EIA Screening Report for Old Wood Energy Park

Land west of Wysall, Nottinghamshire

On behalf of Exagen Old Wood Ltd.

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1. Introduction

Background

1.1. On behalf of Exagen Old Wood Limited ('the Applicant') Pegasus Group formally requests an Environmental Impact Assessment (EIA) Screening Opinion from Rushcliffe Borough Council ('the Council') for a proposed renewable energy development (Old Wood Energy Park, 'the Development') occupying approximately 97 hecatres (ha) of land split across two separate land parcels at land west of Wysall, Nottingham, including a northern parcel (74 ha) and southern parcel (33ha). The Development includes a ground mounted solar photovoltaic (PV) array, Battery Energy Storage System (BESS) and substation at the point of connection into the existing 132kV overhead powerline which crosses the southern parcel of the Site. The two areas would be linked by an underground cable which would generally follow the shortest route.

- The Northern Parcel – Centered at grid reference X: 459472 Y: 328041, the Northern Parcel includes 9 medium to large scale field enclosures with Bradmore Road forming in parts its eastern boundary. A linear woodland, known as Old Wood, forms the northern edge of the northern parcel.

- The Southern Parcel - Centered at X: 459568 Y: 327099, the Southern Parcel is situated c. 325m to the south of the norther parcel and separated by a series of adjoining agricultural fields. The Parcel includes 4 small to medium field enclosures and can be accessed from Wysall Road / Costock Road which forms the southern boundary of the parcel.

1.2. A plan showing the extent of the Site (outlined red) is provided at Appendix 1 of this report. All relevant environmental considerations discussed in the report are shown on the figures provided at Appendix 2 of this report.

1.3. This EIA screening opinion request is made pursuant to Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, in order to determine whether or not a statutory Environmental Impact Assessment (EIA) is required in accordance with those Regulations (known as 'the EIA Regulations').

1.4. This report sets out a brief description of the Development and then goes on to provide an assessment of the Development in terms of the EIA Regulations screening criteria and guidance set out in Planning Practice Guidance (PPG).

The Development and the EIA Regulations (2017)

1.5. The EIA Regulations define EIA development as either:

a) Schedule 1 development; or

b) Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

1.6. Solar and battery energy storage development is not listed in Schedule 1 of the EIA Regulations.

1.7. There is also no express threshold for solar or battery developments to be considered as Schedule 2 development under the EIA Regulations. However, a development area threshold of 0.5 ha is applied to category 3 (a) industrial installations for the production of electricity.

1.8. The Development exceeds the Schedule 2 area threshold of 0.5 hectares and, as such, whether the Development is EIA development or not depends on an assessment against the screening selection criteria, as set out in Schedule 3 of the EIA Regulations, which comprise:

- Characteristics of the development;
- Location of the development; and
- Characteristics of the potential impact.

1.9. PPG paragraph 018, states that EIA will only apply to a small proportion of projects and only those which are likely to have significant effects.

1.10. The key question is whether or not the Development would be likely to give rise to significant effects on the receiving environment, taking into account the selection criteria in Schedule 3. An assessment of the potential effects of the Development is presented in Section 2 of this report.

2. Development Characteristics and Location

Site Location and Surroundings

2.1. The 'red line boundary' shown at Appendix 1 illustrates the extent of the Site. This is the maximum area being considered for the Development, and the final design will be informed by ongoing environmental assessments including a landscape and visual impact assessment, heritage assessment, agricultural land classification survey, ecology surveys and a flood risk assessment. The general approach to design and minimising environmental effects is to avoid impacts in the first instance and where that is not possible then mitigation and or enhancement may be required.

2.2. Both site parcels are located outside any defined settlement boundary and are therefore considered to be within open countryside for development management purposes. Both site parcels are not located within a designated landscape and are not located within the Green Belt.

2.3. The northern parcel includes 9 medium to large scale field enclosures with Bradmore Road forming, in parts, its eastern boundary. A linear woodland, known as Old Wood, forms the northern edge to this parcel and cloaks a pronounced change in levels, marked by Bunny Hill, Rough Hill and Windmill Hill.

2.4. The southern parcel includes 4 small to medium field enclosures and can be accessed from Wysall Road / Costock Road, which abuts it to the south. Wysall Road leads north east towards the settlement of Wysall. The village is separated from the site by various pastoral and arable fields with the settlement edge largely enclosed by mature hedgerow and tree vegetation.

2.5. Arable fields separate the two parcels of the Site and characterise the landscape to the west of it, with a number of woodland blocks compartmentalising the area. Rough Plantation, Wysall Rough Plantation, Long Rough Plantation, and Intake Wood abut the Site.

2.6. The Site's perimeter, in addition to the aforementioned highways, follows existing field boundaries delineated by hedgerows, blocks of woodland and tree belts. Boundary hedgerows associated with the Site are generally well maintained and approximately 1.5m to 2m in height, albeit there are sections, which are higher. The southern parcel of the Site is characterised by lower hedgerows, estimated to be approximately 1m to 1.5m in height.

2.7. Topographically the Site forms part of the elevated Nottinghamshire Wolds and its complex outline terminates abruptly as a steep slope before descending into the broad valley of the River Trent, c. 8.5km to the north west. The north western corner of the Site, which abuts Old Wood, sits at approximately 88m AOD. The landform rises further west and culminates at Bunny Hill, reaching approximately 92m AOD. This rising landform, coupled with Old Wood, encloses the Site and its immediate landscape to the north. The higher ground continues further west towards Rough Hill and Sharpley Hill, which collectively segregate the Site and landscape immediately around it. The Site's landform also rises towards Bradmore Road and Wysall, which further collectively enclose the Site to the east and separate it from the landscape further east and south east. Due to this undulating landform and presence of well managed and relatively tall hedgerows and blocks of woodland, which are

characteristic of this landscape, reciprocal views towards and into the interior of the Site are limited or are relatively distant and interrupted by tree canopies.

2.8. There are a number of properties that adjoin the Site or lie in very close proximity to it:

- The Elms along Bradmore Road, adjacent to the eastern boundary of the northern parcel.
- Lodge Farm and Field View accessible from Bradmore Road, within the eastern portion of the Northern Parcel.
- Lorne House, on eastern side Bradmore Road, c. 25m east of northern parcel.
- Scotland Hill Farm along Wysall Road / Costock Road, c. 150m south west of southern parcel.
- Elm Lodge along Wysall Road / Costock Road, c. 250m south east of southern parcel.

2.9. The villages of Wysall and Costock both lie in close proximity to the Site, located c. 400m east and 1.5km west of the southern parcel respectively, however, intervening vegetation prevents any direct or unrestricted views between these settlements and the Site parcels.

The Development

Summary Description and Land Take Requirements

2.10. The Development would be a ground mounted solar PV array with associated infrastructure and equipment, as well as fencing, security cameras, cabling and access tracks. The solar farm would have an export capacity of up to 49.9 megawatts (MW) and the batteries would have a capacity of approximately 85MW. Both elements of Development would be temporary with an operational period of 40 years each. The Site will be subject to numerous environmental surveys and assessments which will be used to refine the design and it is assumed an area smaller than the maximum shown would be required for the Development. The design will seek to evolve to avoid potentially significant environmental effects.

2.11. Given the nature of the installation, ground excavation is not required for panel installation. Strings or rows of solar panels are mounted on metal frames, likely to be screwed or piled to a depth of between 1-2 m below the ground depending on ground conditions. In the event that archaeological sensitivities are identified, the use of concrete footings could be implemented in these areas to avoid impacts on buried archaeology as they have limited below ground presence, typically less than ploughing depth.

2.12. There are gaps between the rows of panels and around the perimeter of the panels up to existing field boundaries, and therefore the area of land directly impacted by the Development is vastly smaller than the site area. Areas of new hardstanding would be limited to the substation and inverter kiosk foundations, DNO and client substations and battery storage containers.

Size and Appearance

2.13. The Development would consist of rows of solar panels known as strings. The panels are composed of photovoltaic cells and are designed to maximise the absorbency of the sun's rays and minimise solar glare. As a consequence, they are dark in hue. Each string of panels would be mounted on a rack comprising poles, and between each string, there would be gaps to avoid inter-panel shading. The gaps would be between 3 m and 6 m depending on the topography and aspect. The panels are fixed facing south at an angle of between 10 to 35 degrees. The panels would be mounted at around 0.7 m from the ground at the lowest point rising to approximately 3.5 m at the highest point.

