

**ECOLOGICAL IMPACT ASSESSMENT**  
**OLD WOOD ENERGY PARK, WYSALL, NOTTS.**

carried out by



commissioned by

**EXAGEN DEVELOPMENT LIMITED**

**APRIL 2024**



# ECOLOGICAL IMPACT ASSESSMENT

## OLD WOOD ENERGY PARK, WYSALL, NOTTS.

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The information, data and advice which has been prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report and its contents remain the property of Clarkson and Woods Ltd. until payment has been made in full.



## EXECUTIVE SUMMARY

- Clarkson and Woods Ltd. was commissioned by Exagen Development Limited to carry out an Ecological Impact Assessment of two parcels of land west of Wysall village, Nottinghamshire, NG12 5QT (Ordnance Survey Grid Reference SK 596 270 for the southern parcel and SK 593 280 for the northern parcel). Old Wood Energy Park includes the construction and operation of a ground mounted solar photovoltaic array (solar farm) across the majority of the site, together with a Battery Energy Storage System (BESS), substation and point of connection to the grid in the southern parcel of land. The Development is split over two parcels of land and connected by a buried cable located in the public highway and totalling approximately 100 ha. The northern parcel will hereafter be referred to as Old Wood North and the southern parcel will be referred to as Old Wood South.
- The following surveys have been undertaken:
  - Extended Phase 1 Habitats Survey – 28/01/2022
  - Wintering Bird Scoping Survey (WBS) – 24/02/2022
  - Further Wintering Bird Surveys – 14-15/12/2022, 18-19/01/2023, 14/02/2023
  - Breeding Bird Surveys (BBS) – 19-20/04/2022, 16-17/05/2022, 13-15/06/2022, 11-12/07/2022 (outlined within a separate report)
  - eDNA sampling for great crested newt (GCN) – 07/06/2022 and 19/06/2022
  - Water Vole surveys of Kingston Brook – 24/04/2023 and 14/08/2023
  - MoRPh survey of Kingston Brook – 27/09/2023
- This report sets out the results of these surveys, identifies any potential constraints associated with the construction of the Development, and provides recommendations for avoidance, mitigation and enhancement measures to reduce impacts on species or habitats which may arise as a result of the Development, and to provide a net gain for biodiversity within the Site.
- Old Wood North comprised seven and a half arable fields, with winter wheat present at the time of the original walkover survey. Bunny Old Wood Site of Importance for Nature Conservation (SINC) and area of ancient woodland was directly adjacent to the northern boundary, and Intake Wood, Costock SINC lay adjacent to the boundary to the



west. Old Wood South comprised four arable fields, one field of uncut modified grass (Field 13), and one field to the south of the parcel of modified grassland heavily grazed by sheep (Field 9). Several plantation woodland blocks were present along boundaries of both parcels. Wide arable margins were present both along the northern boundary of Old Wood North (Field 4) and the eastern and southern boundaries of Old Wood South Field 4. See Figures 4 and 5 for field locations.

- Four ponds were present within the Site boundary, as well as a further 11 ponds located within 250m of the boundaries of both parcels. One of the on-site ponds was later assessed as being dry. Dry ditches were present along a low number of hedgerows across the Site, and a wet ditch was present running along the eastern boundary of Old Wood South. Additionally, Kingston Brook ran east to west within Old Wood South Field 9.
- The hedgerows were a mix of species-rich and species-poor, with many being gappy or defunct, as well as heavily managed within the agricultural landscape. Only two hedgerows consistently contained mature standard trees, however individual mature standard trees were present within other hedgerows. A total of approximately 30m of hedgerow will be cleared between both parcels in order to create new field access routes or to widen existing field access points, affecting H2 and H4 in Old Wood North and H23 and H24 within Old Wood South. All other hedgerows, trees and boundary features are to be protected and retained as they are.
- A scoping WBS was undertaken in February 2023, with a further three surveys being carried out over the 2022-2023 winter survey season (Dec 22 – March 23). The surveyors reported a moderate diversity of widespread species, mainly noted using the hedgerows and boundary features within the Site. On one occasion, a large flock of skylark *Alauda arvensis* were noted foraging within the arable fields of Old Wood North. Additionally, four BBS were undertaken between April and July 2022, again finding that the majority of bird species were associated with the hedgerows within the Site. The arable fields are likely to support a low diversity of species, however ground nesting birds such as skylark will depend on this habitat for breeding throughout the late spring/summer. Across the four surveys, a total of eight skylark breeding territories were estimated to be present throughout both parcels. A total of 2.39ha of new grassland will be provided as skylark mitigation habitat within Old Wood North.
- Habitat Suitability Index assessments for GCN were undertaken in June 2022 for the eight ponds which held water for which access permission was granted. Water samples were



