fritton Conservation Area approximately 10m south of Sub-Site 5B. Brooke Conservation Area approximately 50m north of Site 9. There are two Scheduled Monuments within 2km of the Sites. There are no Registered Parks and Gardens or Registered Battlefields within 500m of the Sites.	440m south of Seething Conservation Area No listed buildings within northern parcel. Three Grade II listed buildings and one Grade II* listed building within the middle parcel, and one Grade II listed building within the southern parcel. No Registered Parks and Gardens, or Registered Battlefields within 500m.	Scheduled Monument – Moated Site at the Old Rectory, adjacent to the west of the western site. Six further Scheduled Monuments within 2km. Two Grade II buildings and one Grade I in western site, one Grade II building in eastern site. Multiple Grade II Listed Buildings within 500m. No Conservation Areas, Registered Parks and Gardens, or Registered Battlefields within 500m.	Redgrave Conservation Area adjacent to the east. South Lopham and Hopton Conservation Areas also within 500m. Three Grade II, two Grade II* Listed Buildings within the PDA. Two Scheduled Monuments within 2km. No Registered Parks and Gardens, or Registered Battlefields within 500m.	Six Scheduled Monuments within 2km. Several Grade II and one Grade I listed building within the PDA. East Harling Conservation Area adjacent to the east of the southern parcel. No Registered Parks and Gardens, or Registered Battlefields within 500m.	Four Grade II listed buildings located within the PDA. Two Scheduled Monuments located within the PDA to the east. Two further Scheduled Monuments within 500m. Quidenham and East Harling Conservation Areas adjacent to the south. Attleborough, Old Buckenham, and New Buckenham Conservation Areas within 1km but over 500m. No Registered Parks and Gardens, or Registered Battlefields within 500m.
Access for Construction Traffic	The main roads in the vicinity of the Sites comprise the A140, B1332 and B1527. The remaining roads in the locality are more rural in nature.	Northern site crossed by Upgate Road, Toad Lane, and Harveys Lane which provide access to the B132 Norwich Road. Oxmeade	Potential to route construction traffic through the B1062 from Grange Road or to the A144 to the east via local roads, or the	All sites are in proximity to, or are crossed by an A / B road. The B111 and B113 run through these sites, connecting	The B111 runs through most of the sites, which connects to the A11 which crosses through the central site. Routing options would likely take construction	Construction traffic could be routed from the A11 via local roads into each of the sites. However, given the built up area, the construction traffic

Indicator	The Scheme (EIA Scoping Boundary) (CRC Excluded)		PDA1		PDA2		PDA3		PDA4		PDA5	
				Lane / Mill Road / Church Road can provide access to B1527 from the middle parcel. Barondale Lane / Alburgh Road provides access to B1527, although would likely require routing through Hempnall Green.		B1123 to the south. All options may require routing through settlements.		to the A1066 to the north. The south eastern site is in close proximity to the A143. Construction traffic for the north eastern isolated site could be routed along the B1077 to the east.		traffic through settlements at East Harling and Harling Road industrial estate.		would likely need to pass through various settlements.
Flood Risk Study Area: Within and adjacent to the PDA **500 m - main rivers**		The majority of the land is located within Flood Zone 1. Some localised areas of Sub-Site 7B and Site 8 are located within Flood Zones 2 and 3 associated with the Hempnall Beck and the River Tas floodplains. The Hempnall Beck main river flows between Site 7 and Sites 4 and 6. The River Tas main river flows between Sub-Sites 8A and 8B.		Not located adjacent to Flood Zone 2 or 3.		North western parcel adjacent to Flood Zone 2 associated with The Beck watercourse. South eastern parcel also adjacent to areas of Flood Zone 2.		Most of the sites are adjacent to Flood Zone 2 associated with Little Ouse Main River.		Northern and southern parcels divided by River Thet Main River. Areas of Flood Zone 2 run adjacent to the majority of the eastern boundary of the sites.		Most of northern and southern parcels bordered by areas of Flood Zone 2. Southern sites bordered by Flood Zone 2 and 3 associated with the River Wittle.
Field Shading Study Area: Woodland in or adjacent to the site.		The Sites generally consist of open rural fields with limited tree cover and woodland parcels		Site is largely unconstrained by trees but there are parcels of woodland and buildings within all three parcels.		Site largely unconstrained by tree cover but does include buildings.		Site largely unconstrained by tree cover but does include buildings.		Site largely unconstrained by tree cover but does include buildings.		Much of the site is covered by parcels of woodland or buildings.
Grid Connection		The Sites are predominantly located within 15km of the PoC. The closest solar sites to the PoC are adjacent within Sub-Sites 1A and 1B.		PDA located approximately 7.5km from the PoC at nearest point. Requirement to route around A140 and settlement of Hardwick.		14.8km south east of PoC at its nearest point. Requirement for crossings of A140 and A143 as well as multiple watercourses including the River Waveney.		9.70km from the PoC at its nearest point. Requirement to route across railway and around Sneath Common.		17.73 km from the PoC at its nearest point. Requirement to route around multiple settlements of East Harling, Banham, Tibenham Airfield, and Sneath Common. Requirement to route across the railway line.		9.75km to the west of PoC at its nearest point. Requirement to route across the railway line.
Topography		Predominantly flat or gently undulating. All sites have a <3% gradient.		All sites have a <3% gradient.		All sites have a <3% gradient.		All sites have a <3% gradient.		All sites have a <3% gradient.		All sites have a <3% gradient.
Site Size		The total combined Sites put forwards at EIA Scoping (not including Cable Route Corridors, BESS, or National Grid Substation initially proposed at EIA Scoping) would equal 1,168.3ha which would be large enough to accommodate a scheme of 500MW.		The total PDA is approximately 418.5ha and therefore would not, on its own be large enough to accommodate a scheme of 500MW. The PDA is isolated from other PDAs. However, it is in proximity to the Scheme and therefore connection with the Scheme is feasible.		The total PDA is approximately 105.5 ha and therefore would not, on its own be large enough to accommodate a scheme of 500MW. The PDA is isolated from other PDAs and therefore connection with another PDA to create a larger scheme is not feasible.		The total PDA is approximately 492.74ha in total and therefore would not, on its own be large enough to accommodate a scheme of 500MW. It is nearby to other PDAs and could be combined to create a larger site subject to further technical assessment.		The total PDA is approximately 867.9ha in total and therefore is slightly smaller than the approximate size required for a 500MW scheme. It is nearby to other PDAs and could be combined to create a larger site subject to further technical assessment.		The total PDA is approximately 1,712.2ha in total which is large enough to accommodate a scheme of 500MW.