



# Scotland England Green Link 2 - English Onshore Scheme

Environmental Statement:  
Volume 3

Appendix 7A: Preliminary Ecological Appraisal  
Report

May 2022

DRAFT

For: National Grid Electricity Transmission

### Quality information

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# Appendix 7A Preliminary Ecological Appraisal Report

## 7A.1 Introduction

The purpose of this Preliminary Ecological Appraisal Report (PEAR) is to assess the ecological constraints and inform the Ecological Impact Assessment (EclA) of the Scotland to England Green Link 2 (SEGL2) English Onshore Scheme (EOS). The EOS is described in detail in **Chapter 3: Description of the English Onshore Scheme** of the Environmental Impact Assessment (EIA).

The EOS comprises approximately 69 km of underground High Voltage Direct Current (HVDC) cable from the landfall at Fraisthorpe, to a proposed converter station at Drax Power Station in North Yorkshire. The proposed converter station will be connected to the existing electricity transmission system at a substation at Drax Power Station.

The assessment of ecological constraints has been undertaken with reference to current good practice (Ref 1) and forms part of the technical information commissioned by National Grid in connection with the EOS. The PEAR addresses relevant wildlife legislation and planning policy as summarised in Annex 1 and is consistent with the requirements of British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development (Ref 22).

This report is supported by the following Figures:

- Figure 1: Statutory and Non-Statutory Designations; and
- Figure 2: Phase 1 Habitat Survey.

This report is also supported by:

- Annex 1 Legislation and Planning Policy;
- Annex 2: Methodology; and
- Annex 3: Photographs.

### 7A.1.1 Defining the Study and Survey Areas

Within this report the following terminology is used when referring to the geographic areas within which the field survey work has been conducted:

- Ecological Desk Study Area (hereafter referred to as the Desk Study Area) – the area which was subject to collection of desk study records for protected and notable species and priority habitats to supplement the findings of the survey work. This is defined as the Scoping Boundary plus up to a 2 km radius for nationally and locally designated sites, notable habitats and protected species (shown on **Figure 1**); and a 10 km radius for internationally designated sites; and
- Field Survey Area (hereafter referred to as the Survey Area) – this is the area within which the survey work has been conducted; this includes the planning application boundary and immediately adjacent habitats up to approximately 500 m (where accessible) and is shown on **Figure 2**. The survey areas for specific species may differ and are defined in the accompanying species reports in Appendices 7B – 7E.

### 7A.1.2 The English Onshore Scheme

National Grid has proposed to construct a High Voltage Direct Current (HVDC) Link from Peterhead in Aberdeenshire, Scotland to Drax in North Yorkshire referred to as SEGL2.

SEGL2 is a major reinforcement of the electricity transmission system which will provide additional north-south transmission capacity across transmission network boundaries ensuring that green energy is transported from where it is produced to where it is needed. The English Onshore Scheme, i.e. the components of SEGL2 proposed terrestrially in England, will include an underground cable which transition from the subsea cable route at the landfall site at Fraisthorpe and travel for approximately 69 km underground to a new proposed converter station at Drax, North Yorkshire.

The cable route will be buried underground using a temporary working width of 40 m, in the centre of which will be a 1.5 m wide and 1.5 m deep trench into which a pair of cables will be laid. Multiple sections of Horizontal Directional Drilling (HDD) are proposed for the installation of the cables to avoid open-cutting key infrastructure routes (such as railways, A614, A1034, A1079 and A165 as well as several B roads and other minor roads) and watercourses, including the River Ouse, River Foulness and River Hull (as well as other streams and minor drains). As part of the English Onshore Scheme, a new permanent converter station is proposed to the east of the existing Drax Power Station.

### 7A.1.3 Purpose of the Preliminary Ecological Appraisal

This PEAR presents ecological information obtained from the following:

- A desk-study undertaken in June 2021 to obtain records of internationally designated sites within 10km, and nationally and locally designated sites notable habitats<sup>1</sup> and protected and notable species<sup>2</sup> within 2 km of the Scheme (the Desk Study Area); and
- Walkover surveys of accessible land within the Survey Area between March and November 2021.

The purpose of the PEAR is to provide a high-level ecological appraisal of the EOS, specifically to:

- establish baseline conditions and determine the presence of Important Ecological Features (IEF)<sup>3</sup> (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the EOS and make initial recommendations to avoid impacts on IEFs, where possible;
- to identify requirements for mitigation based on final design; and
- to establish any requirements for more detailed surveys.

## 7A.2 Ecological constraints and recommendations

The following sections detail the results of the desk and field-based studies undertaken to inform this PEAR. Where necessary, recommendations for mitigation measures to protect known IEFs, or further surveys to determine the presence or likely absence of likely IEFs, are provided. With regard to background data, 'recent' records are considered to be those no older than 10 years from the date of the desk study (i.e., 2011 onwards). Records outside of this period are historical and have only been reported where more recent records for a feature do not exist. Exceptions to this are detailed in the appropriate sections below. Further details of the methodology used for the desk study and field surveys are provided in Annex 2.

### 7A.2.1 Designated sites

### 7A.2.2 Desk Study

Table 1 summarises the designated sites situated within the Desk Study Area. These are shown on **Figure 1**.

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<sup>3</sup> Important Ecological Features are designated sites, habitats, species, ecosystems and their functions and processes that are of conservation importance and could potentially be affected by the EOS.

**Table 1. Designated Sites within the Desk Study Area**

| Designated Site   | Reason for Designation  | Location in context of the Scoping Boundary | Distance to Application Boundary |
|---|---|---|----------------------------------|
| <b>Statutory Designations</b>   |   |   |                                  |
| River Derwent Special Area of Conservation (SAC) / Site of Special Scientific Interest (SSSI) | <p>SAC - Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: 3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation.</p> <p>Annex II species that are a primary reason for site selection: River Lamprey (<i>Lampetra fluviatilis</i>).</p> <p>Annex II species present as qualifying feature: Sea lamprey (<i>Petromyzon marinus</i>), Bullhead (<i>Cottus gobio</i>) and Otter (<i>Lutra lutra</i>).</p> <p>SSSI – Designated for seven interest features, including: aggregations of non-breeding birds - Bewick's swan, (<i>Cygnus columbianus bewickii</i>); assemblages of breeding birds – mixed; flowing waters - type II: slow-flowing, naturally eutrophic lowland rivers, dominated by clays; invertebrate assemblage; otter; outstanding assemblage of native fish; and outstanding dragonfly assemblage.</p>   | 140 m north                                 | 1.1 km north                     |
| Humber Estuary Special Protection Area (SPA) / SAC / RAMSAR                                   | <p>SAC – designated for Annex I habitats: Estuaries and Mudflats and sandflats not covered by seawater at low tide (Primary reason for selection) as well as multiple Annex I habitats as qualifying features (dunes, coastal lagoons and sandbank habitats). Also Annex II species present as qualifying features include Sea lamprey (<i>Petromyzon marinus</i>), River Lamprey and Grey seal (<i>Halichoerus grypus</i>).</p> <p>SPA / RAMSAR - The site supports and is designated for the following species: avocet (<i>Recurvirostra avosetta</i>); bar-tailed godwit (<i>Limosa lapponica</i>); bittern (<i>Botaurus stellaris</i>); black-tailed godwit (<i>Limosa limosa</i>); dunlin (<i>Calidris alpina</i>); golden plover (<i>Pluvialis apricaria</i>); hen harrier (<i>Circus cyaneus</i>); knot (<i>Calidris canutus</i>); little tern (<i>Sternula albifrons</i>); marsh harrier (<i>Circus aeruginosus</i>); redshank (<i>Tringa totanus</i>); ruff (<i>Philomachus pugnax</i>); and shelduck (<i>Tadorna tadorna</i>), as well as for its waterbird assemblage.</p> | 2.4 km south-east                           | 2.7km south-east                 |
| Greater Wash SPA  | <p>ARTICLE 4.1 QUALIFICATION (79/409/EEC): During the breeding season the area supports Annex I populations of little tern (42% of GB breeding population), common tern (<i>Sterna hirundo</i>) (5.1% of GB breeding population) and Sandwich tern (<i>Sterna sandvicensis</i>) (35% of GB breeding population). During the winter, the site also supports populations of overwintering Annex I species: little gull (<i>Hydrocoloeus minutus</i>) and red-throated diver (<i>Gavia stellata</i>) (8.3% of GB non-breeding population).</p> <p>ARTICLE 4.2 QUALIFICATION (2009/147/EC): Site regularly supports 3,449 Common scoter (<i>Melanitta nigra</i>) (0.6% of biogeographic population), a regularly occurring migratory species not listed in Annex I of the EC Birds Directive is also supported within the site.</p>   | 2.8 km south-east                           | 2.4 km south-east                |
| Lower Derwent Valley SPA / SAC / RAMSAR   | <p>SAC - Annex I habitats that are a primary reason for site selection: Lowland hay meadows (<i>Alopecurus pratensis</i> - <i>Sanguisorba officinalis</i>).</p> <p>Annex II habitats present as qualifying feature: Alluvial forests with Alder (<i>Alnus glutinosa</i>) and ash (<i>Fraxinus excelsior</i>).</p> <p>Annex II species present as qualifying feature: Otter.</p>   | 3 km north-west                             | 3.1 km north-west                |

| Designated Site                 | Reason for Designation  | Location in context of the Scoping Boundary | Distance to Application Boundary                               |
|---------------------------------|---|---|--|
|                                 | <p>SPA/ RAMSAR - ARTICLE 4.1 QUALIFICATION (79/409/EEC) Over winter the area regularly supports: Bewick's swan (Western Siberia/North-eastern &amp; North-western Europe) 0.7% of the GB; ruff (Western Africa - wintering) 19% of the GB population; golden plover [North-western Europe - breeding] 2.4% of the GB population.</p> <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC) During the breeding season area regularly supports: Northern shoveler (<i>Anas clypeata</i>) (North-western/Central Europe) 5% of the population in Great Britain. Over winter the area regularly supports: Eurasian teal (<i>Anas crecca</i>) (North-western Europe) 1.5% of the population; Eurasian wigeon (<i>Anas penelope</i>) (Western Siberia/North-western/North-eastern Europe) 0.7% of the population.</p> <p>ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS. Over winter the area regularly supports: 40616 waterfowl including: Bewick's swan, Eurasian wigeon, Eurasian teal, golden plover [North-western Europe - breeding], ruff.</p> |   |  |
| Flamborough Head SAC            | Annex I habitats that are a primary reason for site selection: Reefs; Vegetated sea cliffs of the Atlantic and Baltic Coasts; and Submerged or partially submerged sea caves.   | 3.3 km north-east                           | 3.5 km north-east  |
| Flamborough and Filey Coast SPA | <p>ARTICLE 4.2 QUALIFICATION (2009/147/EC): The site regularly supports more than 1% of the biogeographical population of four regularly occurring migratory species; black-legged kittiwake (<i>Rissa tridactyla</i>) (89,040 breeding adults, 2008-2011, 2% North Atlantic), northern gannet (<i>Morus bassanus</i>) (16,938 breeding adults, 2008-2012, 2.6% North Atlantic), common guillemot (<i>Uria aalge albionis</i>) (83,214 breeding adults 2008-2011, 15.6%) and razorbill (<i>Alca torda islandica</i>) (21,140 breeding adults, 2008-2011, 2.3%).</p> <p>The site regularly supports an assemblage of more than 20,000 individual breeding seabirds (average number of individuals: 216,730, 2008-2012), including over 2,000 individual northern fulmar (<i>Fulmarus glacialis</i>).</p>   | 5.3 km north-east                           | 5.6 km north-east  |
| Thorne and Hatfield Moors SPA   | ARTICLE 4.1 QUALIFICATION (79/409/EEC): During the breeding season the area regularly supports: European Nightjar ( <i>Caprimulgus europaeus</i> ) 1.9% of the GB breeding population (5 count peak mean 1993, 1995-1998).  | 7.8 km south                                | 8.2 km south   |
| Thorne Moor SAC                 | Annex I habitats that are a primary reason for site selection: Degraded raised bogs still capable of natural regeneration. Thorne Moor is England's largest area of raised bog.   | 7.8 km south                                | 8.2 km south   |
| Skipwith Common SAC             | Annex I habitats that are a primary reason for site selection: Northern Atlantic wet heaths with <i>Erica tetralix</i> (most extensive of its type in northern England); and European dry heaths.   | 7.9 km north                                | 9.0 km north   |
| River Hull Headwaters SSSI      | Chalk river system, designated for multiple features including swamp, woodland, mire, reed-bed, fen meadow and flowing water habitats.  | Within                                      | Within SSSI crosses application boundary at Wansford and Kelk. |