also collected and tested for great crested newt eDNA at a specialist laboratory in order to confirm species presence. Four samples returned positive results confirming GCN presence (Ponds 3, 9, 10 and 13), with the remaining four returning negative results, confirming absence of GCN in these ponds (Ponds 1, 4, 12 and 12a). Species presence is assumed in all un-sampled ponds and appropriate undeveloped buffers have been included within the development design to reflect this.

- Two water vole surveys of Kingston Brook were undertaken in April and August 2023. No signs of the species were found in either of the surveys, however the watercourse remains suitable. Additionally, Kingston Brook was subject to a River Condition Assessment using the Modular River Physical (MoRPh) field survey methodology in September 2023, for the purposes of the Biodiversity Net Gain assessment.
- A Construction Environmental Management Plan (CEMP) (Ecology) will be prepared to detail how retained habitats, and the species associated with these habitats, will be protected during construction. A Landscape Ecological Management Plan (LEMP) will be prepared, laying out method statements to deal with management and monitoring of new and retained habitats post-construction and during the operational lifetime of the solar array. These reports are typically prepared as part of conditional requirements of the planning permission.
- A suite of ecological enhancement measures have also been recommended which ensure that the scheme will have a net positive impact upon biodiversity within the local area. The provision of locally appropriate ecological enhancements also ensures that the scheme is consistent with the requirements of the NPPF.
- A Biodiversity Impact Assessment score has been calculated using the DEFRA Statutory Metric Calculation Tool, in order to evaluate the biodiversity net gain provided by the project. The scheme proposals will result in a gain of 80.65% for area-based habitat units, a gain of 62.76% for linear-based habitat units and a gain of 14.40% for watercourse habitats.
- Provided the avoidance and mitigation measures outlined in the report are adhered to, the development would be considered in line with relevant local and national planning policy, and the implementation of the recommended ecological enhancements would provide a substantial positive, permanent contribution to biodiversity within the Site.



## 1 INTRODUCTION

- 1.1.1 Clarkson and Woods Ltd. was commissioned by Exagen Development Limited to carry out an Ecological Impact Assessment on land to the west of Wysall, Nottinghamshire, hereafter referred to as 'the Site'.
- 1.1.2 This Impact Assessment discusses the likely effects of the Development on the ecology of the Site using information collected during an Extended Phase 1 Habitats Survey carried out by Clarkson and Woods Ltd on 28<sup>th</sup> January 2022., as well as further species-specific surveys for breeding birds, wintering birds, water voles and great crested newt carried out by Clarkson and Woods Ltd during 2022 and 2023.
- 1.1.3 The assessment has been prepared by Rebecca Sandey, an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The report has been subject to a two-stage quality assurance review by appropriately experienced senior consultants who are full members of CIEEM.
- 1.1.4 Unless the client indicates to the contrary, information on the presence of species collected during the surveys will be passed to the county biological records centre in order to augment their records for the area. This is in line with the CIEEM code of professional conduct<sup>1</sup>.
- 1.1.5 If no action or development of the Site takes place within twelve months of the date of this report, then the findings of the assessment and supporting surveys should be reviewed. An update of the surveys and/or assessment may be required.

### 1.2 Report Aims

- 1.2.1 The aims of this report are:
- To establish, as far as possible, the baseline ecological conditions existing on Site at the time of survey and to identify any likely future changes in the baseline conditions up to the point of commencement.
  - To determine likely significant effects resulting from the proposals upon the ecological features identified within the assessment.
  - To assess whether the proposals are likely to be in accordance with relevant nature conservation legislation and planning policies.
  - To identify where further surveys to establish baseline conditions, inform assessment or develop mitigation or compensatory measures are required.
  - To identify how mitigation or compensation measures will be secured, maintained and monitored.
  - To identify ecological enhancements to be carried out and how they will be implemented, maintained and monitored.