2.14. The scale and nature of the associated infrastructure is as follows:

- Strings or rows of solar panels (each panel approximately 1.2 m x 2.4 m) mounted on metal frames, likely to be screwed or driven into the ground to a depth of 1-2 m, depending on ground conditions;
- Lower edge of panel typically 0.7 m from the ground;
- Highest point of panel 3.5 m in height from the ground;
- Inverters and transformers housed in GRP enclosures or containers, typically measuring 7 m x 2.5 m x 3 m. These can be painted a sympathetic colour in agreement with the Council, such as dark green;
- Substation compound, including DNO and Client substation kiosks and battery storage infrastructure. Most of these housings can be painted a sympathetic colour in agreement with the Council, such as dark green;
- 2.4 m high perimeter fence/ deer fence around the solar farm and 2.5 m painted palisade fencing around the BESS and substation compounds;
- CCTV cameras located on 2.5 m high poles on the solar farm and 4 m poles around the BESS and substation compounds;
- Access tracks – 4 m wide (kept to a minimum across the Site);
- Underground cable route linking the northern parcel with the southern parcel where the proposed point of connection into the existing overhead line would be located. The route will typically run parallel to existing field boundaries, taking the shortest route achievable. The installation of the cable would give rise to short term reversible effects, however, once installed there would be no effects.

Site / Development Access

2.15. The northern parcel of the Site will be accessed via the existing farm access track at Lodge Farm which extends westwards from Bradmore Road to the east the parcel. The existing access point and access track currently accommodates large agricultural vehicles and HGV as part of the Farm's operations and is wide enough to safely accommodate construction vehicles.

2.16. The southern parcel of the Site will be accessed via an existing field access point and track which extends northward into the southern parcel from Wysall Road to the south of the Parcel. The existing access point and access track will be suitably upgraded and widened to safely accommodate construction vehicles entering the Site. The existing access track crosses the Kingston Brook which passes through the south of the Site. Whilst the existing access track currently safely accommodates large agricultural vehicle, the structure of the crossing point will be assessed and suitably upgraded to safely withstand the load of proposed construction vehicles accessing the Site where appropriate.

During construction / installation of the development, there would be trips associated with the delivery of materials and components to site and arrivals and departures of construction staff. Construction material deliveries will mainly consist of small to medium HGVs while staff trips will mainly consist of vans. During construction / installation of the development the proposals would generate an insignificant number of traffic movements along the local highway.

2.17. During the operational phase, the activities on site would amount to the maintenance and servicing of plant and equipment, and vegetation management. The solar panels will also need to be periodically cleaned to ensure efficient running of the system. It is anticipated that under normal circumstances, no more than 1 no. vehicles would need to access the Site per week, and most visits to the Site would be undertaken by an operative in a van/4x4, except in rare instances where repairs or replacements are required.

Cumulative Developments

2.18. A review of Rushcliffe Borough Council's online planning application databases and aerial mapping identified the following proposed, approved or operational solar farms or similar developments within 5km of the Site, with the potential for cumulative effects:

- 22/00303/FUL - Land To North East Of Highfields Farm Bunny Hill Costock Nottinghamshire – Adjacent to the western boundary of the Site | Construction of a solar farm and battery stations together with all associated works, equipment and necessary infrastructure, together with the formation of a new vehicular access onto Bunny Hill (A60) | Permission Granted February 2023.

- 21/00703/FUL - OS Field 8561 Rear Of Rushcliffe Grove East Leake Nottinghamshire – Circa 2.8km to the west of the site | Installation and operation of a solar farm together with all associated works, equipment and necessary infrastructure. | Permission Granted December 2021.

2.19. Further to the above, a similar application was recently determined at Land West of Wood Lane and Stocking Lane, Kingston Estate, Gotham, and was refused planning permission on grounds of impact to the Green Belt, on the 13th March 2023. The details of the application are listed below:

- 22/00319/FUL - Land To The West Of Wood Lane And Stocking Lane Kingston Estate Gotham Nottinghamshire NG11 0LF – Circa 4.3km to the west of the Site | Installation of renewable energy generating solar farm comprising ground-mounted photovoltaic solar arrays, together with substation, inverter stations, security measures, site access, internal access tracks and other ancillary infrastructure, including landscaping and biodiversity enhancements | Refused March 2023.

2.20. In addition to the above planning applications, a number of other EIA screening requests for solar PV development have also been identified within the wider area surrounding the Site:

- 23/00204/SCREIA - Field Farm Wysall Road Costock Nottinghamshire LE12 6XQ – Circa 650m to the south west of the Site | PROPOSED 49.9 MW SOLAR ARRAY AND ASSOCIATED INFRASTRUCTURE | Withdrawn
- 14/02436/SCREIA - Church Site Farm Wymeswold Road Thorpe In The Glebe Nottinghamshire NG12 5QX – Circa 2km to the south east of the Site | Request for an EIA screening opinion for a proposed PV farm development | Unavailable
- 21/02736/SCREIA - Fields Farm Asher Lane Ruddington Nottinghamshire NG11 6JX – Circa 3.7km to the north west of the Site | Environmental Impact Assessment for a potential solar farm and battery energy storage project, known as the Fair Oaks Renewable Energy Park | Withdrawn
- 22/01856/SCREIA - Land North Of Leake Road Leake Road Gotham Nottinghamshire – Circa 3.8km to the north west of the Site | EIA Screening Opinion request for a proposed Solar Farm and Battery Energy Storage Scheme | Non-EIA January 2023
- 21/02163/SCREIA - Glebe Farm Nottingham Road Gotham Nottinghamshire NG11 0HF – Circa 4km to the north west of the Site | Environmental Impact Assessment for proposed Solar Farm and Battery Storage Facility with associated infrastructure | Non-EIA September 2021

2.21. None of the above planning applications/consents are currently operational.

2.22. The closest application to the Site comprises the recently permitted application at Land North East Of Highfields Farm, Bunny Hill, Costock (Ref: 22/00303/FUL) which is located on land immediately adjacent to the west of the Site. Given the proximity to the Site, the proposed solar farm a Bunny Hill will be considered and carefully assessed as part of the technical assessments to be submitted with any future planning application to determine any likely significant cumulative effects. However, based on an understanding of that proposal and the Development and the context of the local landscape, topography and landscape features, it is considered that the two schemes largely fall within two separate visual catchments meaning significant visual or landscape cumulative effects, in EIA terms, are not expected. As such cumulative effects are not considered further in this report.

2.23. At 3km and 4km from the Site respectively, the proposals at Rear of Rushcliffe Grove and West of Wood Lane are not considered to be sensitive to any significant cumulative impacts arising as a result of the Development.

2.24. Should any future application come forward for any new sites or any of the screened sites above, any cumulative effects will be carefully considered as part of any future planning application.

3. Environmental Impact Assessment Screening Methodology

Introduction

3.1. As stated in Section 1.1, screening of the Development requires an assessment as to whether it is "likely to have significant effects on the environment by virtue of factors such as its nature, size or location" (Schedule 2). The potential for significant effects depends on the sensitivity of the receiving environment to the type of changes proposed, combined with the magnitude and scale of changes proposed, including in combination with other development.

3.2. Information on the methodology for EIA screening is presented in this section. The characteristics of the Site and Development are described in Section 2 above, and other potentially relevant developments in Section 2.2.4. Section 4 then describes the existing environment by EIA topic, followed in each EIA topic section by an appraisal of the potential for impacts, consideration of the magnitude of those impacts, and whether or not there is the potential for significant effects.

Establishing the Baseline

3.3. In order to evaluate the likely environmental effects, information relating to the existing environmental conditions (known as the 'baseline' conditions) has been collected through desktop research and site visits. Information has been gathered using a variety of sources:

- Rushcliffe Borough Council websites (e.g. online planning application searches, Local Plan proposals map);
- GIS and Magic.gov.uk, with data provided by:
    - Natural England;
    - Historic England;
    - the Environment Agency;
    - Sustrans;
    - National Trust; and
    - Historic Environment Records.

3.4. The baseline is used to help describe the Site location, to identify potentially sensitive receptors on and near the Site, and to help characterise the potential impacts.

Identifying the Potential for Significant Effects

3.5. The changes to the Site and its surrounding environment which may take place during the construction, operation and decommissioning of the Development have been identified and

considered for potential direct or indirect changes to environmental features within or outside of the Site. Changes to the environment are known as 'impacts', and anything which benefits or creates detriment to an environmental feature is known as an 'effect' – reference is made to either 'beneficial' or 'adverse' effects. Any impacts are appraised using professional judgement by experienced EIA practitioners to determine the potential for significant effects on receptors. The following potential effects are considered:

- Direct and indirect effects;
- Primary and secondary effects;
- Short, medium and long-term effects; and
- Permanent and temporary effects.