| Designated Site   | Reason for Designation   | Location in context of the Scoping Boundary | Distance to Application Boundary        |
|---|--|---|---|
| Kiplingcotes Chalk Pit SSSI                                   | Calcareous grassland, designated for NVC habitat type CG4 – Tor Grass ( <i>Brachypodium pinnatum</i> ) lowland calcareous grassland and its invertebrate assemblage.   | Within                                      | 410 m west                              |
| Barn Hill Meadows SSSI  | Grassland site, designated for neutral NVC grassland habitat types including MG4 - <i>Alopecurus pratensis</i> - <i>Sanguisorba officinalis</i> grassland and MG5 - <i>Cynosurus cristatus</i> - <i>Centaurea nigra</i> grassland.   | 300 m south-east                            | 700 m south-east                        |
| South Cliffe Common SSSI                                      | A varied site, designated for the quality of its heath, rush pasture and acid grassland habitats as well as its invertebrate assemblage.   | 700 m south                                 | 1.1 km south                            |
| Eskhamhorn Meadows SSSI                                       | Grassland site, designated for neutral NVC grassland habitat types including MG13 - <i>Agrostis stolonifera</i> - <i>Alopecurus geniculatus</i> grassland, MG4 - <i>Alopecurus pratensis</i> - <i>Sanguisorba officinalis</i> grassland and MG5 - <i>Cynosurus cristatus</i> - <i>Centaurea nigra</i> grassland.   | 1.9 km south                                | 2.5 km                                  |
| Hudson's Way Local Nature Reserve (LNR)                       | Scrub and grassland habitats and orchid species.   | Within                                      | Within LNR crosses application boundary |
| Eastrington Ponds LNR   | The site is a former brickworks and railway line with borrow pits from the construction of the railway. The large pond has an artificial island and is good for ducks, geese and great crested grebes ( <i>Podiceps cristatus</i> ). The ponds are good for insects such as water beetles, pond skaters, dragonflies and damselflies. Daubenton's bats ( <i>Myotis daubentonii</i> ) fly over the water to hunt and water voles ( <i>Arvicola amphibius</i> ) are present. The meadow areas have field voles ( <i>Microtus agrestis</i> ) and bank voles ( <i>Myodes glareolus</i> ), mice and Eurasian harvest mouse ( <i>Micromys minutus</i> ). | 1.17 km south-east                          | 1.2 km south-east                       |
| Howden Marsh LNR  | The site is an old fenland marsh much of which has never been drained. It is particularly rich in water beetles and water voles.   | 1.25 km south-east                          | 1.6 km south-east                       |
| <b>Non-Statutory Designations</b>                             |  |   |   |
| Granny's Attic Railway Local Wildlife Site (LWS)              | Old, established semi-natural neutral and calcareous grassland.  | Within                                      | Within                                  |
| Etton-Gardham Disused Railway LWS                             | Old, established semi-natural neutral and calcareous grassland.  | Within                                      | Within                                  |
| Spring Dale Candidate <sup>4</sup> Local Wildlife Site (cLWS) | Calcareous grassland with some scrub habitats.   | Within                                      | 20 m                                    |

<sup>4</sup> Candidate LWS are Local Sites that were identified in the register of the former Humberside County Council, or have been identified through other surveys or data. The Candidate Site status reflects the fact that they have not yet been subject to survey and review. These sites will be treated as extant Local Sites until such a time as they can be surveyed and assessed against the site selection guidelines. (Ref 23).

| Designated Site                    | Reason for Designation   | Location in context of the Scoping Boundary | Distance to Application Boundary |
|------------------------------------|--|---|----------------------------------|
| Kiplingcotes Road Earthworks LWS   | Old, established semi-natural neutral and calcareous grassland.  | Within                                      | 30 m                             |
| Etton Wold, West of Crossroads LWS | Good quality established semi-natural verge.   | Within                                      | 50 m                             |
| North Howden Fish Ponds LWS        | Nutrient rich standing water noted for its water-violet ( <i>Hottonia palustris</i> ).   | Within                                      | 210 m                            |
| Station Farm LWS                   | Old, established semi-natural neutral grassland and small pond with area of marginal vegetation that increases the biodiversity interest.  | 200 m north                                 | 500 m north                      |
| North Cliffe Wood LWS              | Mosaic of semi-natural habitats including acid woodland and heath.   | 100 m south-east                            | 530 m south-east                 |
| Wilsthorpe Dunes LWS               | Last good example of dune habitat along the East Yorkshire coast.  | 260 m north                                 | 540 m north                      |
| Rifle Butts Quarry cLWS            | Grassland, scrub and stream habitats.  | 240 m north-west                            | 710 m north-west                 |
| Yarmshaw Plantation LWS            | Good quality mixed fen site.   | 325 m south-east                            | 730 m south-east                 |
| Corpslanding Road LWS              | Good quality established semi-natural verge.   | 370m south-east                             | 750 m south-east                 |
| Copper Wood cLWS                   | Broadleaved Woodland habitat.  | 560 m south-east                            | 770 m south-east                 |
| Market Weighton - Etton Verge LWS  | Good quality established semi-natural verge.   | 590 m east                                  | 860 m east                       |
| Wressle Verge LWS                  | Good quality established semi-natural verge.   | 350 m north-west                            | 970 m north-west                 |
| Garden Covert, Neswick LWS         | Site supports field evidence of features of ancient or long-standing neutral to calcareous woodland.   | 635 m north                                 | 1 km north                       |
| Brockholes LWS                     | Designated for nutrient-rich standing water.   | 700 south                                   | 1 km south                       |
| Goodmanham Road, Spring Dale LWS   | Good quality established semi-natural verge.   | 700 m north-west                            | 1.1 km north-west                |
| Little Kelk Wetland LWS            | Mosaic of semi-natural habitats including areas of old, established semi-natural neutral, acid grassland and calcareous grassland, species-rich fen and acid mire habitats and standing water. | Within                                      | 1.1 km                           |
| Eastrington Ponds LWS              | Site is a mosaic of habitats including wetland and woodland.   | 1.1 km south-east                           | 1.2 km south-east                |

| Designated Site                   | Reason for Designation   | Location in context of the Scoping Boundary | Distance to Application Boundary |
|-----------------------------------|--|---|----------------------------------|
| Barnhill cLWS                     | Semi-improved grassland and open beech woodland and grassland with variable ground flora. Retained as cLWS at last meeting November 2016.  | 800 m south-east                            | 1.2 km south east                |
| Milbeck cLWS                      | Grassland and scrub habitats.  | 1 km north-west                             | 1.3 km north-west                |
| Little Kelk Verge LWS             | Good quality established semi-natural verge.   | 210 m north                                 | 1.3 km north                     |
| Bell Mills LWS                    | Mosaic of semi-natural habitats including wetland and grassland with areas of standing water.  | 960 m north-west                            | 1.3 km north-west                |
| Etton West Wood LWS               | Site supports field evidence of features of ancient or long-standing neutral to calcareous woodland.   | 1.1 km east                                 | 1.3 km east                      |
| Dalton Wood LWS                   | Site supports field evidence of features of ancient or long-standing neutral to calcareous woodland.   | 480 m east                                  | 1.4 km east                      |
| Asselby Island LWS                | Site that supports a population of a rare breeding bird species in the East Riding (Little egret <i>Egretta garzetta</i> ). The site is also known as a heronry, but no data on nest numbers is available.   | 970 m south-west                            | 1.5 km south-east                |
| Enthorpe Wood cLWS                | Mixed woodland plantation habitat.   | 1.5 km west                                 | 1.5 km west                      |
| Nut Balks LWS                     | Site supports field evidence of features of ancient or long-standing neutral to calcareous woodland.   | 480 m east                                  | 1.5 km east                      |
| South Cliffe Carr LWS             | Semi-natural grassland that scores within 20% of grassland thresholds and lies within 500 m of an existing statutory site or designated LWS.   | 1.1 km south                                | 1.5 km south                     |
| Howden Marsh LWS                  | A species-rich fen site.   | 1.3 km south-east                           | 1.6 km south-east                |
| Gembling Common LWS               | Site is a mosaic of semi-natural habitats including grassland and wetland.   | 1.9 km south-east                           | 1.6 km south-east                |
| Houghton Moor LWS                 | Mosaic of semi-natural habitats. Woodland sites that support field evidence of features of ancient or long standing wet or dry woodland. Areas of old, established semi-natural neutral, acid and calcareous grassland, areas of rich-fen habitat and areas of standing water. | 1.3 km south-east                           | 1.7 km south-east                |
| Hamilton Hill Marsh, Barmston LWS | Semi-natural coastal habitat with good examples of brackish fen and swamp and coastal sand dunes   | 2.1 km south-east                           | 1.7 km south-east                |
| Lund Moor Wood LWS                | Ancient semi-natural woodland.   | 1.4 km east                                 | 1.8km east                       |
| Island Plantation LWS             | Semi-natural woodland or scrub that are assigned to W8 NVC community, with mixed woodland on the edge of Driffield Golf Course.  | 1.3 km north-west                           | 1.8 km north-west                |
| Village Pond, Carnaby LWS         | Standing water habitat   | 1.3 km north-west                           | 1.8 km north-west                |

| Designated Site             | Reason for Designation   | Location in context of the Scoping Boundary | Distance to Application Boundary |
|-----------------------------|--|---|----------------------------------|
| Sheepman Lane LWS           | Good quality established semi-natural verge.   | 1.5 km north-west                           | 1.8 km north-west                |
| Eastburn Beck Grassland LWS | Nutrient-rich standing water and rich-fen site adjacent to River Hull SSSI. Managed for wetland birds. | 1.5 km north-west                           | 1.9 km north-west                |
| Windmill Whin LWS           | Ancient semi-natural woodland.   | 1.5 km south-east                           | 1.9 km south-east                |

### **7A.2.2.1 Field Survey**

Designated sites potentially relevant to the EOS, by virtue of their proximity and/or connectivity to habitats within the Survey Area (and thus the potential for the EOS to directly and/or indirectly impact them), were scoped into the Extended Phase 1 Habitat survey. A summary of the habitats recorded within the designated sites surveyed is provided below and shown on

**Figure 2:** , with specific features highlighted by target notes (TN's) and shown in photographs in Annex 3. Where sites have not been surveyed in their entirety, site citations from previous surveys have been used to give an indication of the habitats present.

### 7A.2.2.1.1 River Hull Headwaters SSSI

The River Hull Headwaters SSSI is crossed by the EOS in two areas – the first at the River Hull south-west of Wansford, then again south-west of the village of Little Kelk where the EOS crosses Kelk Beck. In both areas, the SSSI consists of a chalk river and associated small areas of marginal habitats (the designated features include: Flowing waters - Type III: base-rich, low-energy lowland rivers and streams, generally with a stable flow regime; M22 - *Juncus subnodulosus* - *Cirsium palustre* fen meadow; and S4 - *Phragmites australis* swamp and reed-beds). The SSSI citation for the River Hull Headwaters SSSI lists 23 separate units, but the ones within or adjacent to the Survey Area and therefore of relevance are:

- Unit 13 – Chapman – Golden Hill – Unfavourable (Recovering) condition.
- Unit 35 - Upper reaches of River Hull also called West Beck – Unfavourable (Recovering) condition.
- Unit 6 - Falkingham – Kelk Beck Pond – Unfavourable (Recovering) condition.
- Unit 37 - Kelk Beck and Foston Beck – Unfavourable (Recovering) condition.

At the time of the Phase 1 Habitat survey, the SSSI at the River Hull was found to consist of a mesotrophic stream (Unit 35), with very clear water, moderate flow and with aquatic vegetation in the channel such as stream water-crowfoot (*Ranunculus pencillatus*) (dominant here, which is indicative of a base-rich stream system), water starworts (*Callitriche* sp.) and the flowering rush (*Butomus* sp.) (TN46, **Figure 2**, Photograph 1, Annex 3). In some areas of the bank, scattered willow (*Salix* sp.) scrub is present, and a thin band of marginal vegetation is present across much of the northern and southern banks which is integral to the river community, with species including common reed (*Phragmites australis*), reed canary-grass (*Phalaris arundinacea*), reed sweet-grass (*Glyceria maxima*), fool's watercress (*Apium nodiflorum*) and common valerian (*Valeriana officinalis*).

Unit 13 is partially within the Scoping Boundary to the west of the EOS and consists of an area of species-rich marsh habitat which is groundwater dependent (TN28, Photograph 2, Annex 3). The area is unfenced and not discrete from the adjacent improved pasture, however there were no issues noted with management, weeds or invasive plants. Species here include several rushes and sedges which are dominant (lesser pond sedge (*Carex acutiformis*), hard rush (*Juncus inflexus*), reed sweet-grass and soft rush (*Juncus effusus*)) and other herbs with an affinity for damp areas, including water horsetail (*Equisetum fluviatile*), watercress (*Nasturtium officinale*) and lesser spearwort (*Ranunculus flammula*).

The SSSI where the EOS crosses at Kelk Beck consists of the channel (Unit 37), which has many similar characteristics of Unit 35, including clear water (although more turbid than the River Hull area) and a slow flow (Photograph 3, Annex 3). The channel has some dense areas of stream water-crowfoot at the fringes, as well as marginal stands of common reed and reed canary-grass and occasionally lesser water-parsnip (*Berula erecta*). The banks are near-vertical and approximately 1.5 m high, with stands of hard rush in places and willow and hawthorn (*Crataegus monogyna*) scrub present on both sides of the channel. To either side of the channel is a thin margin of improved grassland with a footpath, in generally poor condition and made up of common species including Yorkshire fog (*Holcus lanatus*), cocksfoot (*Dactylis glomerata*), white clover (*Trifolium repens*), curled dock (*Rumex crispus*), greater plantain (*Plantago major*), ribwort plantain (*Plantago lanceolata*) and meadowsweet (*Filipendula ulmaria*).

Adjacent to the Scoping Boundary to the south, Unit 6 consists of a pond connected to Kelk Beck by a small drain and surrounded by dense and unmanaged scrub (Photograph 4, Annex 3). The pond is fringed by dense stands of common reed, reed canary-grass and hairy willowherb (*Epilobium hirsutum*) and is of good water quality with low turbidity and sparse macrophyte cover, with little in the way of emergent vegetation. The surrounded scrub is dominated by bramble (*Rubus fruticosus*), with hairy willowherb, reed canary grass and nettle (*Urtica dioica*) also present within the scrub. To the north, the scrub is more mature and is mainly willow with occasionally blackthorn (*Prunus spinosa*) and hawthorn, with occasionally elder (*Sambucus nigra*) and bramble. Some tall ruderal species such as hogweed (*Heracleum sphondylium*) and cow parsley (*Anthriscus sylvestris*) are present at the margins where it transitions to more improved grassland.