### 1.3 Site Description Summary

- 1.3.1 Old Wood Energy Park includes the construction and operation of a ground mounted solar photovoltaic array (solar farm) across the majority of the site, together with a Battery Energy Storage System (BESS), substation and point of connection to the grid. The Development is split over two parcels of land and connected by a buried cable located under the public highway.
- 1.3.2 The land proposed to accommodate Old Wood Energy Park is comprised of 13.5 mixed use agricultural fields split across two separate parcels (Old Wood North and Old Wood South). 11.5 of the fields were in arable rotation at the time of survey, with the remaining two fields comprising modified grassland.
- 1.3.3 The Development is set within open countryside, located to the northwest and west of Wysall in Nottinghamshire. The approximate centre of the Site was at Ordnance Survey Grid Reference SK 593 280 (Old Wood North) and SK 596 270 (Old Wood South), and the location of the Site is shown in Figure 1.

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<sup>1</sup> Code of Professional Conduct. CIEEM, January 2019.



1.3.4 The Site is approximately 100 hectares (ha) in size, including the cable route connecting the two parcels. An aerial photo of the Site and surrounding area is provided in Figure 2.

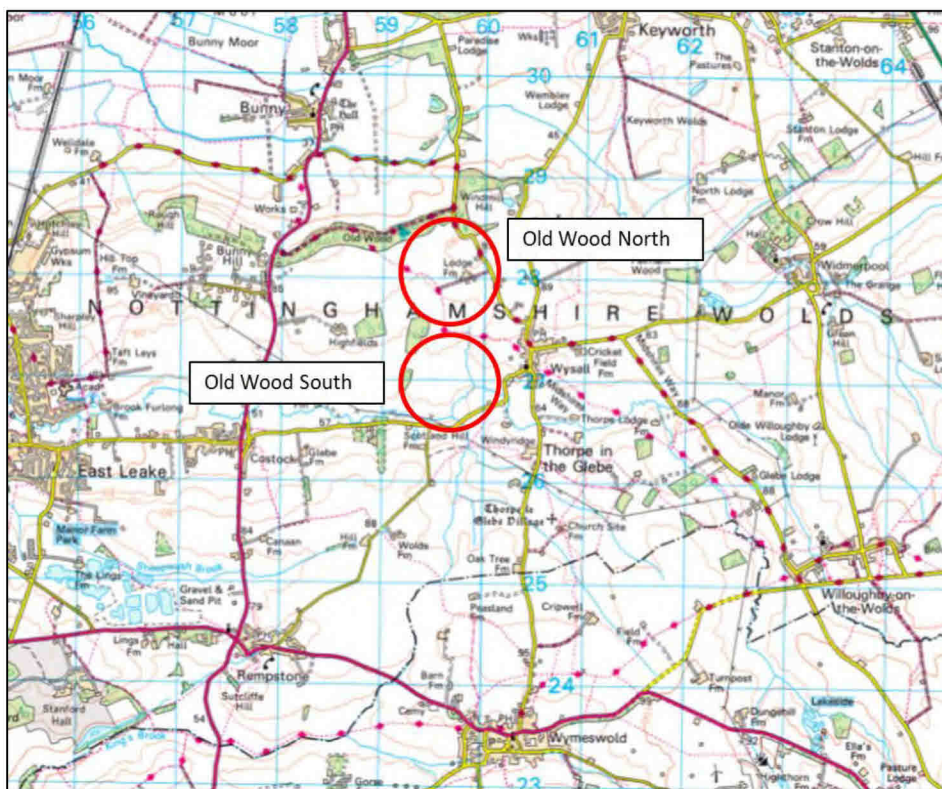


Figure 1: Ordnance Survey map showing location of both Site parcels (©2023 Bing Maps)