3.6. Establishing the baseline, including predicted future conditions without the Development, is the key basis for predicting the potential for impacts and effects at this screening stage, combined with the depth and breadth of experience of the author in conducting EIA and environmental assessment of a range of development types, and reviews of other similar developments. The author has consulted inhouse specialists where appropriate, including ecologists, landscape architects and archaeologists / heritage specialists.

3.7. In arriving at conclusions about the potential for significant effects, the author has, in line with EIA assessment techniques, considered (and appropriately referenced) sensitivity of the receptors and the predicted magnitude of change from the baseline conditions (either beneficial or adverse). This is done because the overall significance of potential likely environmental effects (when assessed in EIA) is determined by the interaction of the above two factors. However, EIA Screening is not a full, in-depth assessment (which would be done if EIA is required) and relies mostly on understanding of the baseline and professional judgement, including previous experience of similar developments.

Mitigation

3.8. Where possible, mitigation measures will be "embedded into" the overall design strategy rather than "added on" to the proposals. An example of this is screening to reduce the magnitude of visual effects, and habitat creation where consideration will be given to tree and woodland planting and wildflower meadow on sections of the Site following completion of the ecological and landscape assessment. By being flexible with the design, the project will continue to respond to the findings of consultation and environmental assessment work through an iterative process.

4. Environmental Baseline and Screening Assessment

Use of Natural Resources

4.1. The nature of the Development is to utilise sunlight to generate electricity. Sunlight is a renewable resource and the Development will contribute to a reduction in the use of non-renewable natural resources for the same purpose. Furthermore, there would be extremely limited use of other natural resources in construction and during operation with the Site being restored when the Development is decommissioned after 40 years.

4.2. Natural resources would therefore not be affected in terms of their relative abundance, quality and regenerative capacity and there is no potential for significant effects on non-renewable natural resources.

(See also 'Hydrology' and 'Land-use & Soils' below.)

Production of Waste

4.3. The production of waste during construction would be extremely limited, as the large majority of components would be brought to site ready-made/pre-assembled. During operation, the Development will generate very little waste. Following the expiry of the consent, the solar panels, battery units and associated infrastructure would be dismantled and removed from the Site, leaving no residual effects. In addition, the solar panels and be recycled and battery units reused or recycled at the end of their operational life. This allows for the recovery of major panel components from the PV panels including glass, aluminium and copper, with likely cumulative yields greater than 85% of total panel mass. In the long term, dedicated solar PV and battery recycling plants can be expected to increase treatment capacities and the ability to recover a greater fraction of embodied materials. Decommissioning would be in accordance with technical guidance and best practice, with the methodology to be agreed with the Council at that time. There is no potential for significant effects on waste generation and management.

Pollution and Nuisances: Air Quality and Water

4.4. The Development, when operating, would have no emissions to air or water, cause no deposition to land, emit limited noise and potentially only have intruder-activated security lighting. Construction of the Development is a simple process involving only small quantities of cement and the ordinary use of vehicle fuels/oils, with none stored on site. The potential for pollution is therefore very low.

4.5. During construction and decommissioning, there would be emissions to air from vehicles and plant, but these will not be sufficient to lead to air quality effects, such as the breach of National Air Quality Objectives, at the nearest receptors. The Site is not within or in relevant proximity to an Air Quality Management Area - AQMA.

4.6. In the wider context, the Development will reduce the need for electricity from other sources, including fossil fuels and nuclear electricity generation, and thus will reduce the potential for pollution relative to the baseline.

4.7. The cable route which will connect the two separate site parcels will largely run parallel to existing hedgerows within the fields separating the two parcels and will not affect any watercourses.

4.8. The southern most field within the southern site parcel is crossed from east to west by the Kingston Brook, a tributary of the River Soar. In addition to the existing watercourse to the south, there are several drainage ditches and ponds both within and in close proximity to both site parcels. There is the potential for runoff or pollution events during construction, which may impact watercourses running adjacent to the Site. Through design, all infrastructure, and therefore construction activity, will be set back appropriately from such features and all works would be undertaken in accordance with best construction practice and pollution prevention and control measures.

4.9. Consequently, there are no air quality of hydrology receptors considered to be sensitive to the type of development proposed and there is no potential for significant effects on air quality or water quality.

Risk of Accidents and to Human Health

4.10. Very few potentially polluting substances will be handled or stored on site, and hence the potential for accidents caused by, or involving, the release of substances is very low.

4.11. Solar panels do not move or otherwise cause directly or indirectly an appreciable risk of accidents during operation. Further detail is included here on battery safety and it is considered that, following the measures set out, the fire risk potential is limited. The supplier of the energy storage technology will hold the relevant test certificates and meet the relevant electrical safety regulations. The energy storage system would be constructed with the appropriate materials and designed to minimise the risk of fire and thermal runaway. Every module would be fitted with state-of-the-art fire suppression and containment systems. Furthermore, the modules would be installed with air conditioning in order to maintain a constant and safe operating temperature, and the entire system will be subject to inspection, testing and maintenance for safe operation.

4.12. During construction, normal construction site and transportation risks would be managed through normal good practice, and there would be minimal risk from the technologies being employed for the Development. As per the previous section, the Development will not give rise to any emissions to air or water. As such, there is no potential for risks of accidents and no potential for significant effects on human health.

4.13. As part of the planning application an Outline Battery Safety Management Plan will be submitted which will provide more detail on the safety measures in place and demonstrate that all potential impacts will be fully mitigated.

Landscape

4.14. A Landscape and Visual Appraisal (LVA), informed by a site visit and desktop appraisal, has been prepared by Pegasus Group to inform the design of the scheme. A summary of the findings is provided below.

Landscape Designations

4.15. The Site is not covered by any national or local landscape designations and is not constrained by any landscape designations that relate to its value or scenic beauty.

4.16. There are no landscape features either within or immediately adjacent to either Site parcel which have any particular sensitivity that would inhibit the development of a well-designed solar farm and BESS. The Site is not situated within or near a designated Area of Outstanding Natural Beauty (AONB) or National Park and has no potential to impact on such designations. In addition, the Site is not within a Countryside Protection Zone or any other locally protected landscape designation.

Landscape Description

4.17. The Site comprises 2 separate parcels of land located in very close proximity to each other. Wysall is the closest settlement and lies, broadly speaking, to the east of the Site. The northern parcel includes 9 medium to large scale field enclosures with Bradmore Road forming, in parts, its eastern boundary. A linear woodland, known as Old Wood, forms the northern edge to this parcel and cloaks a pronounced change in levels, marked by Bunny Hill, Rough Hill and Windmill Hill. The contours steeply slope to the north and indicate change from the elevated and undulating Nottinghamshire Wolds to the vale landscape associated with the River Trent, which lies further north.

4.18. The southern parcel includes 4 small to medium field enclosures and can be accessed from Wysall Road / Costock Road, which abuts it to the south. Wysall Road leads north east towards the settlement of Wysall. The village is separated from the Site by various pastoral and arable fields with the settlement edge largely enclosed by mature hedgerow and tree vegetation.

4.19. Arable fields separate the two parcels of the Site and characterise the landscape to the west of it, with a number of woodland blocks compartmentalising the area. Rough Plantation, Wysall Rough Plantation, Long Rough Plantation, and Intake Wood abut the Site.

4.20. Nottingham Road / Bunny Hill road dissects this working agricultural landscape and lies approximately 1km away to the west. At the junction of Wysall Road / Costock Road with Nottingham Road / Bunny Hill road lies the village of Costock.

4.21. The Site's perimeter, in addition to the aforementioned highways, follows existing field boundaries delineated by hedgerows, blocks of woodland and tree belts. Boundary hedgerows associated with the site are generally well maintained and approximately 1.5m to 2m in height, albeit there are sections, which are higher. The southern parcel of the Site is characterised by lower hedgerows, estimated to be approximately 1m to 1.5m in height.

4.22. Topographically the Site forms part of the elevated Nottinghamshire Wolds and its complex outline terminates abruptly as a steep slope before descending into the broad valley of the River Trent. The north western corner of the Site, which abuts Old Wood, sits at approximately 88m Above Ordnance Datum (AOD). The landform rises further west and culminates as Bunny Hill, and according to the Ordnance Survey (OS) Explorer map 1:25,000 reaches approximately 92m AOD. This rising landform, coupled with Old Wood, encloses the Site and its immediate landscape to the north. The higher ground continues further west towards Rough Hill and Sharpley Hill, which collectively segregate the Site and landscape immediately around it from the wider study area further north and west.

4.23. The Site's landform rises towards Bradmore Road and Wysall, which collectively enclose the Site to the east and separate it from the landscape further east and south east. Bradmore Road sits between approximately 90m and 82m AOD with the village sat between approximately 86m and 68m AOD. Views from this road overlook the southern parcel and the eye travels towards the distant hills seen on the horizon.