#### 7A.2.2.1.2 Kiplingcotes Chalk Pit SSSI

Kiplingcotes Chalk Pit SSSI was not specifically subject to detailed survey in 2021 due to access constraints and the fact the site is on the periphery of the Scoping Boundary; approximately 0.7 hectares of the south-eastern corner of the site is within the Scoping Boundary. The SSSI is separated from the rest of the Survey Area by a disused railway line. The SSSI citation from 2012 lists one unit – calcareous grassland (lowland) which is at Favourable condition as of 2012, and the site is designated for NVC habitat type CG4 - *Brachypodium pinnatum* lowland calcareous grassland. The site is a revegetated quarry, with vertical 10 m high chalk cliff faces and a diverse invertebrate community (up to 16 species of butterfly have been recorded), associated with the diversity of calcicolous herb species such as abundant felwort (*Gentianella amarella*) and pyramidal orchid (*Anacamptis pyramidalis*).

#### 7A.2.2.1.3 Little Kelk Wetland LWS

Little Kelk Wetland LWS was not surveyed in 2021 due to access constraints. The south-eastern corner of the site is within the Scoping Boundary, and habitats present according to the LWS citation from 2012 include standing water, tall ruderal and scattered scrub. The lake present is a former quarry and spring-fed, surrounded to the south by a mosaic of scattered scrub (species include goat willow (*Salix caprea*), grey willow (*Salix cinerea*), common gorse (*Ulex europaeus*), elder and hawthorn) and tall ruderal vegetation (species include locally frequent rosebay willowherb (*Chamerion angustifolium*) and creeping thistle (*Cirsium arvense*)).

Marginal vegetation on the eastern side of the pond includes tall herb communities with great willowherb (*Epilobium hirsutum*), locally frequent hard rush and compact-flowered soft-rush (*Juncus effusus* var. *compactus*) with small numbers of jointed rush (*Juncus articulatus*), water mint (*Mentha aquatica*), common fleabane (*Pulicaria dysenterica*), marsh horse-tail (*Equisetum palustre*) and common spike-rush (*Eleocharis palustris*). Emergent species in the lake include locally dominant common reed forming small NVC S4 swamp reed beds, with locally frequent common bulrush (*Typha latifolia*), branched bur-reed (*Sparganium erectum*), yellow iris (*Iris pseudacorus*), common cotton-grass (*Eriophorum angustifolium*) and common spike-rush (*Eleocharis palustris*). No submerged vegetation is present and a small amount of green algae suggests local eutrophication.

#### 7A.2.2.1.4 North Howden Fish Ponds LWS

North Howden Fish Ponds LWS was not surveyed in 2021 due to access constraints but is located outside the planning application boundary. Much of the designated site is within the Scoping Boundary, which the citation from a survey in 2011 lists as being a wetland site valuable for the presence of water violet with a reasonably diverse marginal species assemblage. The two large ponds present are used for fishing, with two smaller ponds surrounded by dense scrub consisting of locally frequent Lombardy poplar (*Populus nigra* ssp. *betulifolia* cv. *'Italica'*) with frequent goat willow and grey willow and occasional aspen (*Populus tremula*) and oak (*Quercus* sp.).

The ponds themselves have a variety of submerged species, including abundant thread-leaved water crowfoot (*Ranunculus trichophyllus*), locally abundant spiked water milfoil (*Myriophyllum spicatum*) and occasional Canadian waterweed (*Elodea canadensis*), with emergent species dominated by bulrush and yellow iris. Marginal vegetation is diverse and includes frequent hard rush, gypsywort (*Lycopus europaeus*) and meadowsweet, associated with locally frequent celery-leaved buttercup (*Ranunculus sceleratus*), remote sedge (*Carex remota*), great willowherb and common spike-rush (*Eleocharis palustris* agg.). Occasional species are soft rush, water-plantain (*Alisma plantago-aquatica*), false fox sedge (*Carex otrubae*), marsh bedstraw (*Galium palustre*), water forget-me-not (*Myosotis scorpioides*) and bittersweet (*Solanum dulcamara*), whilst watercress (*Rorippa nasturtium-aquaticum*), cuckooflower (*Cardamine pratensis*) and water horsetail are rare.

#### 7A.2.2.1.5 Spring Dale cLWS

Spring Dale Candidate Local Wildlife Site (cLWS) is partially within the Scoping Boundary and consists of a mosaic of scrub and semi-improved grassland habitats in a small valley (Photograph 5, Annex 3). The site is a candidate LWS due to the presence of calcareous grasslands, however during field survey the grassland habitats were rank and tussocky and deemed to be of a more neutral character (possibly constrained by the time of year of the phase 1 survey). Common species in the grassland areas include perennial ryegrass (*Lolium perenne*), cocksfoot, false oat grass (*Arrhenatherum elatius*), nettle, creeping thistle, ragwort (*Senecio jacobaea*), knapweed (*Centaurea nigra*), harebell (*Campanula*

*rotundiflora*), hogweed and meadow buttercup (*Ranunculus acris*), with the western area being slightly more species-rich with species including meadow foxtail (*Alopecurus pratensis*) and germander speedwell (*Veronica chamaedrys*). The scrub is dense and dominated by hawthorn, with occasional elder. A small distinct area of tall ruderal is present at the western end of the site in a shallow basin with steep sides, with nettle and cocksfoot dominant and spear thistle (*Cirsium vulgare*), sorrel (*Rumex acetosa*) and broadleaved dock (*Rumex obtusifolius*) abundant.

#### 7A.2.2.1.6 Kiplingcotes Road Earthworks LWS

Kiplingcotes Road Earthworks LWS is a small site, the eastern half of which is within the Scoping Boundary. The site is also encompassed by Hudson's Way LNR. It consists of a linear species-rich calcareous grassland which has established on the margins of a former railway, and has a public footpath running through the centre (TN29, Photograph 6). The turf is short and heavily grazed by rabbits, with occasional patches of ephemeral flora. Taller patches in the sward give a varied texture, with herb cover of 40% and bare ground comprising less than 5% of the area. Bramble scrub is extending into the grassland at the margins, and weedy species such as white clover are more abundant at these margins. The herb species richness is relatively high, with 38 species recorded, including frequent species such as smooth hawksbeard (*Crepis capillaris*), common mouse-ear (*Cerastium fontanum*), birds-foot trefoil (*Lotus corniculatus*), black medick (*Medicago lupulina*), parsley-piert (*Aphanes arvensis*) and yellow oat-grass (*Trisetum flavescens*). Dense scrub is present on the steep embankment, with species including hawthorn, elder, dog rose (*Rosa canina*), apple (*Malus* sp.) and ash.

#### 7A.2.2.1.7 Granny's Attic Railway LWS and Etton-Gardham Disused Railway LWS

Granny's Attic Railway LWS and Etton-Gardham Disused Railway LWS are two sites which adjoin each other along the former railway line and comprise similar habitats. The sites are also encompassed also by a further designation of the Hudson's Way LNR. The sites consist of a grassy path approximately five metres wide, with a steep scrubby embankment to either side (Photograph 7, Annex 3). The grassland is calcareous and species-rich, with a medium to tall sward (a lack of grazing/suitable management is evident) and 39 species recorded (Photograph 8, Annex 3). Three species of orchid were recorded, with calcareous herb and grass indicators present including common restharrow (*Ononis repens*), pyramidal orchid, hairy St Johns-wort (*Hypericum hirsutum*) and quaking-grass (*Briza media*) as an example. Weedy species such as white clover are present at low cover and more abundant at margins where the habitat transitions to scrub. The scrub on the embankments is encroaching into the grassland, and is dense on the embankments themselves, with species including dogwood (*Cornus sanguinea*), hawthorn, bramble, dog rose, sweet-briar (*Rosa rubiginosa*) and emergent young ash trees. The scrub has scalloped margins, creating sheltered edge habitats, and there is evidence of regeneration and mixed age classes.

#### 7A.2.2.1.8 Etton Wold, West of Crossroads LWS

Etton Wold, West of Crossroads LWS is an established road verge with semi-improved neutral species present. The sward height is varied due to sympathetic management, with species including creeping buttercup, meadow buttercup, curled dock, cocksfoot and ribwort plantain. Scrub is beginning to encroach from the adjacent hedgerow, with scattered bramble present. Patches of tall ruderal species such as cow parsley are also present.

### 7A.2.3 Requirements for Further Survey and Assessment

Given the proximity of the EOS to the River Derwent SAC and the Humber Estuary SPA/SAC/RAMSAR, a Habitats Regulations Assessment (HRA) screening will be undertaken to determine whether the EOS will result in Likely Significant Effects (LSE) on the designated features. Where LSEs are identified, stage 2 Appropriate Assessment will be undertaken, and mitigation and/or compensation measures set out to avoid adverse effects on the integrity of the designated site.

The cable route of the EOS is within River Hull Headwaters SSSI, Granny's Attic Railway LWS and Etton - Gardham Disused Railway LWS and adjacent to Spring Dale cLWS, Etton Wold, West of Crossroads LWS and Kiplingcotes Road Earthworks LWS and therefore the potential for indirect effects during construction and operation should be scoped into the ecological impact assessment.



There is potential habitat connectivity between habitats impacted by the EOS and habitats within the River Hull Headwaters SSSI and North Howden Fish Ponds LWS via the surface water pathway, as there are small watercourses and ditches which run from the cable route corridor into these sites. The potential for indirect effects due to changes in water quality during construction should therefore be examined in the impact assessment.

The EOS cable route is also within the Impact Risk Zones (IRZ's) for cable projects for the following SSSI's: River Derwent SSSI; Humber Estuary SSSI; Eskamhorn Meadows SSSI; Barn Hill Meadows SSSI; South Cliffe Common SSSI; Kiplingcotes Chalk Pit SSSI; and River Hull Headwaters SSSI. Potential effects on these sites should be examined within the ecological impact assessment.

Given the distance of the EOS from all other designated sites within the Desk Study Area, and the lack of pathways by which they could be potentially affected by the EOS, they have been scoped out of the impact assessment.

## 7A.2.4 Habitats

### 7A.2.4.1 Desk Study

The EOS lies within three Natural England National Character Areas (NCA), as defined below.

The section of the route between Drax and south-west of Market Weighton is in the Humberhead Levels (39) Natural England NCA, defined as *"...a flat, low-lying and large scale agricultural landscape bounded to the west by the low ridge of the Southern Magnesian Limestone and to the east by the Yorkshire Wolds (north of the Humber) and the Northern Lincolnshire Edge with Coversands (south of the Humber) ... In the central areas the large geometric fields are generally bounded by ditches and the highly productive agricultural land is maintained by pumping to keep the water table down... The rivers and the network of drainage ditches and dykes form important ecological corridors linking the Humber Estuary with areas upstream."*

The section of the route between Market Weighton and the south of Driffield is in the Yorkshire Wolds (27) Natural England NCA, defined as *"an arc of high, gently rolling ground extending from the Humber Estuary west of Hull, to the North Sea coast at Flamborough Head, north of Bridlington. The Wolds comprise a prominent chalk escarpment and foothills rising from the Vale of York to the west and the Vale of Pickering to the north and falling to the plain of Holderness to the east. A very low proportion of the area is urban and woodland, and the vast majority of the land is agricultural. Woodland planting is restricted to small, scattered woodland blocks on higher land and steeper slopes.... Extensive tracts of arable land dominate the NCA due to the thin, chalky soils and there is some livestock rearing... Because of the underlying permeable chalk, this landscape has no major rivers, but its calcareous waters flow into the river headwaters of adjoining NCAs such as the River Hull in Holderness NCA."*

The section of the route east of Driffield to the coast is in the Holderness (40) Natural England NCA, defined as *"...a rural, low-lying, undulating plain with the broad, shallow valley of the River Hull flowing southwards through the centre towards Hull. The river eventually joins the expansive Humber Estuary where it becomes tidal, enclosed by flood banks, and drains into the North Sea... [The NCA] is bounded by the dip slope of the Yorkshire Wolds to the north and west, while eastwards, beyond the coastline of soft boulder clay cliffs, lies the North Sea... The high-quality agricultural land comprises large field patterns bounded by drainage ditches on the River Hull flood plain, and there are hedgerows on higher ground."*

Many areas of priority habitat are present within the Desk Study Area; **Table 2** summarises the records of notable habitats and protected or notable flora<sup>5</sup> (including veteran trees<sup>6</sup>) within the Scoping Boundary.

<sup>5</sup> For this assessment 'flora' includes: vascular and non-vascular plants, fungi and lichens.

<sup>6</sup> For this assessment the definition of a veteran tree is taken from Annex 2 of the National Planning Policy Framework (glossary): "A tree which, because of its great age, size or condition is of exceptional value for wildlife, in the landscape, or culturally."