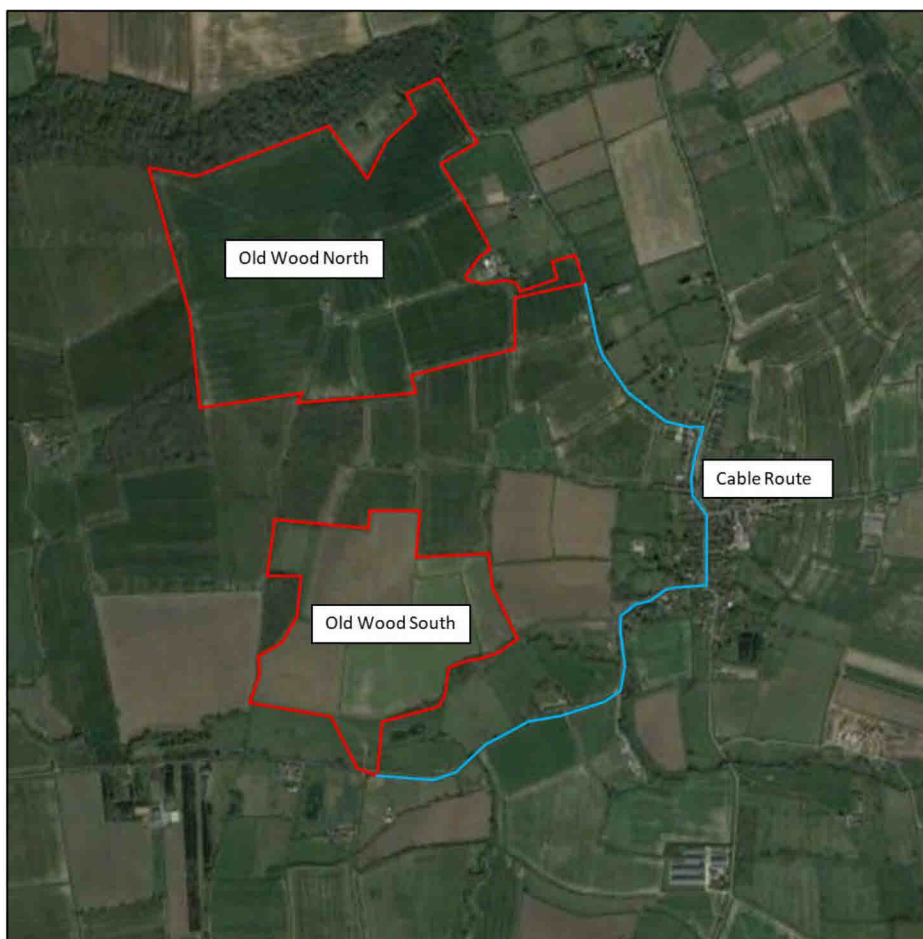


Figure 2: Aerial photograph of Site boundary and cable route (©2023 Google)



## 1.4 Development Proposals

- 1.4.1 The proposed works comprise the installation of a photovoltaic (PV) solar array with associated infrastructure including inverter buildings and access. Inverters will be constructed on concrete pads, measuring approximately 6m by 3m and there will be 17 of these within Old Wood North and seven within Old Wood South. Panels will be built in east/west rows and attached to metal frames which are driven into the ground, to form south-facing strings of panels.
- 1.4.2 All trees, ponds, hedgerows and ditches will be retained wherever possible, with existing agricultural access routes being utilised during both the construction and operational phases of the development. Two small stretches of hedgerow will be cleared within Old Wood North and a further two stretches of hedgerow removed in Old Wood South in order to create new access within both parcels. In total, approximately 30m of hedgerow will be removed in order to facilitate the Development. A new, prefabricated bridge will be installed over Kingston Brook in order that HGVs are able to safely access the Site.
- 1.4.3 The BESS, substation and POC elements of the development are located within the southern part of Old Wood South and provide the mechanism for connecting the Development to the electricity grid network via the existing 132kV line which crosses the Site. A cable route connecting both parcels will be located along existing roads as shown in Figure 2 and will not impact neighbouring habitats. It will be located under the bound surface of the highway and will not affect the verges.
- 1.4.4 Development proposals are shown in Figure 8. Any changes to the proposed design and layout and landscaping made subsequent to publication of this report should be issued to Clarkson and Woods Ltd. for review. Ecological impacts and mitigation opportunities may be affected by any such changes.

## 1.5 Quality Assurance

- 1.5.1 All ecologists employed by Clarkson and Woods are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's Code of Professional Conduct<sup>2</sup> when undertaking ecological work.
- 1.5.2 The competence of all field surveyors has been assessed by Clarkson and Woods with respect to the CIEEM Competencies for Species Survey (CSS)<sup>3</sup>.
- 1.5.3 This report has been prepared in accordance with the relevant British Standard: *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*<sup>4</sup>. It has been prepared by an experienced ecologist who is a member of CIEEM. The report has also been subject to a two-stage quality assurance review by appropriately experienced ecologists who are full members of CIEEM.