4.24. Further east and south east of Bradmore Road and Keyworth Road the landform falls or broadly remains at a similar elevation as the Site itself. Willoughby-on-the- Wolds, located approximately 3.5km away from the Site to the south east, sits slightly higher, up to approximately 100m – 105m AOD. There is lack of any inter-visibility between the Site and this village due to the intervening vegetation.

4.25. The landform of the Site gently slopes to the south, reaching approximately 60m contour line along the southern edge of the Site, along Wysall Road / Costock Road. This lower ground is drained by Kingston Brook, and its valley continues south east towards Willoughby-on-the-Wolds. South of the Brook the topography rises again to approximately 85m AOD around Wolds Farm at Wysall Road and Oak Tree Farm at Wysall Lane. It continues south to reach approximately 90m AOD before sloping again towards the River Mantle. The higher ground around Wolds Farm and Oak Tree Farm terminates views south from within the Site. Due to this undulating landform and presence of well managed and relatively tall hedgerows and blocks of woodland, which are characteristic of this landscape, reciprocal views towards and into the interior of the Site are limited or are relatively distant and interrupted by tree canopies.

Landscape Character

4.26. According to Natural England, the Site and study area fall within the National Character Area (NCA) 74 'Leicestershire and Nottinghamshire Wolds'. This national level assessment, however, is considered too coarse and geographically too extensive to provide a detailed information that would be relevant to the Site and proposed development.

4.27. The published Greater Nottingham Landscape Character Assessment identifies the Site to fall within the 'Nottinghamshire Wolds' Regional Character Area, and the eastern most part of Draft Policy Zone NW01 'Gotham and West Leake Wooded Hills and Scarps'.3 The landscape management strategy is to 'conserve'.

4.28. The key characteristic features of the Draft Policy Zone NW01 'Gotham and West Leake Wooded Hills and Scarps' are identified in the above Assessment as being:

- *"Series of prominent individual hills with steep sometimes scarp slopes and broad plateaus.*
- *Hills are the dissected northern extent of a low boulder clay plateau extending from Leicestershire traditionally known as 'The Wolds'.*
- *Rural character although urban elements such as villages, power station, industry and quarrying are frequent in the landscape.*
- *Kingston Brook is a localised feature on low ground between hills characterised by riparian woodland and some grazing pasture at its margins.*

- *Land use is a mixture of woodland, arable and pasture. Arable is on the lower and more gentle slopes, pasture close to rivers, settlements and scarp grassland where the land is steeply sloping precluding machinery from working the land.*
- *Field pattern is mostly modern although pockets of older field systems such as irregular geometric and geometric and those reflecting open fields are present.*
- *Field pattern in places sweeps down the slopes and is a distinctive feature.*
- *Field boundaries are mostly hedgerows on the slopes with fences often present on higher ground.*
- *Woodland is generally on high ground across the hills although there are smaller pockets of woodland on lower ground as establishing scrub and along village fringes/areas of former quarry.*
- *Prominent extensive woodland plantation covers the slopes and high ground, often on steep scarps.*
- *Rides and areas of open land are interspersed between plantation woodland.*
- *Wooded tracks with spring flowering understorey planting along tracks up hills.*
- *Large commuter settlements such as Gotham and East Leake and smaller settlements such as West Leake are nestled at the base of the hills on the fringes of the DPZ.*
- *Infrequent individual farms within the character area often on the slopes or high ground. A row of individual modern houses is present along Ash Lane. One distinctive red brick and pantile roof farmstead on Bunny Hill is set within gardens with a small orchard.*
- *Buildings are mostly red brick with older properties having red pantile roofs.*
- *Church towers and spires are prominent within a uniform village skyline.*
- *Overhead lines are prominent on low ground between hills.*
- *Small former spring (Wheldon Spring) on Gotham Hill is a localised feature characterised by a depression in the ground and establishing scrub.*
- *Enclosed channelled views on low ground between hills with extensive panoramic views across towards Nottingham City and beyond from high ground."*

4.29. Draft Policy Zone NW01 'Gotham and West Leake Wooded Hills and Scarps' is described as,:

> *"A series of distinctive wooded hills with arable fields on lower and gentler slopes and pasture and pockets of grassland on the steeper slopes. Views are extensive and often over long distances from the high ground although become more enclosed from lower ground. Urban elements are frequent with views of Ratcliffe on Soar Power Station and the gypsum works. (…) Land use is a mix of plantation woodland, arable farming and pasture. Fields are mostly medium to large in size (…) Woodland comprises large*

geometric field sized blocks of both broadleaved and conifer woodland (…) Other vegetation includes smaller frequent copses at the base of slopes and around settlements. Frequent hedgerow trees and intact hedgerows are present across the area. (…) The landscape condition is GOOD. Hedgerows and woodland are well managed, although there is some evidence of field boundary fragmentation in places. Where hedgerows have been replaced, the timber fencing is usually in good condition. The agricultural land is well managed and features are intact with little sign of decline."

4.30. The published Assessment goes on to state:

"This DPZ is a distinctive series of hills which are prominent within the surrounding area. They often form a backdrop to views from the southern edges of Nottingham. From high ground within the DPZ there are open expansive views to the centre of Nottingham and lower-lying farmland at Ruddington and Bunny. The strength of character is STRONG. The hills are distinctive and consistent features across the landscape and exert their influence within the surrounding area. The pattern of arable, pasture and woodland is also consistent with moderate sized villages and some expanding commuter villages present on low ground."

4.31. It is accepted that the Site's character will change from open agricultural land to one that contains elements of energy infrastructure: solar PV arrays and battery storage containers and a new substation, however, the change would be limited to the Site itself. The surrounding landscape would not be physically affected.

4.32. Lack of or very limited visibility of the Site helps retain the agricultural character of the landscape around the Site.

4.33. Preliminary analysis of the Site does not reveal any localised or specific landscape character sensitivities that would be applicable to a particular part of the Site or associated field enclosures.

4.34. Whilst the northern part of the Site is slightly elevated, the Site does not have any visual relationship with other types of landscape except for the northern part of Draft Policy Area NW03 'Widmerpool Clay Wolds', i.e., the rising landscape to the south of Kingston Brook.

4.35. Any change to landscape character can be appropriately mitigated against and reduced with existing woodlands and belts of trees proving reference points for mitigation planting.

4.36. Overall, any changes to landscape character would be limited to the Site itself and the surrounding landscape would not be physically affected. The lack of or limited visibility of the Site would help to retain the agricultural character of the landscape around the Site.

Visual Receptors

Residential Receptors

4.37. There are a number of properties, groups of properties, settlements and PRoWs located within the vicinity of the Site. The properties and settlements are detailed in Section 2 of this report and are not repeated here.

4.38. Visibility in its own right is not necessarily detrimental, particularly given the inanimate and low-lying nature of the Development and the nature of the receiving environment being

located on relatively level or gently rolling agricultural land in a rural setting. The landscape is well vegetated with hedges and areas of established woodland.

4.39. Visual effects on residential properties are likely to be limited given the nature of the solar development which would be generally at a low height across the Site. Existing hedgerows and trees would help to screen the Development and appropriate planting will also be proposed as part of a planning application to further reduce visual effects and deliver biodiversity enhancements. Appropriate consideration will be given to ensure that no significant amenity effects occur as a result of the Development. The Development will be designed to ensure any effects on residential properties are minimised.

4.40. The Site benefits from strong existing established vegetation and hedgerow screening which would limit views from nearby properties and settlements. The Development is relatively low-lying and does not give rise to significant vertical elements in the landscape and is therefore highly unlikely to be discernible in views from the nearest settlement of Wysall. The existing tall trees and hedgerows on the Site would break up views across the Development and beyond and this beneficial effect will be strengthened by supplementing existing field boundaries.

4.41. Whilst there are a number of isolated properties in the immediate vicinity of the Site, many benefit from existing screening/ boundary vegetation, which would limit visual impact of the Development, while others have intervening agricultural buildings, meaning views across to the Development would be limited. Furthermore, as part of the Landscape and Visual Impact Assessment that would be carried out to accompany any future planning application, any additional landscape planting that is required to mitigate visual impact on these properties would be detailed.

Public Rights of Way

4.42. There are a number of Public Footpaths that converge at Wysall and traverse the elevated landscape around the village, and indeed across the Site's northern parcel. The Midshires Way between crosses the Site and follows the elevated Bradmore Road, which follows the eastern edge of the northern parcel. The southern parcel is free from such constraint.

4.43. The Midshires Way is a long-distance footpath and bridleway that runs for 230 miles (370 km) from the Chiltern Hills in Buckinghamshire, through the Midlands counties of Northamptonshire, Leicestershire, Nottinghamshire and Derbyshire, to Stockport, Greater Manchester.