**Table 2. Notable Habitats and Protected and Notable Flora within the Scoping Boundary**

| Habitat/ Flora Feature                            | Reason for Conservation Interest          | Location of Habitat/ Flora <sup>7</sup> relative to the Scoping Boundary  |
|---|---|---|
| Maritime Cliff and Slope                          | Priority Habitat Inventory (NERC Act S41) | East coast, south of Wilsthorpe   |
| Deciduous Woodland                                | Priority Habitat Inventory (NERC Act S41) | Little Kelk; Sunderlandwick Estate south of Driffield; South Dalton Wold, north-east of Market Weighton; Houghton Hall south of Market Weighton; and east of Drax Power Station |
| Lowland Meadows                                   | Priority Habitat Inventory (NERC Act S41) | East of Nafferton   |
| Purple Moor Grass and Rush Pastures               | Priority Habitat Inventory (NERC Act S41) | Banks of the River Hull, west of Wansford   |
| Coastal and Floodplain Grazing Marsh              | Priority Habitat Inventory (NERC Act S41) | Banks of the River Hull, west of Wansford; Spaldington Common, north of Eastrington; north of North Howden; and Newsholme Parks, west of Howden                                 |
| Lowland Calcareous Grassland                      | Priority Habitat Inventory (NERC Act S41) | South Dalton Wold and Goodmanham Wold, north-east of Market Weighton  |
| Lowland Heathland                                 | Priority Habitat Inventory (NERC Act S41) | South Cliffe Common, south-west of Market Weighton  |
| Good Quality Semi-Improved Grassland              | Priority Habitat Inventory (NERC Act S41) | Brind   |
| Mudflats  | Priority Habitat Inventory (NERC Act S41) | On both banks of the River Ouse, north-east of Drax   |
| Traditional Orchard                               | Priority Habitat Inventory (NERC Act S41) | Brind   |
| Wild Black poplar – ID 98006                      | Notable Tree                              | South of Market Weighton  |
| Cornflower ( <i>Centaurea cyanus</i> )            | NERC Act S41                              | East of Holme-upon-spalding-moor at Cliffe Wood   |
| Basil Thyme ( <i>Clinopodium acinos</i> )         | NERC Act S41                              | East of Market Weighton, within Hudson Way LNR  |
| Red hemp-nettle ( <i>Galeopsis angustifolia</i> ) | NERC Act S41                              | East of Market Weighton, within Hudson Way LNR  |

### 7A.2.4.2 Field Survey

Extended Phase 1 habitat surveys were undertaken in the Survey Area between March and November 2021. All land within the EOS was made accessible for the purposes of undertaking the habitat surveys.

In summary, the Survey Area is dominated by agricultural land comprising mainly of intensively farmed arable fields, interspersed with smaller permanent grassland paddocks (used for horse and livestock grazing). These habitats are species poor and of low ecological value. Along the cable route, the most ecologically diverse habitats were limited to small pockets of land not in use for either agricultural cropping or grazing, such as small parcels of woodland scattered along the cable route, the calcareous grasslands within Hudson’s Way LNR, and the marginal swamp and riverine habitats along the River Hull Headwaters SSSI at the River Hull and Kelk Beck.

Detailed descriptions of the habitats within the Survey Area are shown on the Phase 1 Habitat Map (**Figure 2**), with specific features highlighted by Target Notes (TNs) and photographs (Annex 3).

Arable fields are the most prevalent habitat type by area within the Survey Area, typically cereal or bean crop with fences and intact species-poor hedgerows (occasionally species-rich) separating them from adjacent land. Improved grassland paddocks, occasionally grazed by livestock and dominated by species such as perennial ryegrass, dandelion (*Taraxacum agg.*), white clover, ribwort plantain, daisy (*Bellis perennis*), docks (*Rumex sp.*) and nettles are also prevalent in the landscape. Generally, arable margins are relatively narrow and where present show signs of improvement, with low floristic diversity.

Some areas of higher quality semi-improved neutral grassland are present within the Survey Area, including in some fields east of Drax Power Station, east of North Howden Fish Ponds LWS, in the

<sup>7</sup>Where features are situated outside of the Site, the distance and direction are given at the closest point of the designated site from the Site

Welham Bridge area, south of Hudson Way LNR, and on some track verges and small parcels in the Fraisthorpe area. In general, these habitats have been subject to low levels of grazing and non-intensive management and have a higher floristic diversity than seen across the majority of improved grassland paddocks, with species such as lady's bedstraw (*Galium verum*), birds-foot trefoil, salad burnet (*Sanguisorbia minor*), yarrow (*Achillea millefolium*), red fescue (*Festuca rubra*), cuckooflower (*Cardamine pratensis*) and common vetch (*Vicia sativa*) present. Grassland of particular note is present within the Hudson Way LNR (specifically Kiplingcoates Station Pit deleted LWS) (TN32, Photograph 9, Annex 3), which displays a more calcareous character than anywhere else within the Survey Area. Here, high floristic diversity derived from base-rich soils and minimal management results in some rarities, including orchids and calcicolous plants including common restharrow, pyramidal orchid, hairy St Johns-wort, quaking-grass and yellow oat-grass.

Dense and continuous scrub habitat is present in small amounts in several areas, including along the east bank of the river Ouse, bordering the railway line south of North Howden, south of the River Foulness, at Spring Dale cLWS, and along the embankment within Hudson Way LNR, where the habitat type is most prevalent. Generally the scrub consists of hawthorn, blackthorn, willow, elder and bramble, and the ground layer is typically rank grassland and tall ruderal where present.

Small parcels of woodland occur frequently within the Survey Area, usually isolated within the arable landscape or around farms, and are typically broadleaved plantation woodland (either historic or commercial), with occasional semi-natural broadleaved and mixed plantation woodland also present. Broadleaved plantation woodland is prevalent in scattered parcels around the proposed converter site at Drax, at a commercial plantation site for biofuels north-east of Newsholme, south of Brind, north-east of Hudson Way LNR and west of Hutton. Apart from the large commercial plantation, which is a monoculture of willow, these small woodland parcels are often semi-mature to mature and varied, with species including silver birch (*Betula pendula*), ash, oak, willow, sycamore (*Acer pseudoplatanus*), cherry (*Prunus* sp.), beech (*Fagus sylvatica*), horse chestnut (*Aesculus hippocastanum*) and alder, with ground stories of scrub (typically bramble), bare ground, and tall ruderal species. Some parcels also contain coniferous species such as Scot's pine (*Pinus sylvestris*) and Douglas fir (*Pseudotsuga menziesii*), some of which are commercially planted, and others planted as screening on farms or along watercourses such as Bishopsoil Drain. Semi-natural broadleaved woodland is more prevalent along watercourses such as featherbed drain, along disused railway lines (east of Drax), and in isolated areas of arable land. These small parcels are generally small and semi-mature, with a limited scrubby ground flora including species such as elder, bramble, docks, ivy (*Hedera helix*) and common nettle, and closed canopies which limit floristic diversity in the ground layer. No ancient woodland indicators were present in woodlands and there were no ancient trees identified within woodlands within the Survey Area, and generally the woodlands do not display signs of historic management such as coppicing.

Standing water habitat is present across the Survey Area, particularly east of Drax, around Brind and North Howden, south-east of Holme-Upon-Spalding-Moor and south of Little Kelk. These waterbodies vary in size and are typically the result of poor drainage or have been dug around farms for livestock. They range in water quality, diversity of aquatic marginal and emergent vegetation and macrophyte cover and are occasionally ephemeral. In some cases, dense reedbeds and swap habitat dominated by common reed and bulrush, with occasional encroachment by scrub, are present. Linear features such as drainage ditches in the arable landscape very prevalent, but where they have been surveyed they are typically of poor quality or dry.

Running water is present in several rivers, streams and drains throughout the Survey Area, most notably the Rivers Ouse (Photograph 10, Annex 3), Foulness (Photograph 11, Annex 3) and Hull, as well as notable smaller watercourses such as Nafferton Beck, Kelk Beck, Carr Dyke, Earl's Dyke and Auburn Beck. The river Ouse is 100 m wide at the crossing point, with a turbid, rippled channel, bank toe and set-back embankment for flood defence. The bank tops are typically poor semi-improved short grasses and herbs, with occasional tall ruderal vegetation. The channel margins and bank face on both banks have scattered standard willows as well as willow and hawthorn scrub. The river Hull and Kelk Beck are described in 7A.2.2.1.1 and are chalk streams of SSSI quality. The river Foulness is six metres wide at the crossing point, with banks two metres high which slope gradually down to the water level. The banks are occasionally bare but typically have short grasses and low diversity of herbs, with emergent common reed in places at the margins and high turbidity. There are few macrophytes present and marginal vegetation, where present, was not diverse and patchy.

Other larger streams are all of a generally similar character, with widths between two and six metres and steep earthen banks, a slow flow, poor to moderate water quality and low turbidity. Stands of marginal tall ruderal vegetation are present along the majority of the stream channels, and in some areas dense scrub vegetation and woodland overgrows and overshadows the watercourses. Many of the unnamed smaller drains with flowing water are between arable fields, often overshadowed by a hedgerow and with channels choked by scrub and overgrown marginal vegetation. Some show signs of dredging and regular management, but the majority are infrequently managed, have narrow bank-top margins and generally low diversity of aquatic macrophytes and emergent vegetation in the channel.

Small areas of tall ruderal vegetation are present across the Survey Area, typically in edge habitats of semi-improved grassland and along road verges and embankments. These are typically dominated by rank species such as willowherb (*Epilobium* sp.), cow parsley, hogweed and common nettle and are often associated with encroaching scrub species such as bramble.

The area south-east of Little Kelk is a working quarry (Thornham Hill Gravel Pit deleted LWS) (Photograph 12, Annex 3). It is largely unvegetated, with a compacted substrate surface, and does not qualify as open mosaic habitat type. Some patchy areas of vegetation are present, including some dense bramble scrub around the central waterbody, and hardy ephemeral vegetation including teasel (*Dipsacus fullonum*), mugwort (*Artemisia vulgaris*), bristly oxtongue (*Helminthotheca echioides*) and smooth sow-thistle (*Sonchus oleraceus*).

The beach at Wilsthorpe is within the Survey Area, however this was not surveyed due to land access constraints. The habitat is designated as maritime cliff and slope priority habitat under the NERC Act Section 41.

There is a small area of marshy grassland habitat within the River Hull Headwaters SSSI, associated with Unit 13 on the western boundary of the Survey Area. This habitat type is described in paragraph 2.9 above and is the only area of marshy grassland habitat type within the Survey Area.

A veteran tree was recorded approximately 90 m south of the planning application boundary within the Survey Area at North Howden.

The remaining habitat types include hardstanding (tracks, paths, industrial areas around Drax Power Station, farmyards etc.), bare ground (typically access tracks and yards and within the quarry site south of Little Kelk), scattered scrub overlaying other habitat types, individual mature and semi-mature broadleaved trees, intact and defunct species-poor hedgerows (typically hawthorn with occasional blackthorn and elder) bordering arable fields and paddocks, and buildings (farmsteads, industrial buildings and residences).

#### 7A.2.4.2.1 Proposed Converter Station

The proposed converter station east of Drax Power Station is situated within an arable field, planted with bean crop during the initial survey in 2021 (Photograph 13, Annex 3). The arable field is bordered to the south and east by an intact species-rich native hedgerow, 3 m tall by 2 m wide, with occasional semi-mature trees. The hedgerow is dominated by hawthorn, with frequent blackthorn, occasional bramble and ash, and rarely hazel (*Corylus avellana*) and rose (*Rosa* sp.). The ground story and verge adjacent to the track beyond the hedgerow is relatively diverse, with herbs and grasses present including white dead nettle (*Lamium album*), cow parsley, common nettle, cleavers (*Galium aparine*), curled dock, cocksfoot, Yorkshire fog, herb Robert (*Geranium robertianum*), perennial rye grass, daffodil (*Narcissus* agg.), hogweed, meadowsweet, meadow buttercup, red fescue, curled dock, greater plantain and periwinkle (*Vinca minor*).

The field is bordered to the west by a species-poor intact hedgerow, 3 m high by 2 m wide with hawthorn dominant and occasional dog rose and bramble and a bare understorey. To the north of the field is a wet arable drainage ditch, 1 m wide with steep sloping banks, clear water and stands of marginal aquatic vegetation including common reeds. Macrophytes are present within the channel. Beyond the ditch is a parcel of semi-mature broadleaved semi-natural woodland with small clearings of neutral semi-improved grassland. There are game bird feeding stations within the woodland and signs of management, including scrub and tree clearance. Through the centre of the arable field, 10 m to the north of the proposed converter station is a thin margin of improved grassland separating the arable field into two parts, with species including perennial ryegrass, cocksfoot, dock, herb robert, nettles,

hogweed and dandelions. A line of semi-mature and mature oak and ash trees is present along this margin.

### 7A.2.4.3 Requirements for Further Survey and Assessment

The majority of the habitat within the Survey Area is arable land, scattered and dense immature scrub, tall ruderal vegetation, dry ditches and poor semi-improved and improved grassland of generally low ecological value. In some areas, higher quality and priority habitats such as deciduous woodland, scattered trees, standing and running water and semi-improved neutral and calcareous grassland are present within the Survey Area, and these habitats should be retained where possible.

Running water, standing water and woodland within and adjacent to the Survey Area should be avoided by the EOS where possible to mitigate any potential habitat loss and knock-on hydrological effects. Avoidance of these habitats is a requirement under local planning policy ENV4 of the East Riding of Yorkshire Biodiversity Action Plan. Any direct and indirect effects on priority habitats present as listed in Table 2 should be avoided.

The potential impact of the EOS on higher quality and priority habitats including deciduous woodland, scattered trees, standing and running water and semi-improved neutral and calcareous grassland should be scoped into the impact assessment. No further habitats surveys are required to inform the assessment.

## 7A.2.5 Protected and Notable Species

### 7A.2.5.1 Badger

#### 7A.2.5.1.1 Desk Study

12 records of badger (*Meles meles*) were returned by the desk study, the closest of which is 300 m east of the EOS in the Drax area.