## 1.6 Assessment Scope / Consultation

- 1.6.1 The impact assessment will consider impacts arising during the construction and operational phases of the scheme. The Zone of Influence (Zoi) of the development will vary according to the impact of ecological feature being assessed. For most ecological features, the ZOI will be the Site itself, but it may also be greater for populations of species which utilise wider territories, such as birds. Ponds within 250m of the Site are also included within the ZOI of the Site.
- 1.6.2 Pre-application consultation advice was received from Rushcliffe Borough Council on 30<sup>th</sup> September 2022 (Ref: 22/00709/ADVICE), stating that the development Site lies within an area highlighted by Natural England as being of medium risk to GCN and that should grassland or shrubs be impacted, mitigation measures to safeguard against risks to the species should be set out within an ecological impact assessment.
- 1.6.3 A biodiversity net gain assessment was also required as part of the pre-application advice, with the gains implemented and maintained through the preparation of a Landscape and Ecological Management Plan (to be secured by a planning condition) to be agreed by the local planning authority.

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<sup>2</sup> CIEEM (2013). *Code of Professional Conduct*. [www.cieem.net/professional-conduct](http://www.cieem.net/professional-conduct).

<sup>3</sup> CIEEM (2013). *Competencies for Species Survey (CSS)*. [www.cieem.net/competencies-for-species-survey-css](http://www.cieem.net/competencies-for-species-survey-css)

<sup>4</sup> The British Standards Institution (2013). *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*. BSI Standards Ltd.



- 1.6.4 Other recommendations included the development and implementation of a wildlife sensitive lighting scheme if appropriate, new wildlife habitats such as grassland and hedgerows to be created, retaining and enhancing existing hedgerows and trees, sustainable urban drainage schemes to be designed to provide ecological benefits, and the adoption of good practise construction methods.

## 2 BASELINE CONDITIONS

### 2.1 Introduction

- 2.1.1 This section sets out the results of the Desk Study and ecological field surveys along with an evaluation of their relative importance in order to inform the Impact Assessment. The methodologies associated with the baseline assessment are summarised with each ecological feature's subheading below.
- 2.1.2 The specific surveys carried out were chosen on the basis of the likelihood, in our considered opinion, of each protected species or Species of Conservation Concern being present on or within the vicinity of the Site. This is informed by the Site's geographic location and the habitat types present on and around the Site. The following species-specific baseline surveys were undertaken: [REDACTED] bats, otter, water vole, great crested newts, breeding and wintering birds, and other species of conservation concern including non-native invasive species.
- 2.1.3 Details of the legislative protection afforded to those protected species which have been identified as occurring or potentially occurring on the Site are given in Appendix A. Species of Conservation Concern are defined as those appearing in any of the following; Priority Habitats and Species under Section 41 of the Natural Environment and Rural Communities Act (2006); red or amber-listed birds within the British Trust for Ornithology's Birds of Conservation Concern (2015); and any specific local conservation priority species such as those listed in Red Data Books.

### 2.2 Evaluation Methodology

- 2.2.1 Each recorded ecological feature, whether it is a species, a habitat or a site designated for nature conservation, is described in turn in this section to provide the pre-development baseline conditions on Site. Subsequently, an evaluation of each feature's 'ecological importance' is made. The evaluation of ecological importance is informed by the criteria provided within the CIEEM Guidelines for Ecological Impact Assessment (2018)<sup>5</sup>.
- 2.2.2 With due consideration to the criteria, each feature is classified on a geographical scale of ascending importance as follows; Negligible, Site, Local, District, County, National and International. The chosen geographic level of importance is considered that which best represents the scale at which the loss of the Site's area or population of the feature would have the greatest impact. Where sufficient survey information is not available to determine the importance of a species or habitat present on the Site, the importance of the receptor is marked as 'uncertain' and based upon the professional judgement of the author together with available relevant desk study information.
- 2.2.3 Once importance has been determined for each feature, those of Local importance or above will be considered to be Important Ecological Features (IEFs). Non-IEFs will typically not be considered further within the impact assessment. However, where a feature does not qualify as an IEF but is afforded specific legal protection or coverage under a particular legislation or planning policy it will also be assessed in order to ensure the scheme's legal and policy compliance.

### 2.3 Desk Study

#### Methodology

- 2.3.1 Statutory designated sites for nature conservation were identified using the Natural England/DEFRA web-based MAGIC map database ([www.MAGIC.gov.uk](http://www.MAGIC.gov.uk)). International-level sites such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) within 5km from the Site were searched for.

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<sup>5</sup> CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management. [www.cieem.net](http://www.cieem.net)