4.44. There are no Open Access Land areas, commons, country parks or accessible woodlands in the local area. Public access is limited to highways and PRoWs.

4.45. In terms of PRoWs around the low lying Costock, these have been analysed during initial landscape appraisal of the Site and no clear views of the Site were identified from these. Similarly, PRoWs between Windyridge Road/ Wymeswold Road and Thorpe in the Glebe were visited. Despite initial analysis indicating extensive patches of theoretical visibility, these PRoWs are free from any views of the Site.

4.46. Based on the site visit undertaken views from the following PRoWs are of importance, with regard the potential visual effects and layout design:

- Midshires Way, through the northern parcel and between the Site and Wysall and along Bradmore Road,
- Public Footpath between Bradmore Road and the Site's northern parcel, via Lodge Farm,
- Public Footpath to the south of Wysall Road, between Rempstone Lane and Wysall's western settlement edge.

4.47. It is accepted that very close range views from PRoWs within or abutting the Site, as identified in the first two bullet points above, would be gained and effects would be high, however any impacts can be suitably mitigated, to a degree, through imposing set back margins from the rights of way and sensitive planting as part of the Development.

4.48. With regards to the PRoW between Rempstone Lane and Wysall, views further north east, as one approaches the village become low lying and increasingly screened by the intervening hedgerows and trees. Overall, some inter-visibility does exist but is very limited.

4.49. There would be a short-term direct impact on the rights of way during construction, which would likely require a temporary closure or diversion of the Midshires Way which crosses the Site. In the longer term all rights of way would remain open and any effects would be indirect on users. Impacts of rights of way users will be a key consideration in the design and mitigation of the final layout and consideration will be given to appropriate offsetting of development and also landscape mitigation.

Roads

4.50. The principle roads in the area around the Site are Keyworth Road, Bradmore, Road and Wysall Road.

4.51. Local public highways are generally bound by roadside hedgerows and trees, which considerably screen and restrict views from transient receptors. Views from Keyworth Road are completely screened the layers of hedgerow and tree vegetation. With regard views from Bradmore Road, these are curtailed along the northern section of the road by the roadside hedgerow. As one passes the Site and approaches Wysall, the Site is visible over the roadside hedgerow, which is relatively low along this section of the road. Views from the low lying Wysall Road are enclosed by the hedgerows and the Site is not evident or visible, except for the short section of the road, as it passes its southern edge, near Scotland Hill Farm. Further west and towards Costock, roadside hedgerows screen views towards the Site. As indicated by the SZTV plan (included ate Appendix 3) views from Rempstone Lane leading south west towards Rempstone may be potentially gained. The site visit, however confirmed that the elevated sections of Rempstone Lane are enclosed by vegetation either side. Views of the Site are only gained as one descends towards Kingston Brook. Views from Wymeswold Road, between Wysall and Thorpe in the Glebe, and Wymeswold further south, have also been analysed but no clear views of the Site were identified during the site visit.

4.52. Visibility of the Site from local roads would be limited and any views would be transient, experienced by motorists travelling quickly. In summary, receptors travelling along the local highways in the wider landscape would generally not gain any substantial views of the Site. Less restricted views may be gained from sections of Wysall Road, central section of Bradmore Road and northern section of Rempstone Lane however effects on users would not be significant.

Glint and Glare

4.53. Solar panels can result in glint and glare effects from reflected sunlight, affecting nearby receptors such as car drivers or residential properties. However, firstly the impact is generally only of concern at dawn and dusk and is limited by the position of the panels relative to the sun, and in turn the position of potential receptors relative to the panels and the sun. Secondly, the panels are designed to absorb maximum daylight to convert it to electricity and therefore have low levels of reflectivity when compared to surfaces such as window glass, water or snow. A Glint and Glare Assessment would be submitted with any planning application, and any required mitigation (in the form of landscape planting) would be provided to ensure there were no significant effects on receptors.

4.54. Any future Glint and Glare Assessment would appropriately consider potential cumulative effects associated with any nearby proposed or approved development, including the recently permitted development to the west of the site at Land To North East Of Highfields Farm, Bunny Hill (Ref: 22/00303/FUL). A Glint and Glare Assessment was submitted an approved for the neighbouring development scheme at Highfields Farm which concluded that the neighbouring development would have no significant impacts on roads in the surrounding area with only a moderate impact is predicted on one dwelling in the area and only a low level impact on flight paths associated with East Midlands Airport. Given the visual containment and separation between the site and neighbouring approved development, provided by landscape features and woodland surrounding and between the two development sites, the two sites are considered to fall within different visual catchments and therefore no significant cumulative effects are anticipated.

Landscape Mitigation and Summary of Likely Effects

4.55. The Site is not located within any statutory or non-statutory landscape designations. The Development would be designed to appear physically and visually separated from the surrounding landscape and the strong sense of enclosure provided to the Site by the existing mature vegetation suggests that the Development is not constrained in landscape character or visual terms.

4.56. The LVIA will inform the extent to which vegetative screening is necessary to assimilate the Development into the landscape and will ensure that the Development is sited appropriately to the amenity of residents in the surrounding area. Details of proposed additional landscaping will be shown on a Landscape Mitigation Plan which will be submitted along with any future planning application.

4.57. It is therefore considered that there would be no significant visual impacts from the Development, including cumulatively, though for any impacts which are not significant, e.g. for users of the local road network, PRoW and residents in surrounding settlements and isolated properties in the vicinity of the Site. Appropriate offsets and visual screening will be taken into consideration within the Development's final design and landscaping proposals.

Cultural Heritage and Archaeological Receptors

Designated Heritage Features

4.58. No designated heritage assets lie within or in the immediate vicinity of the Site.

4.59. The north-western extent of the Wysall Conservation Area lies c. 215m to the south-east of the northern parcel and the south-western extent of the Conservation Area lies c. 295m east of the southern parcel. The Conservation Area contains one Grade I Listed Building (the Church of Holy Trinity c. 510m east of the southern parcel (1259980)) and four Grade II Listed Buildings.

4.60. The Grade II Listed Highfields lies c. 435m west of the northern parcel and 670m west of the southern parcel (1260277).

4.61. Thorpe in the Glebe medieval settlement, including church site and open field system, a scheduled monument, lies approximately 1.3km to the south east of the southern site parcel.

4.62. Woodland blocks, tree lines and buildings would obstruct views between the Development and any of the Listed Buildings and Conservation Area. As a result, no heritage features are considered sensitive to the changes of the type proposed, and there is no potential for significant effects on the heritage assets or their settings.

4.63. Whilst no direct impacts are expected on these heritage assets, indirect effects will be given due consideration during the detailed planning process and a heritage assessment will be prepared to assess any potential impacts on the setting and character of heritage assets on these and the wider area.

Archaeology

4.64. There is scarce activity of prehistoric date within the study area, limited to a single residual find of Bronze Age data c. 100m east of the southern site. There is no evidence to suggest that prehistoric activity was focussed within the Site and therefore the archaeological potential for significant remains of prehistoric date within the Site is considered to be low.

4.65. A Roman well and kiln were identified c. 900m to the north-west of the Site and residual finds in the wider area are characterised predominantly by coins and pottery. No Romano-British finds or features have been identified within or in the immediate vicinity of the Site. There is no evidence to suggest that the Site was a focus for Roman activity and the potential for significant archaeological remains within the Site is considered to be low.

4.66. Medieval settlement activity is focused to the east of the Site at Wysall and is likely that during the medieval period the land within the Site was part of the agricultural hinterland to the settlement at Wysall and Costock. There is no evidence to suggest that the land within the Site was a focus for medieval settlement activity. The potential for significant archaeological remains of medieval date within the Site is considered to be low.

4.67. The land within the Site has predominantly been utilised as agricultural land as shown on historic mapping from the 19th century. Some of the land within the southern extent of the Site was woodland plantation and may have been a quarry. The buildings at Lodge Farm are not considered to be historic and are not of a heritage interest to be heritage assets. The potential for significant post-medieval to modern archaeological remains within the Site is considered to be low.

Community and Recreation

4.68. In addition to the settlements and public rights of way discussed in above, this section considers other recreational receptors.

4.69. There are no Country Parks, National Trails or National Cycle Networks or other large-scale recreational facilities within 1 km of the Site. The northern parcel of the Site is crossed by the Midshires Way long distance footpath and bridleway. Whilst there will be some limited visual impact on users of the route, this will be limited to only a very short section of the 230 mile route and will only be experienced by users for a limited duration. Any impact on users of the long distance route will be suitably mitigated through the use of sensitive offsets to infrastructure and landscape planting as part of final design and a detailed landscape strategy.