#### 7A.2.5.1.2 Field Survey

Eighteen active, partially active and disused badger setts were recorded in the Survey Area, four of which are within the planning application boundary. Full details of sett locations are not included in this report or Table 3 for reasons of confidentiality. **Table 3** details the field signs of badger identified during extended Phase 1 surveys.

**Table 3. Badger field signs recorded during field surveys**

| Record                | Comments   | Location of feature relative to the planning application boundary                        |
|-----------------------|--|--|
| Latrine<br>TN54       | – Two badger latrines, close together on arable field margin                         | Five metres west of the planning application boundary, south of Holme-upon-spalding-moor |
| Latrine<br>TN75       | – Fresh latrine on the bank of an arable drainage ditch                              | South of the River Ouse, 330 m south of the planning application boundary                |
| Latrine<br>TN76       | – Single deposit, most southern field sign from a main sett to the north.            | 40 m north of the planning application boundary to the south of Spring Dale cLWS.        |
| Latrine<br>TN61       | – Single fresh deposit at culvert entrance, north of the River Foulness              | Within the planning application boundary, east of Welham Bridge                          |
| Dead Badger<br>– TN3  | Recorded on New Road to the north-west of the proposed converter station.            | 65 m north of the planning application boundary, east of Drax Power Station              |
| Dead Badger<br>– TN74 | Adjacent to Pond P074  | 60 m north of the planning application boundary, south of Market Weighton                |
| Footprints<br>TN6     | – Recorded on a road verge along Carr Lane, north of the proposed converter station. | 75 m north of the planning application boundary, east of Drax Power Station              |
| Footprints<br>TN4     | – Recorded on an arable field margin east of the proposed converter station.         | Within the planning application boundary, east of Drax Power Station                     |

| Record      | Comments  | Location of feature relative to the planning application boundary     |
|-------------|---|---|
| Hair – TN50 | Badger hair stuck on fencing with paths going under fence into arable field | 110 m east of the planning application boundary, south-west of Skerne |

Suitable habitat for badgers is present within the Survey Area in the areas of woodland that intersperse the farmland habitats, although these are relatively scattered in distribution. The linear band of woodland and embankments associated with the disused railway line within Hudson Way LNR, which runs east to west within the EOS cable route, and the railway line south of North Howden offers good potential habitat for badger sett construction, although no evidence of setts was recorded in the sections of habitat that were readily visible from the footpath, or from land adjacent to the north and south.

### 7A.2.5.1.3 Requirements for Further Survey and Assessment

There is a possibility that further setts could be present within areas of woodland/dense scrub that were not accessible for survey. There is large amount of suitable foraging habitat within the Survey Area, and given that this a common and widespread species, it is reasonable to conclude that foraging badgers may be present occasionally within other habitats within the Survey Area.

Due to the presence of setts within the footprint of the EOS, this species should be scoped into the ecological impact assessment. Further pre-construction surveys will be required on those setts in proximity to works (30 m is deemed as reasonable) to ascertain level of use and requirement for further mitigation.

## 7A.2.5.2 Bats (Roosting)

### 7A.2.5.2.1 Desk Study

The desk study returned 38 records of roosting bats within the Desk Study Area, of which five are within the planning application boundary and a further 20 are within the Survey Area (of these, nine are within 50 m of the planning application boundary). Of those roost records within the planning application boundary, four are tree roosts for a single common pipistrelle (*Pipistrellus pipistrellus*) (two separate visits to the same roost near Asselby, one near Tellingham and one near Market Weighton) and one is for a tree roost for a single Noctule south of Market Weighton.. Of the seven roost records within 50 m of the planning application boundary, three are for common pipistrelle associated with trees in Market Weighton and Holme-Upon-Spalding-Moor, one is of a soprano pipistrelle (*Pipistrellus pygmaeus*) tree roost (three individuals) near Hutton Cranswick, one is of a brown long-eared bat (*Plecotus auritus*) tree roost (two individuals) near Hutton Cranswick and one is for a single unidentified *Myotis* bat in the North Cliffe area.

The MAGIC website identified nine granted bat EPSM licences within the Desk Study Area, of which four were within 500 m of the planning application boundary relating to common pipistrelle, whiskered bat (*Myotis mystacinus*) and brown long-eared bat (*Plecotus auritus*).

### 7A.2.5.2.2 Field Survey

The EOS does not directly impact any buildings that may have the potential to support roosting bats. There are a number of farm buildings and residential properties within the Survey Area that may have the potential to support roosting bats, but these were not subject to detailed assessment.

A number of mature trees and woodland areas were identified within the planning application boundary, the majority of which were assessed from ground level for their potential for roosting bats. Some of these may have potential to support roosting bats, however the majority were isolated within a fragmented hedgerow network that does not provide good connectivity to foraging habitat in the wider local area.

The proposed converter station is situated between two parcels of broadleaved woodland, with mature hedgerows, a tree-lined disused railway line and a large waterbody in close proximity which may include trees with bat roosting potential.

### 7A.2.5.2.3 Requirements for Further Survey and Assessment

In terms of potential impacts of the EOS on roosting bats, BRP surveys (as detailed in **Appendix 7B**) were focused to the extent of the EOS including the cable working width and associated temporary construction elements. The BRP surveys have sought to determine the presence of trees and structures with suitability to support roosting bats within and within direct proximity to (up to 50 m) the planning application boundary which could be impacted by temporary and/or permanent components of the EOS.

Trees with potential to support roosting bats are present across the planning application boundary within farmland and structures such as bridge/culverts may be in relatively close proximity to the construction phase of the EOS, and therefore there may be potential for indirect disturbance effects upon roosting bats. Whilst this is likely to be low potential for disturbance during construction as a result of the scale and nature of the works; this will be limited to temporary excavations taking place over a short period of time that would reasonably not generate noise or vibration significantly different to regular agricultural operations. However, for the purposes of the EclA roosting bats (and features /trees suitability to support roosting bats) are scoped in for assessment.

Due to the evolving design throughout the 2021 bat survey season and the high number of trees and structures present with the Study Area the scope of bat work sought to assess the presence of potential roost but for a number of factors as outlined here has not included detailed roost (dusk/dawn) surveys. The level of survey effort and approach to the EclA for roosting bats is proportionate to the potential predicted effects of the EOS upon this species group and aligns with the guidance set out by British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development (Ref 1) and DEFRA European protected species (EPS) policies (Ref 2) which is therefore applicable to bats. Policy 4 details guidance which endorses that a proportionate approach to collation of baseline ecological data for EPS is considered acceptable *'where ecological impacts of development can be predicted with sufficient certainty'* and where *'mitigation or compensation will ensure that the (licensed) activity would not detrimentally affect the conservation status of the local population of any EPS'*. As detailed in the **Chapter 3: Description of the English Onshore Scheme**, the proposed construction programme for the EOS is not predicted to commence until late 2024 therefore validity of roost survey data has also been considered in respect of completion of the scope of baseline work. Furthermore, as detailed in **Chapter 7: Ecology and Nature Conservation** the mitigation approach commits to avoid and protect trees and structures with bat roost suitability within the planning application boundary as identified by the BRP surveys conducted and results detailed herein.

Based upon these factors combined, the EclA for roosting bats has been based upon an approach which assesses the likely potential effect of the EOS overall assuming the potential 'reasonable worst-case scenario' assuming the loss of a proportion of the trees within the planning application boundary. This approach to the completion of the EclA combined with the commitment to conduct pre-construction surveys of any trees/structure which cannot be avoided and associated mitigation measures thereafter i.e. activities which result in a licensable effect upon bats would be subject to a Natural England EPS Mitigation License application.

### 7A.2.5.3 Bats (Foraging)

#### 7A.2.5.3.1 Desk Study

The desk study returned a number of confirmed bat roosts (see above) and a further 15 records of foraging and commuting activity by at least 26 individual bats, including noctule, common pipistrelle, soprano pipistrelle, brown long-eared, natterers, *Myotis* sp. and an unidentified bat in several areas, including Drax, Howden, Newsholme, Knedlington, Market Weighton, Lund, North Cliffe, and Nafferton. The records of bat roosts (and EPSM licences) identified within the Desk Study Area indicate likely foraging activity either within or in close proximity to the Survey Area, by common species of bats such as common pipistrelle, soprano pipistrelle and brown long-eared bat.

#### 7A.2.5.3.2 Field Survey

The majority of the Survey Area provides low quality foraging habitat for bats, being dominated by arable farmland and grazed pasture that does not provide a high abundance of insect prey for feeding bats.

There are pockets of suitable habitat for foraging and commuting bats within and adjacent to the Survey Area; this included intact hedgerows along field margins, along woodland edges particularly associated

with the area east of Drax Power Station, around the Dalton estate south of Market Weighton, along Hudson Way LNR, and on the Sunderlandwick estate north of Hutton Cranswick. There are also strips of woodland and hedgerows along riverine habitats such as Nafferton Beck, the River Hull, Gransmoor Drain and Kelk Beck which may offer suitable habitat for foraging within the predominantly arable landscape.

The relatively species-rich grassland on the LWS along the Hudson Way LNR provides potentially higher quality bat foraging habitat, although is in a thin corridor and relatively small in area.

### 7A.2.5.3.3 Requirements for Further Survey and Assessment

Given the limited extent and temporary nature of the majority of the construction works associated with the EOS, and the generally low quality of bat foraging and commuting habitat within the EOS footprint, it is reasonable to conclude that there will be negligible impacts on foraging and commuting bats in terms of habitat loss. There is no potential for fragmentation or isolation of bat foraging/commuting habitats as they will be reinstated post-construction; this includes any hedgerow sections removed as part of the construction works.

Bat activity surveys were scoped in where the EOS resulted in permanent losses of habitat (at the proposed converter station); at this location there was also the potential for noise, vibration and visual disturbance (from permanent lighting associated with the developments) to foraging bats using habitats within and adjacent to the EOS.

Bat surveys were subsequently undertaken across spring, summer and autumn 2021 to characterise bat activity at the proposed converter station, using a combination of walked dusk and dawn transects supported by periods of remote static detector deployment. Based upon habitat assessment and desk study, the habitats within and within proximity to the proposed converter station were appraised as being of Low suitability for foraging and commuting bats. Therefore, the following scope of surveys were undertaken:

- Walked seasonal transect survey – seasonal walked transect surveys were undertaken in the active season for bats (spring, summer and autumn inclusive).
- Static monitoring survey – seasonal survey periods (a minimum of five nights of deployment per survey period) in the active season for bats (spring (April/May), summer (June/July) and autumn (August/September)).

A separate bat activity survey report has been prepared (see Appendix 7B) and foraging bats have been scoped into the impact assessment.

### 7A.2.5.4 Otter

#### 7A.2.5.4.1 Desk Study

The desk study returned one record of otter in the Desk Study Area which was of a dead otter on the A165 south of Fraithorpe, 85 m south-east of the Survey Area.

In the National Otter Survey (Ref 2) commissioned by the Environment Agency most recently in 2009-2010, surveys were conducted within several river catchments in the Desk Study Area, including the Derwent (near the confluence with the Ouse), the Ouse and the Hull. The report states that with respect to the Hull and East Riding area “...*There has been a significant expansion of otter range in this area particularly to the west of Hull but occurrence in the eastern part of the area, where streams are generally very small, is still patchy. Otters are using some of the small coastal streams which indicates re-colonisation of the coast in this area.*”. Similarly, for the Ouse which is within the Survey Area, the report states “...*There has been a major expansion of otter range within this area*”.

The EOS crosses the River Hull and Kelk Beck, both of which are part of the River Hull Headwaters Site of Special Scientific Interest (SSSI) and although otter is not listed as a component of the site selection, they are known to be present on the River Hull and wider area. The EOS also crosses the River Ouse, into which the River Derwent SSSI and Special Area of Conservation (SAC) discharges approximately 1 km to the north. Otter is listed as an Annex II qualifying feature on the SAC, but it is not the primary reason for its selection. It is for this reason that otter is considered highly likely to be present on the River Ouse.



#### 7A.2.5.4.2 Field Survey

A total of 122 watercourses have been classified as requiring assessment for their suitability for otter based on a review of aerial imagery and mapping. No otter field signs were present during initial extended Phase 1 habitat surveys, however suitable habitat with connectivity to other areas of good habitat for otter was noted in several watercourses, including the River Ouse, River Hull and Kelk Beck in particular.

#### 7A.2.5.4.3 Requirements for Further Survey and Assessment

A number of watercourses within the Survey Area are arable drainage ditches which are generally unsuitable for otter foraging and commuting, with low water levels, poorly vegetated banks and poor connectivity to other suitable habitat in the landscape. There are however some higher quality rivers and streams crossed by the EOS which may have potential to support transitory otters, particularly given that the species is relatively widespread in the county/region.

Further riparian mammal surveys were conducted in 2021 and a separate riparian mammal survey report has been prepared (see Appendix 7C). This species is therefore scoped into the impact assessment.

#### 7A.2.5.5 Water Vole

##### 7A.2.5.5.1 Desk Study

The desk study returned nine records of water vole (*Arvicola amphibius*) in the Desk Study Area, the closest of which was 110 m from the Survey Area, on the River Hull and adjacent canal near Wansford.

Records from the National Water Vole Database and Mapping Project (Ref 3), headed by the Hampshire and Isle of Wight Wildlife Trusts, show that between 2009 and 2018, water vole have been recorded on the Rivers Hull, Ouse and Derwent and associated tributaries including Skerne Beck (which Knorka Dyke flows into), Nafferton Beck and Kelk Beck. Water vole in general are prevalent on tributaries of these watercourses which are within the Survey Area.

##### 7A.2.5.5.2 Field Survey

A total of 122 watercourses have been classified as requiring assessment for their suitability for water vole based on a review of aerial imagery and mapping. Mammal burrows in ditch and watercourse embankments were noted during initial extended Phase 1 habitat surveys, and suitable habitat with appropriate levels of vegetation for foraging and embankment and channel characteristics which were amenable to burrowing was noted in several watercourses, including the River Ouse, River Hull and Kelk Beck in particular.

During extended Phase 1 surveys, an adult water vole was seen swimming in watercourse 96, adjacent to the proposed converter site east of Drax Power Station. Further surveys will be necessary to determine the extent of suitable habitat and usage of the drain by this species, and to inform mitigation requirements.

##### 7A.2.5.5.3 Requirements for Further Survey and Assessment

A number of watercourses within the Survey Area are arable drainage ditches which are generally unsuitable for water vole burrowing and foraging, with low water levels, poorly vegetated banks and poor connectivity to other suitable habitat in the landscape. There are however many higher quality rivers, streams and drains crossed by the EOS which may have potential to support water vole, particularly given that the species is relatively widespread in the county/region. The Local BAP states that water vole “...are surviving in healthy populations in [the River Hull Catchment] part of the East Riding”. The species is therefore likely present in the Survey Area given the BAP notes that water vole “...has a regional stronghold in agricultural drainage dykes in Holderness and the River Hull Headwaters”.

Several watercourses are to be crossed by haul roads, access tracks and the cable route itself, using open-cut methods. There is therefore the risk that direct impacts from construction activities on the banks could cause collapse, and therefore damage to or destruction of water vole burrows. Further

surveys have been completed to ascertain the habitat suitability and potential use of the watercourse by water vole, and to inform any mitigation required.

A separate riparian mammal survey report has been prepared (see Appendix 7C). This species is scoped into the impact assessment.

## **7A.2.5.6 Great Crested Newt**

### **7A.2.5.6.1 Desk Study**

The desk study returned 58 records of great crested newt (*Triturus cristatus*) within the Desk Study Area. The closest of these is associated with the village of Little Kelk and is within the survey area.

In 2012, several ponds within the Survey Area were surveyed for great crested newt using traditional methods for a previous project that followed a similar alignment – the Yorkshire and Humber CCS Cross Country Pipeline (also known as the CCS Project). Of those ponds surveyed, 19 within 250 m of the Survey Area were found to contain great crested newt, the closest of which is in Newsholme, 75 m from a proposed temporary compound site. GCN Class Licence Return data from Natural England also shows this pond was positive for GCN eDNA during survey in 2015.

Five European Protected Species Mitigation Licences (EPSML) for GCN have been granted within the Desk Study Area, three west of Market Weighton and two licences east of Brind.

A total of 286 waterbodies were identified as potentially relevant to the EOS based on the initial Desk Study Area plus a buffer of 250 m, as at the time the field surveys were undertaken in spring 2021, the design of the EOS continued to evolve. As the EOS design evolved the Survey Area focussed on those ponds within 250 m of the EOS, and as a result of this original much larger number approximately 141 are now considered to be relevant to the EclA based upon the final EOS design

### **7A.2.5.6.2 Field Survey**

A total of 131 waterbodies within the Survey Area (identified during the desk study and ecology field surveys) were assessed for habitat suitability using the Habitat Suitability Index (HSI) for GCN, at the same time as extended Phase 1 survey. Of these waterbodies, six were within the planning application boundary.

Following the HSI assessment, 36 waterbodies were scoped out and were not subject to further assessment due to being unsuitable for GCN or dry/no longer present. A further 155 ponds were not assessed due to land access constraints or they were too far from the proposed route following design changes.

The HSI assessments confirmed that a number of waterbodies were suitable for GCN.

### **7A.2.5.6.3 Requirements for Further Survey and Assessment.**

Ponds within 250 m of the planning application boundary (including both permanent and temporary works areas) that were identified as potentially suitable for breeding GCN were scoped into the environmental DNA (eDNA) surveys undertaken in spring 2021, where access was granted for the purposes of the survey.

Where GCN are confirmed as present, it is recommended that field surveys are undertaken in accordance with standard survey guidance to establish a population size class assessment. Where impacts on the species cannot be avoided, it may be necessary to prepare a Precautionary Working Method Statement (PWMS) or apply for a European Protected Species Mitigation (EPSM) licence from Natural England, to ensure legislative compliance in respect of this species.

Further population size class assessment surveys may be required based on proximity of ponds to the EOS and possible direct and indirect impacts from construction on suitable habitat.

A separate great crested newt survey report has been prepared (see Appendix 7E).

## 7A.2.5.7 Reptiles

### 7A.2.5.7.1 Desk Study

There are 15 recent records of grass snake within the Desk Study Area, including 14 from 2011 to the north of Drax Power Station, 500 m north-west of the Survey Area. The closest record is associated with Wansford, approximately 230 m from the Survey Area.

No other reptile species records were returned during the desk study.

### 7A.2.5.7.2 Field Survey

The majority of the Survey Area comprised arable farmland and permanent grazed pasture that does not provide the mosaic of grassland, scrub and bare ground habitats to provide refuges, hibernation sites and terrestrial foraging habitat for reptile species.

There are some areas of suitable habitat for common reptile species within the Desk Study Area, including grassland and scrub adjacent to the River Hull at Wansford (suitable for grass snake, common lizard and slow worm), grassland mosaics associated with the disused quarry sites at Kiplingcotes Road Earthworks LWS and Kiplingcoates Chalk Pit SSSI (suitable for grass snake, common lizard and slow worm), and other smaller areas of south-facing embankments and scrub/grassland mosaics in the landscape which are generally isolated. None of these sites are likely to be directly impacted by the EOS.

During the Phase 1 surveys, a landowner's cat at a residential property near Welham Bridge caught a juvenile grass snake whilst surveyors were on site, (at approximate location shown as TN24, **Figure 2**). Identification was confirmed by surveyors. Also, a landowner north of Welham Bridge within the survey area had a large pile of grass in the corner of his garden during Phase 1 survey and reported that he frequently sees grass snakes at the property. At a further farm south-east of Holme-Upon-Spalding-Moor within the Survey Area, a landowner reported frequently seeing grass snake around his property. Finally, a single common lizard was seen by surveyors during a water vole survey on an arable field margin east of Nafferton, outside the Survey Area.

### 7A.2.5.7.3 Requirements for Further Survey and Assessment

The potentially suitable habitat near the River Hull at Wansford and along the Hudson Way LNR will not be impacted by the EOS and therefore do not require further survey for reptiles.

Given the lowland nature of the Survey Area, and the general lack of good quality reptile habitat, it is reasonable to conclude that adder is likely absent.

The area of habitat which will be permanently lost at the proposed converter site east of Drax is an arable field, with thin grassy margins and a drain and area of plantation woodland to the north. These habitats are deemed to be sub-optimal to support a population of common reptile species and therefore no further surveys are required.

Given the footprint of the works and limited availability of suitable habitat within the Survey Area, there would be a negligible risk of fragmentation or isolation of any populations if present, as the temporary impacts on grassland habitats associated with the cable swathe would be fully restored post-construction.

Temporary construction effects upon small areas of suitable reptile habitat would be able to be mitigated through appropriate pre-construction measures where habitats/features of interest for reptiles are identified e.g. supervised vegetation clearance at an appropriate time of year. No further surveys are required and reptiles are scoped out of the impact assessment.

## 7A.2.5.8 Birds (Wintering)

### 7A.2.5.8.1 Desk Study

Records were requested from the British Trust for Ornithology (BTO) for Wetland Bird Survey (WeBS) results for the River Hull Headwaters SSSI, as well as records from NEYEDC.

The southern part of the Survey Area is in close proximity to the River Derwent SSSI, which is designated for its internationally important populations of wintering Bewick's swan. Also, the Hilderthorpe-Skipsea beach habitat at the landfall site has been known to support a nationally important non-breeding population of Sanderling. The Lower Derwent Valley SAC/SPA to the north-west is designated for over-wintering Bewick's swan, ruff and golden plover, as well as an internationally-important assemblage of over-wintering Eurasian wigeon and Eurasian teal. The Humber Estuary SPA/SAC to the south-east is designated for the following species: avocet; bar-tailed godwit; bittern; black-tailed godwit; dunlin; golden plover; hen harrier; knot; little tern; marsh harrier; redshank; ruff; and shelduck, as well as for its waterbird assemblage. Finally, the Greater Wash SPA to the south-east regularly supports 3,449 Common scoter (*Melanitta nigra*). During the winter, the site also supports populations of overwintering Annex I species little gull (*Hydrocoloeus minutus*) and red-throated diver (*Gavia stellata*) (8.3% of GB non-breeding population).

Thirty-seven species were returned in WeBS count data for four count sectors within the Desk Study Area within the River Hull Headwaters SSSI. Records for 12 species were returned from non-estuarine waterbirds surveys on the east coast between Bridlington and Barmston (within the landfall site) in 2015/2016, including one red list species, five amber list species (Ref 4), two species listed on Schedule 1 of the Wildlife and Countryside Act, two species listed on Annex 1 of the Birds Directive and two species listed under Section 41 of the NERC act 2006 (Species of Principle Importance).

For full details of the desk study for wintering birds, see the bird survey report in Appendix 7D.

#### 7A.2.5.8.2 Field Survey

The majority of habitats within the Survey Area comprised arable and pasture fields, interspersed with hedgerows and a small number of woodlands, ponds and larger waterbodies and watercourses such as the River Hull and River Ouse. These areas provide some habitats for resident and migratory bird species in the winter months. The proposed converter station is an arable field potentially suitable for wintering bird species to forage on.

There is suitable habitat within the planning application boundary for the SSSI designated bird species Bewick's swan, as this species feeds on leftover potatoes and grain in terrestrial fields such as those within the EOS. Whilst it is reasonable to conclude that they may be present in habitats affected by the EOS, due to the limited footprint of the EOS and temporary nature of the works, it is deemed unlikely that habitat loss as a result of the EOS will negatively impact on this species.

#### 7A.2.5.8.3 Requirements for Further Survey and Assessment

Wintering bird surveys have been undertaken at the landfall site of the EOS, to inform a Habitats Regulations Assessment (HRA) for the EOS. Wintering bird surveys have also been undertaken at the proposed converter location, where permanent habitat losses will be occurring. These surveys were scoped up at an early stage in the EOS (prior to the completion of Phase 1 Habitat surveys) on the basis that given the proximity of the EOS to the Lower Derwent Valley SPA/SAC, River Derwent SSSI, Humber Estuary SPA/SAC and Greater Wash SPA, there was the potential for disturbance/displacement of wintering birds within the designated sites, and the potential for disturbance/displacement to wintering birds outside the site should they be using functionally linked land.

A separate bird survey report has been prepared (see Appendix 7D); refer to this for full details of surveys and recommendations. No further surveys are deemed necessary and wintering birds have been scoped into the impact assessment.

### 7A.2.5.9 Birds (Breeding)

#### 7A.2.5.9.1 Desk Study

Records were requested from the BTO for WeBS results for the River Hull Headwaters SSSI, the RSPB for breeding locations of rare and protected birds, and from Wolds Barn Owl group and the Wildlife Countryside Partnership for any relevant barn owl (*Tyto alba*) records.

The southern part of the Survey Area is in close proximity to the River Derwent SSSI, which is designated for its assemblages of breeding birds including common sandpiper (*Actitis hypoleucos*), dipper (*Cinclus cinclus*), kingfisher (*Alcedo atthis*), yellow wagtail (*Motacilla flava*) and grey wagtail

(*Motacilla cinerea*). The Lower Derwent Valley SAC/SPA to the north-west is designated for supporting 5% of Great Britain's population of Northern shoveler. The Humber Estuary SPA/SAC to the south-east is designated for the following species: avocet; bar-tailed godwit; bittern; black-tailed godwit; dunlin; golden plover; hen harrier; knot; little tern; marsh harrier; redshank; ruff; and shelduck, as well as for its waterbird assemblage. Finally, the Greater Wash SPA to the south-east supports breeding Annex I populations of little tern (42% of GB breeding population), common tern (*Sterna hirundo*) and Sandwich tern (*Sterna sandvicensis*) (35% of GB breeding population).

NEYEDC returned a large number of records of breeding bird species within the Desk Study Area, particularly at North Cliff Wood (woodland), east of Market Weighton (arable farmland) and north of Wansford (wetland and arable land). This included a number of records of declining farmlands species such as skylark (*Alauda arvensis*), yellowhammer (*Emberiza citrinella*) and linnet (*Linaria cannabina*) for which there is potentially suitable nesting habitat within the Survey Area.

There were several records of the Red List species cuckoo (*Cuculus canorus*) within the Desk Study Area, with breeding records in North Cliffe Wood and in woodland north of Drax Power Station. Records of tree sparrow were also returned east of Drax and within the Survey Area along the Hudson Way LNR; the species has suffered significant declines in the East Riding of Yorkshire and is on the red list and East Riding of Yorkshire BAP.

Species listed on Schedule 1 of the Wildlife and Countryside Act (1981) have also been recorded in the Desk Study Area, including: barn owl (at Drax, North Cliffe Wood, Market Weighton, Kiplingcotes and Nafferton); marsh harrier (at Drax, Market Weighton and North Cliffe Wood); fieldfare (*Turdus pilaris*) (at Drax and Bainton); hen harrier (*Circus cyaneus*) (near Welham Bridge); hobby (*Falco subbuteo*) (at Skerne wetlands and North Cliffe Wood); kingfisher (*Alcedo atthis*) (at Skerne wetlands); little ringed plover (*Charadrius dubius*) (at Skerne wetlands); peregrine (*Falco peregrinus*) (at Drax Power Station and Market Weighton); red kite (*Milvus milvus*) (at Sancton, Market Weighton, North Cliffe Wood and Howden); and redwing (*Turdus iliacus*) (at Drax Power Station).