4.70. The only potential for effects on recreational features are visual impact and noise, affecting amenity value. Intervening distance and the nature of the Development (low lying), in conjunction with intervening woodland blocks, tree lines and landform which all act to obstruct views between the Development and identified recreational receptors, would mean that visual effects, even if unmitigated, would not be significant. Potential noise effects during cable installation would be temporary and reversible and works could be adequately controlled by limited working hours set out in appropriately worded planning conditions, or a construction environmental management plan, as would be used for a wide range of other non-EIA development types. There is no potential for significant effects on community and recreation facilities.

Ecological Receptors

4.71. There are no internationally or nationally designated ecological sites within a 5km radius of the Site.

4.72. Keyworth Meadow Local Nature Reserve (LNR) forms the closest designated ecological site to the Site which lies 1.6km to the north-east. The LNR comprises 1ha of flower-rich grassland, with additional wetland flora associated with the bordering brook. Ponds at the LNR support great crested newts.

4.73. 8 Sites of Importance for Nature Conservation (SINCs) (locally designated) are identified to lie within 2km of the Site. Bunny Old Wood SINC is the closest non-statutory site, immediately adjacent to the northern boundary of the northern parcel. This is an ancient broadleaved woodland, dominated by ash, with pedunculate oak and wych elm, a dense understorey and ground flora including sanicle, wood-sedge and bluebell. The wood is of importance to butterflies, including white-letter hairstreak.

4.74. An Extended Phase 1 Habitat Survey has been completed which covered the Site and adjoining areas where access permitted. Habitats on the Site include arable fields and grassland with blocks of broadleaved and mixed woodland and species rich hedgerows/treelines along most boundaries. The survey identified two ponds within the site area in addition to 13 further ponds within 250m of the Site. The Kingston Brook flows through the southern parcel of the Site, whilst further wet and dry ditches were also identified within the two site parcels.

4.75. With regards to protected species this survey confirmed the following:

- Bats - Low habitat suitability for bats. Hedgerows, trees and woodland within and around the Site provide potential connectivity and potential foraging opportunities for bats. There are trees on Site with bat roost potential however no trees with potential to support roosting bats will be impacted by the Development, therefore no further surveys or mitigation are required with regards to bats. The long-term, operational effects of the Development on bats are likely to be positive because habitat quality and availability will be increased. Furthermore there will be no permanent lighting during the operational phase, the only lighting would be motion activated lighting on electrical housing (such as batteries, inverters etc) for use during emergency, unscheduled maintenance. There would therefore be no lighting impact on bats.

- Badgers - A likely main sett was identified on the hedgerow boundary of the Site. The majority of the sett entrances were identified to lie outside of the Site within the adjacent field, however, some entrances emerged onto the arable field margin of the Site. A likely annex sett, three outlier setts and two subsidiary setts were also identified in the hedgerow boundary. Badger latrines were identified indicating frequent badger movement. The Development will be designed to retain any existing setts on site and will be protected through construction through the erection of protection fencing. A suitable development buffer of at least 10-20m (depending on the size and status of the sett will be maintained from any identified setts. Given that badgers can create new setts in a relatively short space of time, an update badger survey would be completed prior to construction commencing.

- Birds - A wintering bird scoping survey was undertaken in February 2022. Evidence of sparrowhawk kills were noted, though no sparrowhawks were identified during the survey. In the southern site parcel ducks such as wigeon and mallard, as well as Canada geese were present in the wetter areas to the south. Seven lapwing were also noted in this area in addition to further singing skylark records. Since the Site has the potential to support a variety of wintering bird species, a full Wintering Brid Survey was carried out between November 2022 and February 2023. Further to the wintering birds surveys identified above, a breeding bird surveys were undertaken in 2022. The results of these surveys will be used to appraise the potential impacts on birds and inform any required mitigation requirements.

- Water Voles and Otters – Kingston Brook which crosses the southern parcel of the Site is identified to be potentially suitable to support otters and water voles. Potential impacts which could affect otters and water voles include bankside vegetation removal and disturbance, pollution run-off, changes in ground water or drainage levels associated with upgrades to the existing crossing point. Accordingly, an otter and water vole survey will be conducted during the 2023 survey season. The results of this survey will be used to appraise the potential impacts on otters and water voles and inform any required mitigation requirements for the development. In general, other than the vehicular crossing, The Development will not result in any impacts to the existing watercourse and will be designed to incorporate a suitable buffer of at least 10m from the existing watercourse. Provisions will be included within a CTMP to ensure that these feature are protected throughout the construction period.

- Great Crested Newts (GCN) – Two ponds were identified within the site boundary with a further 13 ponds were identified within 250m of the site boundary. A great

crested newt (GCN) Habitat Suitability Index was undertaken for the ponds within the Site and the pond suitability to support breeding GCN was found to be 'Average' and 'Poor'. An eDNA survey of the ponds within and surrounding the Site (where access was granted) was carried between mid-April and June 2022. The results of the eDNA survey identified positive results for the presence of GCN within 4 of the 10 ponds surveyed, including one pond within the north eastern corner of the southern parcel, and three other ponds within close proximity of the site boundary. Notwithstanding the above, there are not anticipated to be any adverse impacts on GCN arising from the development, however, allowing parts of the existing arable land within the Site to become permanent grassland and to be largely retained and enhanced, will benefit GCN if present in the locality. Where positive GCN survey results have been detected, a suitable development and construction offset of 50m will be maintained to ensure any impacts on potential GCN populations is prevented.

- Dormice – Whilst suitable habitat was identified to be present within the Site, this species is rare in Nottinghamshire with sporadic, isolated populations at a few re-introduction sites. There are no records returned from the desk study of the species within 2km of the survey area.

- Reptiles - Likely to be restricted to field boundaries and road verges, if present. All field boundaries will be protected through the Development with a buffer of at least 5m provided to avoid impacts on reptiles, if present.

- Brown Hare – Brown Hare were recorded on the southern site parcel during the Phase 1 survey. It is proposed to allow gaps in fencing (usually via natural undulations in the ground) or mammal gates to allow movement of Brown Hare through the Site. This species is known to favour solar farms and so would likely benefit from the Development in the longer term. These measures would also benefit other small mammals including badger.

4.76. The results of any protected species surveys and any required mitigation or enhancements will be reported in an Ecological Impact Assessment (EcIA) to be submitted as part of any future planning application.

4.77. Overall, the Development is relatively limited in extent and will seek to enhance habitat. Consequently, the Development is likely to have a neutral or net positive effect on habitat resources. All ecological surveys will be reported in an Ecological Impact Assessment (EcIA), alongside any required mitigation measures and or enhancement measures, as part of the planning application. The EcIA will also report the Biodiversity Net Gain Assessment. Off-site habitats and species will not be affected by changes on the Site of the type proposed and there is no potential for adverse significant ecological effects, however there is potential for beneficial biodiversity effects.

Hydrology Receptors

4.78. The majority of the Site comprises land classed as Flood Zone 1, an area least at risk of flooding. However, there is a small portion of the Site in the southern extent of the southern site parcel which is identified to fall within Flood Zone 3 which aligns with the Kingston Brook which crosses the southern extent of the Site. All development infrastructure would be located outside of this with the exception of any upgraded works to the crossing of the brook.

4.79. The impermeable areas within the Development are limited to the substation, transformers and battery storage containers with a total impermeable area equating to less than 0.1% of the total Site. Acknowledging the limited extents of impermeable areas, the Site will comprise of surface water management techniques to control runoff based on Rural Sustainable Drainage Systems ('RSuDS'). As such, permeable surfaces will be implemented where possible, with any new access tracks.

4.80. The PV array tables will have regular rainwater gaps to prevent water being concentrated along a single drip line. Moreover, to limit possible channelisation from surface water from PV arrays, and to promote interception and infiltration potential, the land surrounding and between the PV arrays will be planted with native species rich grassland.

4.81. A Flood Risk Assessment will be submitted as part of any future planning application which will confirm the predicted flood levels, plus an appropriate allowance for climate change and will inform the final design of the Development. The potential to impact offsite receptors and surface water run-off will also be considered within the assessment.

4.82. The Development would not give rise to adverse effects in respect of flood risk, and there is no potential for significant effects.

Noise and Vibration

4.83. The nearest receptors of potential noise effects are the residential properties located to the boundaries of the Site, as identified under the section 2 of this report. The nearest settlement is Wysall where the nearest receptors are approximately 350 m east of the southern site parcel and 450m south east of the northern parcel.