#### 7A.2.5.9.2 Field Survey

There is an abundance of suitable habitat for nesting birds within the Survey Area and within habitats crossed by the EOS. This includes arable farmland, which may support ground nesting species such as skylark and yellow wagtail. There are areas of dense and scattered scrub throughout the Survey Area such as that along the Hudson Way LNR as well as areas of mature woodland such as the habitat east of Drax Power Station and on the Dalton and Manston estates near Market Weighton, that provide good quality nesting habitat for breeding birds.

During the Phase 1 Habitat surveys in spring 2021, incidental records of nesting birds were observed as follows:

- Lapwing and skylark in arable fields west of Brind within the Survey Area;
- Nesting swallow (*Hirundo rustica*) in a barn in North Howden within the Survey Area;
- Lapwing (*Vanellus vanellus*) observed in arable farmland south-west of Wansford, and considered likely to be breeding in the fields;
- Barn owl (*Tyto alba*) boxes at several locations within the Survey Area.
- A dead barn owl chick was found beneath a barn owl box north of Newsholme, outside the Survey Area;
- An adult barn owl was flushed from a tree within the Survey Area on several occasions (to the north-east of Gransmoor, south-west of Market Weighton and west of Asselby);
- A little owl (*Athene noctua*) was seen exiting a barn to the south-east of Market Weighton, within the Survey Area;
- A kingfisher was seen flying along a drain immediately south of the River Hull at Wansford, and on Auburn Beck at Fraisthorpe, both within the Survey Area;
- Corn bunting (*Emberiza calandra*), yellowhammer and grey partridge were heard calling on farmland south-east of Holme-upon-spalding-moor within the Survey Area;
- A pair of bullfinches (*Pyrrhula pyrrhula*) observed near Northfield Beck, north of Hutton.

### 7A.2.5.9.3 Requirements for Further Survey and Assessment

Given that the majority of the EOS will result in temporary impacts on habitats such as arable farmland and hedgerows that may support nesting birds, it is not considered necessary to undertake breeding bird surveys in this habitat. These habitats will be reinstated post-construction and therefore there will be likely negligible impacts on nesting birds.

Breeding bird surveys have been undertaken in habitats where permanent habitat losses will occur i.e. within the footprint of the proposed converter site.

Standard mitigation measures are recommended during the construction phase to ensure legislative compliance; removal of nesting habitat outside the breeding bird season (typically March to August inclusive), or pre-construction checks for active nests.

A separate bird survey report has been prepared (see Appendix 7D); refer to this for full details. Breeding birds have been scoped into the impact assessment.

### 7A.2.5.10 Terrestrial Invertebrates

#### 7A.2.5.10.1 Desk Study

The desk study returned 31 records of terrestrial invertebrates within the Desk Study Area. These included the Section 41 and Red List butterfly species small heath butterfly (*Coenonympha pamphilus*) at Kiplingcoates Chalk Pit SSSI within the Survey Area north-east of Market Weighton, and several species of notable *Trichoptera* (caddis flies), *Coleoptera* (beetles) and *Diptera* (true flies).

#### 7A.2.5.10.2 Field Survey

The majority of the Survey Area comprised arable farmland and permanent pasture, which provides habitat of negligible value for terrestrial invertebrates, and these habitats are unlikely to support any rare or notable species.

The mosaic of rough grassland, scrub and bare ground associated with the Hudson Way LNR provide habitat of potentially higher quality for terrestrial invertebrates within the Survey Area, although none were seen during extended Phase 1 survey.

#### 7A.2.5.10.3 Constraints and Recommendations

The EOS will result in no permanent impacts on habitats that may support rare or terrestrial invertebrate species such as the small heath butterfly; the habitats present within the proposed converter site east of Drax Power Station is arable and of limited value to rare or notable invertebrates. It is therefore not considered necessary to undertake specific terrestrial invertebrate surveys because the majority of the potentially higher value rough grassland/scrub mosaic habitat associated with the Hudson Way LNR will not be affected as open-cut methods are not proposed at this location. Terrestrial invertebrates have been scoped out of the impact assessment.

### 7A.2.5.11 Other Protected and Notable Species

There were records of brown hare (*Lepus europaeus*) within the Desk Study Area. No specific surveys were undertaken for this species, but it was recorded incidentally in arable land during the undertaking of Phase 1 Habitat surveys in 2021; it is therefore reasonably likely to be present and breeding within habitats that are directly impacted by the EOS. Precautionary mitigation adopted for nesting birds will adequately address the risks of direct impacts on dependent kits, as they would be present in vegetation within the nesting bird season.

There were records of the following species of fish within the Desk Study Area, as shown in Table 4 below.

**Table 4. Desk study records of notable fish**

| Species                                   | Species Status   | Location  | Number of records |
|---|--|---|-------------------|
| European Eel ( <i>Anguilla anguilla</i> ) | Section 41 – NERC Act 2006 (Species of Principle Importance)             | Two on Gransmoor Drain downstream of quarry; two on River Hull at Wansford  | 4                 |
| Bullhead ( <i>Cottus gobio</i> )          | Qualifying feature for UK Special Areas of Conservation                  | Kelk Beck; River Hull at Wansford; Back Delfin; Drain south-west of Market Weighton; Nafferton Beck; Gransmoor Drain downstream of quarry; River Derwent; Skerne Beck | 15                |
| Brown/Sea Trout ( <i>Salmo trutta</i> )   | Section 41 – NERC Act 2006 (Species of Principle Importance)             | Nafferton Beck; River Hull at Wansford; Skerne Beck; Kelk Beck  | 8                 |
| Grayling ( <i>Thymallus thymallus</i> )   | Schedule 4 of The Conservation of Habitats and Species Regulations 2017; | River Hull at Wansford; Skerne Beck   | 3                 |

The following species were considered unlikely to be present within the Survey Area and Zone of Influence for the EOS, and therefore are scoped out of the ecological impact assessment:

- White-clawed crayfish (*Austropotamobius pallipes*) – there were no desk study records of this species within the Desk Study Area, and none of the small ditches and streams or larger rivers within the Survey Area offer the specific requirements for breeding crayfish such as overhanging banks, large rocks and submerged debris and heterogenous flow patterns.
- Red squirrel – there were no recent desk study records for this species in the Desk Study Area, and the EOS is outside the current known range of this species in the UK.
- Pine marten - there were no recent desk study records for this species in the Desk Study Area, and the EOS is outside the current known range of this species in the UK.
- Hazel dormouse - there were no recent desk study records for this species in the Desk Study Area, and the EOS is outside the current known range of this species in the UK.

### 7A.2.5.12 Invasive Non Native Plant Species (INNPS)

Desk study records for six species were returned from within the Desk Study Area. Table 5 below details the desk study records of INNPS.

**Table 5. Desk study records of INNPS**

| Species  | Location   | Number of records |
|--|--|-------------------|
| Canadian waterweed ( <i>Elodea canadensis</i> )    | River Hull at Wansford and at Wansford Fish Farm at several locations along the channel (within the Survey Area); North Howden Fish Ponds LWS (within the Survey Area)   | 9                 |
| Nuttall's waterweed ( <i>Elodea nuttallii</i> )    | River Hull at Wansford and at Wansford Fish Farm at several locations along the channel (within the Survey Area)   | 5                 |
| Japanese knotweed ( <i>Reynoutria japonica</i> )   | Market Weighton and Middleton-on-the-Wolds (outside the Survey Area)   | 2                 |
| Himalayan balsam ( <i>Impatiens glandulifera</i> ) | West of Drax Power Station; on River Derwent banks west of Newsholme; Market Weighton town centre; Back Delfin drain south-west of Market Weighton (all outside Survey Area)   | 8                 |
| Turkey Oak ( <i>Quercus cerris</i> )               | Garden Covert, North-east of Bainton (outside the Survey Area)   | 1                 |
| Rhododendron ( <i>Rhododendron ponticum</i> )      | North Cliffe wood and Black Clump wood, south of Market Weighton (outside the Survey Area); Sandwalk plantation, Dalton Estate (outside the Survey Area); Whitegates plantation, Dalton Estate (outside the Survey Area); Lodge plantation, Dalton Estate (within the Survey Area); and Jackson's plantation, Dalton Estate (within the Survey Area) | 11                |

| Species                              | Location                                   | Number of records |
|--------------------------------------|--|-------------------|
| Japanese rose ( <i>Rosa rugosa</i> ) | Wilsthorpe dunes (outside the Survey Area) | 1                 |

An area of New Zealand pygmyweed (*Crassula helmslii*) was present during extended Phase 1 survey in a clearing in woodland south of the proposed converter site east of Drax Power Station (TN73, Photograph 14). This habitat will not be impacted by the EOS and therefore no mitigation is required.

Japanese knotweed was recorded in the Survey Area; in woodland along the disused railway embankment west of Asselby (TN44). This area will not be impacted by the EOS and therefore no mitigation is required.

Japanese rose was present during field survey planted in a residential garden north of Easttrington, within the Survey Area. This area will not be impacted by the EOS and therefore no mitigation is required.

Rhododendron was present during field survey in a small parcel of woodland between arable fields north of Hutton within the Survey Area. This area will not be impacted by the EOS and therefore no mitigation is required.

Himalayan balsam was recorded within the Survey Area at multiple locations, including along tidal drains east of Drax which flow into the River Ouse; in woodland along the disused railway embankment and on a field margin west of Asselby; and in woodland adjacent to P251 east of Drax. These areas are unlikely to be directly impacted by the EOS. Where areas of Himalayan balsam are identified within areas to be subject to vegetation clearance, appropriate measures to prevent the spread of the plant should be adopted.

Cotoneaster (*Cotoneaster* sp.), which may be one of the Schedule 9 species, were recorded within the Survey Area in a caravan park in North Howden within the Survey Area; within Kiplingcotes Road Earthworks LWS; in a small parcel of woodland surrounding a farm east of Market Weighton; in a farmyard east of Middleton-on-the-Wolds; and within a small woodland parcel south of Burton Agnes. These areas are unlikely to be impacted by the EOS and therefore no mitigation is required.

No INNPS were found to be present within areas likely to be impacted by the EOS, however due to the ability for these species to spread readily into adjacent habitats through construction methods, INNPS have been scoped into the impact assessment.

### 7A.2.5.13 Protected Species Summary

A summary of the potential ecological constraints identified through desk study records and the extended Phase 1 Habitat Surveys undertaken between March and November 2021 is provided in Table 6. Where species are considered to represent a potential constraint to the EOS, further discussion is provided in the Constraints and Recommendations section below.



**Table 6. Appraisal of Potential for Protected/ Notable Species to occur within the Desk Study Area**

| Protected Species  | Summary of Desk Study Records  | Appraisal of Survey Area <sup>8</sup>   | Potential Constraint to EOS? |
|--------------------|--|---|------------------------------|
| Badger             | 12 recent records, the closest of which is located 300 m from the Survey Area.   | 18 setts (17 partially active or active) were recorded in the Survey Area. Broadleaved plantation and semi-natural woodland within the Survey Area, as well as embankments along the disused railway lines at Asselby and Hudson Way LNR, have potential as badger sett-building and foraging habitats. Arable land, permanent pastures and semi-improved grasslands within the Survey Area also provide potential foraging habitat for badger. Foraging activity within the Survey Area by badger is considered likely and therefore precautionary mitigation during construction is recommended to prevent badgers from becoming trapped in deep excavations. For setts within 30 m of construction work, pre-construction surveys will be required to ascertain the level of usage by badger, and should they be active then a mitigation licence and sett closures may be required. | Yes                          |
| Bats (roosting)    | 38 recent records, the closest of which is located within the Survey Area  | Several trees and structures within and adjacent to the Survey Area have been identified with bat roosting potential, including mature trees such as sycamore, ash and oaks, and buildings and structures such as stables and barns. It is assumed that no structures or mature trees will be impacted by the EOS, subject to confirmation of the commitment that these are to be retained. Where it is subsequently identified that trees are required to be pruned/removed, pre-construction surveys will be undertaken, and appropriate protected species licensing and mitigation adopted.  | Yes                          |
| Bats (foraging)    | 15 records of foraging and commuting activity by 26 individual bats, including noctule, common pipistrelle, soprano pipistrelle, brown long-eared, natterers and an unidentified bat in several areas. | There are areas of suitable habitat for foraging and commuting bats within the Survey Area, including intact hedgerows along field margins, along woodland edges, around waterbodies, along streams and along the margins of dense areas of scrub (such as the disused railway lines at Asselby and Hudson Way LNR).  | Yes                          |
| Otter              | One recent records associated with Fraisthorpe approximately 85 m from the Survey Area.  | There are a number of rivers, streams and drains crossed by the EOS, the majority of which are unsuitable for otter. Some of the larger rivers are suitable for commuting and foraging otter, including the Rivers Ouse and Hull. Detailed otter surveys are proposed on several streams crossed by the EOS.  | Yes                          |
| Water vole         | Nine recent records, the closest of which is associated with the River Hull and is 100 m from the Survey Area.   | There are a number of rivers, streams and drains crossed by the EOS, some of which are suitable for water vole. Drainage ditches are generally of low quality within the survey area, but more naturalised streams such as Nafferton Beck, Kelk Beck, Earl's Dyke and Gransmoor Drain have suitable bankside habitat for burrowing and foraging. Detailed water vole surveys are proposed on several watercourses crossed by the EOS.   | Yes                          |
| Great crested newt | 58 recent records, the closest of which is associated with Kelk and is within the Survey Area.   | 125 waterbodies have been scoped into the assessment for great crested newt presence/absence, based on distance to the Survey Area, of which six are within the planning application boundary. Suitable waterbodies are present within and  | Yes                          |