4.84. Solar farm and BESS construction takes place quickly, as minimal excavations are required. The potential adverse effects of noise and vibration during construction are therefore limited to specific locations within the Site, and only for short periods, e.g., when deliveries are made and when piles for mounting structures are being installed. There are a small number of residential properties which may be subject to further noise associated with the installation of the underground cable linking the two site parcels. Given the temporary nature and limited extent of such works, the noise impact from such activities can be controlled by limited working hours set out in appropriately worded planning conditions, or a construction environmental management plan, as would be used for a wide range of other non-EIA development types.

4.85. The good practice measures outlined below are considered to be sufficient to manage the effects of noise during construction, and would be required of all contractors during construction:

- Operations shall be limited to times agreed with the Council;
- Deliveries of plant and materials by HGVs to site shall only take place in accordance with the Traffic Management Plan (which will be secured via a planning condition), and within times agreed with the Council;
- The Site contractors shall be required to employ the best practicable means of reducing noise emissions from plant, machinery and construction activities, as advocated in BS 5228, the relevant guidance for construction noise;

- Where practicable, the work programme would be phased, which would help to reduce the combined effects arising from several noisy operations;
- Where practicable, noise from fixed plant and equipment would be contained within suitable acoustic enclosures or behind acoustic screens; and,
- All sub-contractors appointed by the main contractor would be formally and legally obliged, and required through contract, to comply with all environmental noise conditions.

4.86. Application of the above measures to manage construction noise would ensure that potential effects are minimised as far as is reasonably practicable, and that the construction process is operated in compliance with relevant legislation.

4.87. During the operational phase of the Development, low levels of noise can be generated by the electrical systems such as the transformers, inverters, substations and battery storage containers, but this is highly unlikely to be audible above background levels at the identified receptors given the separation distance and existing background noise in the vicinity of these receptors. Consideration will be given in the design of the Development to ensure that these items are placed at locations as far away as possible from residential properties and noise sensitive receptors in the vicinity of the Site. Additionally, solar panels only generate electricity during daylight hours, and therefore there is negligible noise generated in the evening, night and early morning, when ambient noise levels are typically at their lowest.

4.88. Any full planning application will be supported by a detailed noise assessment informed by a baseline noise survey which will also consider any potential cumulative noise impacts associated with the recently permitted Solar Farm at Highfields Farm, Bunny Hill to the west. The results of the noise assessment and any required mitigation will be carefully considered and will feed into the design of the development to ensure that noise levels of the development are kept within acceptable day time and night time limits at all surrounding residential receptors.

Traffic and Transport

4.89. Access to the northern site parcel is proposed via the the existing farm access track at Lodge Farm which extends westwards from Bradmore Road to the east the parcel. The existing access point and access track currently accommodates large agricultural vehicles and HGV as part of the farm's operations and is wide enough to safely accommodate construction vehicles. From Bradmore Road access can be gained to Pendock Lane to the north and subsequently Loughborough Road (A60), which in turn can provide direct access towards the A52 to the North via Ruddington from which access can be gained onto the A46 or A453. Both the A46 and A453 provide direct access onto the M1 motorway.

4.90. The southern parcel of the Site will be accessed via an existing field access point and track which extends northward into the southern parcel from Wysall Road to the south of the Parcel. The existing access point and access track will be suitably upgraded and widened to safely accommodate construction vehicles entering the Site. The existing access track crosses the Kingston Brook which lies to the south of the Site. Whilst the existing access track currently safely accommodates large agricultural vehicle, the structure of the crossing point will be assessed and suitably upgraded to safely withstand the load of proposed

construction vehicles accessing the Site where appropriate. From Wysall Road, access to either the A46 or A4536 main distributor roads can be achieved via Bunny hill before joining Loughborough Road (A60).

4.91. The proposed construction traffic routes highlighted above would appropriately avoid the need for construction traffic travelling through the centre of surrounding settlements.

4.92. The full planning application will be accompanied by a Construction Traffic Management Plan, developed in correspondence with the Local Highways Authority, assessing the impact of the Development on the local highway and providing guidance as to how construction traffic can access the Site in the safest and most efficient way, whilst not giving rise to unacceptable levels of congestion or other highways impacts.

4.93. During construction / installation of the proposal, there would be trips associated with the delivery of materials and components to site and arrivals and departures of construction staff. Construction material deliveries will mainly consist of small to medium HGVs while staff trips will mainly consist of vans. During the operation and maintenance of the proposal it would generate an insignificant number of traffic movements along the local highway as it would be remotely operated and only require periodic access for scheduled and unscheduled maintenance, typically once per week in a car or van. Traffic levels during decommissioning would be similar to construction.

4.94. Traffic volumes generated by the Development during construction, operation and decommissioning are not likely to be sufficient to lead to any long-term delays or other traffic-related effects. Consequently, there is no potential for significant effects.

Land Use and Soil

4.95. National policy requires development on agricultural land to steer towards areas of poorer quality agricultural land, where this is available, except where this would be inconsistent with other policy and sustainability considerations. The Natural England Agricultural Land Classification Map highlights that the Site is wholly characterised by undifferentiated grade 3 (good to moderate) land.

4.96. A site specific Agricultural Land Classification Survey and Report has been carried out covering the Site, which identifies that the Site is made up of a mixture of Grade 3b or Grade 4 agricultural land.

4.97. Adopting appropriate soil management measures would ensure that the construction and decommissioning effects on the soils with the Site would remain short term, reversable, local and of negligible adverse significance. Furthermore, the during the operational phase, the Development would have a beneficial effect on the soil resource. That is because the land would be planted with grass and become less susceptible to wind and water erosion and soil compaction, while the topsoil's organic matter would be replenished.

4.98. As set out above, the Development would not result in the permanent loss of agricultural land. Agricultural activities are expected to continue alongside the solar farm, in the form of sheep grazing, and following decommissioning at the end of the temporary operational period, the land will be returned to full agricultural use.

4.99. In accordance with NPPF the Development is therefore not considered to result in a significant loss of Best and Most Versatile agricultural land. Furthermore, there is the potential for agricultural land use to continue in conjunction with the Development once it is operational, in the form of sheep grazing amongst the solar panels.

5. Conclusions

5.1. Schedule 3 of the EIA Regulations states that *"the environmental sensitivity of geographical areas likely to be affected must be considered having regard to (a) the existing and approved land use; (b) the relative abundance, availability, quality and regenerative capacity of natural resources; and (c) the absorption capacity of the natural environment, paying particular attention to a number of areas including wetlands, coastal zones, mountains and forest areas, nature reserves and parks, areas classified or protected under legislation, areas in which the environmental quality standards have already been exceeded, densely populated areas or landscapes of historical, cultural or archaeological significance."*

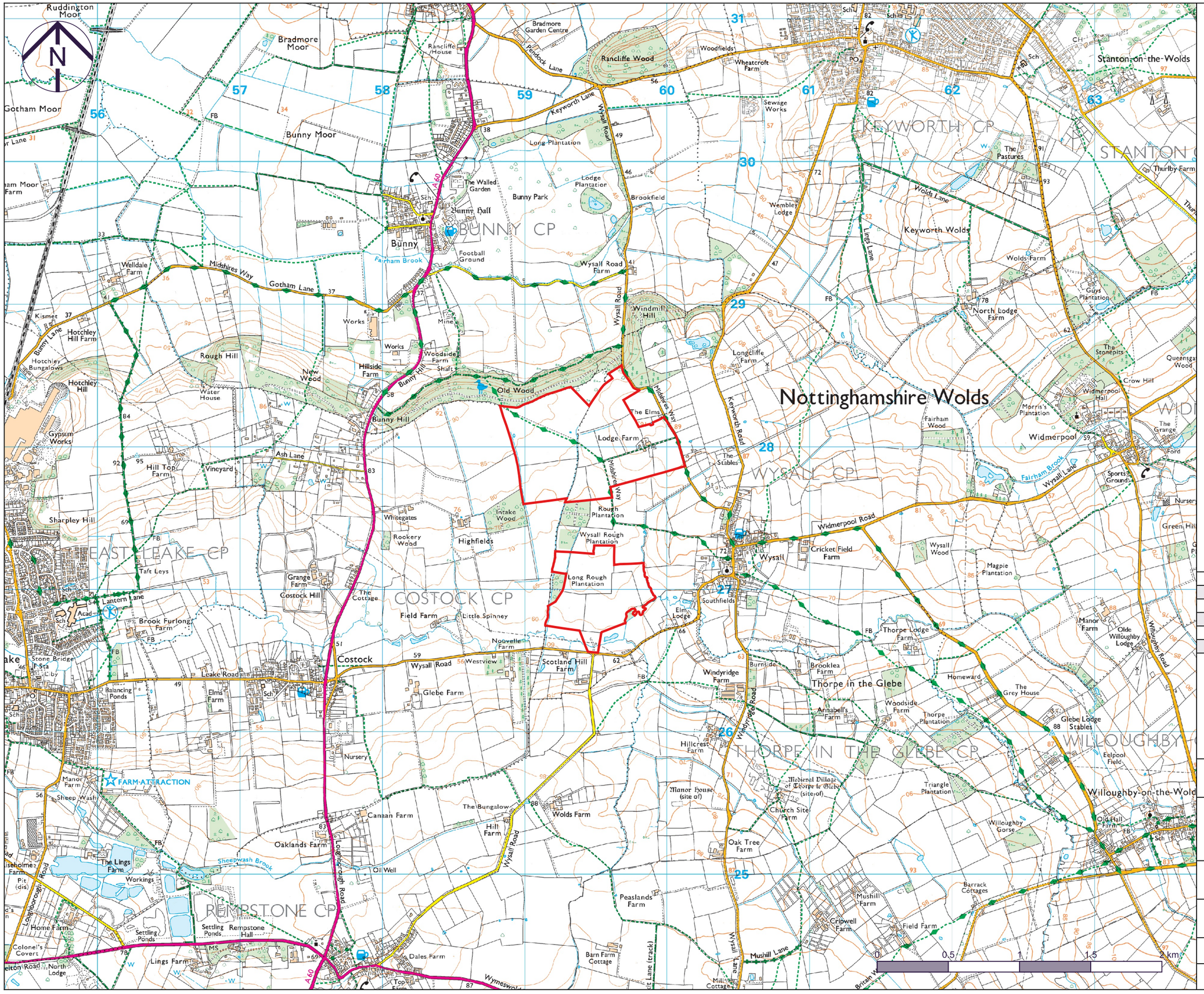
5.2. These have been considered in this EIA Screening assessment, and special consideration has been given to landscape, visual, heritage, ecological and hydrological resources. As discussed in the previous sections, the Development is relatively low-lying, does not give rise to significant vertical elements in the landscape, and would be implemented alongside areas of wildflower meadow habitat creation and most likely woodland/hedge planting to enhance visual screening and provide substantial biodiversity gain. The landscape has the capacity to accommodate the Development due to the gently sloping nature of the landform and existing vegetation, including existing woodland and hedgerows and trees, which would provide established screening from the outset. All these factors would ensure that with appropriate mitigation, any landscape effects would be very localised, such that no significant effects, in EIA terms, would be anticipated.

5.3. Ecological surveys have been carried out and will be reported, alongside any required mitigation measures and or enhancement measures, as part of any future planning application. These surveys are designed to inform the baseline and the final design of the Development as well as any mitigation measures that may be required. There will be no impact on nationally or internationally designated ecological sites and habitat creation will deliver substantial net gain in biodiversity.

5.4. Further technical assessments with respect to heritage, transport, flood risk, arboriculture, glint and glare and noise will be prepared and will be submitted alongside any future planning application and will directly inform any required mitigation for the Development, thus feeding into the final scheme design to minimise potential environmental effects.

5.5. Based on the experience of the author, overall, significant effects in EIA terms are not likely as a result of the Development and the Development does not warrant an EIA.

Appendix 1 – Site Location Plan



Notes:
View in conjunction with all relevant documents.
All dimensions to be checked on site before proceeding with work.
To be used only for the status specified.
The information contained therein must not be copied or reproduced in any form without written permission.
All dimensions, levels, and coordinates are in metres unless defined.
All areas are approximate and indicative only.
All omissions and discrepancies to be reported in writing to Exagen Development Ltd.

Key

Site Boundary

Rev	Date	Description

Exagen Development Limited
Millbank Tower
21-24 Millbank
London SW1P 4QP
+44 (0)3300 100 545
info@exagen.co.uk
www.exagen.co.uk

Client
Exagen Development Limited

Drawing title
Site Location Plan 1:25k

Project
Old Wood Energy Park

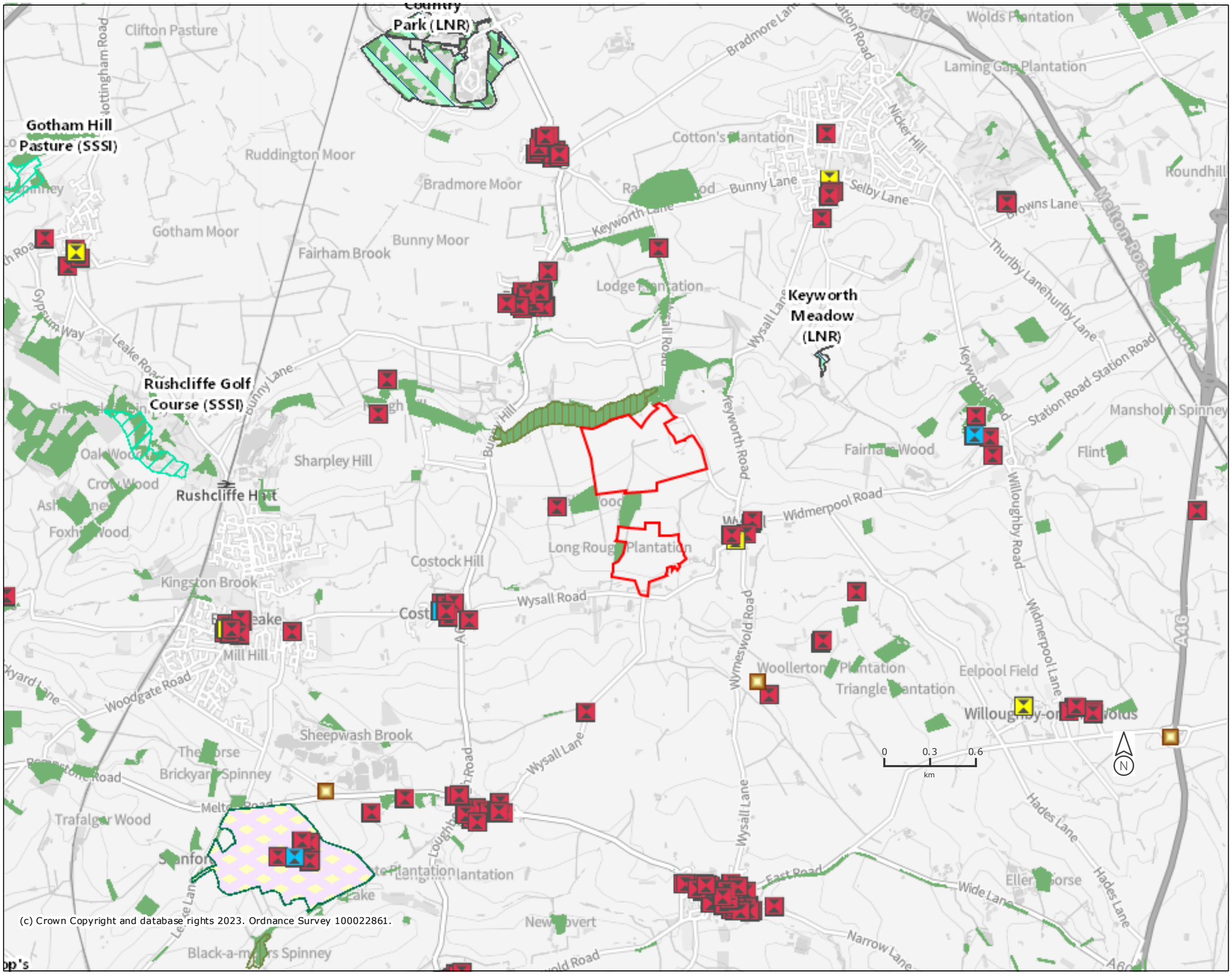
Status
For Information Only

Date	Scale at A3	Status code
10/05/2023	1:25000	S0

Drawing number	Revision
WLL02A-EXG-00-00-D-K004	P01

Appendix 2 – Environmental Constraints Plan

Old Wood - Constraints Map



Legend

- Areas of Outstanding Natural Beauty (England)
- Local Nature Reserves (England)
- National Nature Reserves (England)
- National Parks (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)
- Scheduled Monuments (England) - points

World Heritage Sites (England)

- Buffer Zone
- World Heritage Site

Listed Buildings (England)

- I
- II
- II*
- Registered Battlefields (England)
- Registered Parks and Gardens (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland
- Priority Habitat Inventory - Deciduous Woodland (England)

Projection = OSGB36
xmin = 452600
ymin = 324800
xmax = 465200
ymax = 331000

0 0.5 1
km

Map produced by MAGIC on 16 May, 2023.

Town & Country Planning Act 1990 (as amended)
Planning and Compulsory Purchase Act 2004

.Bristol
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