<sup>8</sup>Where features are situated outside of the Site, the distance and direction are given at the closest point of the designated site from the Site

| Protected Species         | Summary of Desk Study Records   | Appraisal of Survey Area <sup>8</sup>  | Potential Constraint to EOS? |
|---------------------------|---|--|------------------------------|
|                           |   | adjacent to the Survey Area based on HSI assessments carried out during the Extended Phase 1 surveys.  |                              |
| Reptiles                  | 15 recent records, the closest of which is associated with Wansford and is approximately 230 m from the Survey Area.  | Given the lowland location of the Survey Area, and the general lack of high quality reptile habitat, it is reasonable to conclude that adder is likely absent. Grass snake were present within the survey area at Welham Bridge, and common lizard was seen on an arable margin east of Nafferton (outside the Survey Area). Given the footprint of the works and limited availability of suitable habitat within the Survey Area, there would be a negligible risk of fragmentation or isolation of any populations if present, as the temporary impacts on grassland habitats associated with the cable swathe would be fully restored post-construction | No                           |
| Wintering Birds           | The Lower Derwent Valley SAC/SPA within the Desk Study Area is designated for over-wintering Bewick's swan, ruff and golden plover, as well as an internationally-important assemblage of over-wintering Eurasian wigeon and Eurasian teal.<br>Greater Wash SPA supports important populations of overwintering little gull and red-throated diver.<br>37 species were returned in WeBS count data for four count sectors within the Desk Study Area within the River Hull Headwaters SSSI. | Arable and pasture fields within the majority of the Survey Area may provide suitable wintering habitat for the Lower Derwent Valley SPA species Bewick's Swan.<br>Wintering bird surveys have been undertaken at the landfall site (due to the proximity to the SPA/ Ramsar) and at the proposed converter site (where there is permanent habitat loss).  | Yes                          |
| Breeding birds            | The Humber Estuary SPA/SAC to the south-east is designated for several species of breeding birds and waterbird assemblages. Large number of breeding bird records from within the Survey Area.  | Several habitat types found across the Survey Area have potential to support nesting birds, including dense and scattered scrub, woodland of all types, reedbeds, tall ruderal vegetation and hedgerows. Lapwing and skylark were recorded west of Brind; nesting swallow in North Howden; barn owl boxes at several locations within the Survey Area; adult barn owls were seen in several locations (and a dead chick in Newsholme); and corn bunting, yellowhammer and grey partridge were heard calling on farmland within the Survey Area.  | Yes                          |
| Terrestrial invertebrates | 31 records of terrestrial invertebrates within the Desk Study Area, including the NERC Act S41 species small heath butterfly.   | There are some areas of habitat within the Survey Area offering potential habitat for invertebrates. The mosaic of semi-improved grassland and scrub at Hudson Way LNR offers structural diversity and potential for butterflies, although these habitats are unlikely to be affected as open-cut methods are to be avoided.<br>The majority of the Survey Area comprises arable farmland and permanent pasture, which provides habitat of negligible value for terrestrial invertebrates, and these habitats are unlikely to support any rare or notable species.   | No                           |
| Fish                      | 30 records of notable fish returned, the closest within the Survey Area at the River Hull at Wansford.  | The larger waterbodies where notable species of fish have been recorded and where habitat is most suitable are unlikely to be impacted by the EOS, as construction mitigation and the use of non-open cut methods are planned in these areas.  | No                           |

| Protected Species          | Summary of Desk Study Records   | Appraisal of Survey Area <sup>8</sup>  | Potential Constraint to EOS? |
|----------------------------|---|--|------------------------------|
| Invasive non-native plants | 37 desk study records were returned for INNPS within the Desk Study Area. | <p>Invasive non-native plants were identified within the planning application boundary. New Zealand pygmyweed was present in woodland south of the proposed converter site east of Drax Power Station.</p> <p>Japanese knotweed was recorded in woodland along the disused railway embankment west of Asselby.</p> <p>Japanese rose was present during field survey planted in a residential garden north of Eastrington, within the Survey Area.</p> <p>Rhododendron was present during field survey in a small parcel of woodland between arable fields north of Hutton within the Survey Area.</p> <p>Himalayan balsam was recorded within the Survey Area at multiple locations, including along tidal drains east of Drax which flow into the River Ouse; in woodland along the disused railway embankment and on a field margin west of Asselby; and in woodland adjacent to P251 east of Drax.</p> <p>Cotoneaster was recorded in a caravan park in North Howden within the Survey Area; within Kiplingcotes Road Earthworks LWS; in a small parcel of woodland surrounding a farm east of Market Weighton; in a farmyard east of Middleton-on-the-Wolds; and within a small woodland parcel south of Burton Agnes.</p> | Yes                          |

## 7A.3 Conclusions and Recommendations

This PEAR is based on a desk study and ecological surveys undertaken within the Survey Area between March and November 2021 (although the majority of the habitat surveys were undertaken in the period March to August 2021), to identify ecological constraints and to provide advice in respect of the emerging design of the EOS (at the time at which the surveys were being undertaken).

The following further surveys, summarised in Table 4, are recommended to support detailed design.

### 7A.3.1 Scope of Phase 2 Ecology Surveys

A suite of Phase 2 ecology surveys was subsequently undertaken throughout spring, summer and autumn 2021 as per the methodology agreed in the SEGL2 Scoping Report, and with the scope of works amended as necessary following the completion of Phase 1 Habitat surveys. A summary of the ecology surveys undertaken, the brief scope of works and a cross reference to where the information is presented in either Appendices to the PEAR (Appendices 7A, 7B, 7C, 7D and 7E), or standalone technical appendices to the Ecological Impact Assessment, is provided in Table 7.

**Table 7. Requirement for further survey and cross reference to relevant ES report**

| Ecological Feature/Species/Species Group | Phase 2 Survey Scope  | Method  | Rationale   | Timing                                   | Relevant ES Appendix Report signposting   |
|--|---|---|---|--|---|
| <p>Habitats</p>                          | <p>Specific area where the following designated sites extend or are in proximity to the planning application boundary:</p> <ul style="list-style-type: none"> <li>• River Hull Headwaters SSSI at Wansford and Kelk Beck</li> <li>• Kiplingcotes Road Earthworks LWS.</li> <li>• Granny's Attic Railway LWS.</li> <li>• Etton-Gardham Disused Railway LWS.</li> <li>• Etton Wold, West of Crossroads LWS.</li> </ul> <p>Any other areas of habitat identified of being of potential botanical value along route including aquatic habitats crossed by the EOS.</p> <p>UK Habitat Classification Condition Surveys to inform the Biodiversity Net Gain assessment.</p> | <p>Detailed botanical survey to record species assemblage in targeted areas.</p> <p>Specific surveys of aquatic habitats crossed by the cable working width to inform the Biodiversity Net Gain condition assessment in accordance with Modular River Physical Survey (MoRPh) methodology.</p> <p>Condition assessments were conducted based upon the information collated by the Phase 1 habitat survey, detailed botanical surveys, desk based sources e.g. aerial imagery and HSI pond assessment surveys.</p> | <p>Phase 1 Habitat survey identified habitats as being of likely higher botanical diversity, and potentially impacted by the EOS.</p> <p>Condition assessment surveys are required to classify the habitats within the planning application boundary in accordance with the Biodiversity Net Gain assessment methodology approach (Ref 5, 6 and 7).</p> | <p>June and July 2021</p>                | <p>Incorporated into this PEAR.</p> <p>The information collated and reported within this PEA and the accompanying Figure 7.2 is considered sufficient to characterise the habitats within the EOS and inform the impact assessment for habitats within <b>Chapter 7: Ecology and Nature Conservation.</b></p> <p>Biodiversity Net Gain Assessment Report submitted alongside <b>Chapter 7: Ecology and Nature Conservation.</b></p> |
| <p>Bats</p>                              | <p>Activity: Bat activity surveys at proposed converter site east of Drax.</p>  | <p>Monthly walked transects (combination of dusk and dawn transects).<br/>Monthly periods of remote static detector deployment (for a minimum of 5 days per deployment).</p>  | <p>Areas of permanent land take within footprint of proposed converter that could displace/disrupt foraging bats.<br/>Bat foraging/commuting habitats potentially affected by noise/visual disturbance adjacent to footprint of substation.</p>   | <p>May to September 2021 (inclusive)</p> | <p><b>Appendix 7B - Bat Survey Report</b></p>   |

| Ecological Feature/Species/Species Group | Phase 2 Survey Scope  | Method  | Rationale   | Timing                         | Relevant ES Appendix Report signposting                        |
|--|---|---|---|--------------------------------|--|
|  | Roosting: Assessment of potential bat roost features (such as trees, buildings and structure) within extents of EOS.                          | Assessment of trees, buildings and structures within planning application boundary and up to 30m to determine their suitability to support roosting bats – visual ground-based inspections. | Temporary land take associated with the cable route within largely arable and pasture fields will not reasonably significantly disrupt or displace foraging/ commuting bats, and therefore the scope of further bat activity surveys was limited to areas of permanent land take.<br>Potential direct impacts upon roosts; e.g. loss/pruning of trees to facilitate the construction of the EOS or upgrades to access routes requiring works to structures such as culverts.<br>Potential indirect disturbance effects upon bats – albeit these are likely to be lower than the threshold for significance. |                                |  |
| Water vole and Otter                     | Watercourses crossed by the EOS deemed suitable during habitat suitability assessment as part of Extended Phase 1 surveys (120 watercourses). | Habitat assessment and survey of ditches either directly crossed or potentially impacted by the EOS that have potential to support water vole and otter.                                    | Repeat survey potentially required on some watercourses with higher suitability for water vole.   | May - September 2021           | <b>Appendix 7C – Riparian Mammal Survey Report</b>             |
| Great crested newt                       | Ponds within 250 m of the planning application boundary identified as potentially suitable for the species by HSI survey.                     | Presence/likely absence surveys comprising environmental DNA (eDNA) survey.   | Although no ponds will be lost as a result of construction of the EOS, terrestrial habitats impacted by the construction phase may be used by GCN where they occur within 250 m of a pond supporting GCN (this being the typical terrestrial dispersion distance of the species from breeding ponds).   | Mid- April to end of June 2021 | <b>Appendix 7E – Great Crested Newt Survey Report</b>          |
| Wintering Birds                          | Proposed converter site east of Drax.<br>Land within landfall area in northern part of EOS.   | Twice monthly vantage point and transect surveys.   | To determine whether any of the land within the EOS is utilised by wintering birds, and to include key elements of the EOS including operational land within the construction footprint.  | September 2020 to April 2021   | <b>Appendix 7D – Breeding and Wintering Bird Survey Report</b> |
| Breeding Birds                           | Proposed converter site east of Drax.   | Five surveys across breeding season to identify breeding species.   | Areas of permanent land take within footprint of proposed converter and landfall site that could displace/ disrupt nesting birds.   | March to June 2021             | <b>Appendix 7D – Breeding and Wintering Bird Survey Report</b> |

| Ecological Feature/Species/Species Group | Phase 2 Survey Scope   | Method | Rationale | Timing | Relevant ES Appendix Report signposting |
|--|--|--------|-----------|--------|---|
|  | Land within landfall area in northern part of EOS.<br>Land adjacent to the River Hull Headwaters SSSI. |        |           |        |   |

### 7A.3.2 Surveys Scoped Out

Further surveys were not undertaken for:

- Badger –Any risks to badger can be adequately mitigated on the basis of the information collected to date, and for the four active or partially active setts within the planning application boundary, pre-construction surveys will be carried out to ascertain level of use prior to works commencing.
- Reptiles – any risk to common lizard, grass snake or slow worm potentially present in habitats within the planning application boundary can be adequately addressed through PWMS and ECoW during construction, and the extent of habitat loss within this area or at the proposed converter site would not significantly reduce the availability of foraging or refuge habitat for reptiles.
- Terrestrial invertebrates - the EOS will result in negligible permanent impacts on habitats that may support rare or terrestrial invertebrate species such as the small heath butterfly. It is therefore not considered necessary to undertake specific terrestrial invertebrate surveys because the majority of the potentially higher value rough calcareous grassland/scrub mosaic habitat associated with the Hudson Way LNR will not be affected.
- Fish - the EOS will result in limited permanent impacts on habitats that may support notable fish, including the major rivers such as the Rivers Hull and Ouse, as non-open cut construction methods will be utilised and indirect impacts mitigated through best practise measures.

### 7A.3.3 Biodiversity Net Gain

A Biodiversity Net Gain assessment has been undertaken for the EOS using Biodiversity Metric 3.0 (Ref 5) in accordance with the accompanying guidance (Ref 6) and best practice principles (Ref 7) and will deliver 10% net gain of biodiversity units. The assessment is presented in the Biodiversity Net Gain Assessment Report submitted alongside the Ecological Impact Assessment (EclA.) submitted in support of the planning application. Further information on the legal requirements for the provision of biodiversity net gain under the Environment Act 2021 are provided in Annex 1.

### 7A.3.4 Invasive Non-native Plant Species

It is an offence to allow invasive non-native plant species (INNPS) to spread in the wild, and as such any works or movement of persons/plant where the species is growing should be avoided and an exclusion zone put in place.

Biosecurity measures will need to be implemented should any person or plant enter the exclusion zone, which should include disinfectant solution being used to clean equipment, boots, and vehicles before leaving the work area. A toolbox talk may be delivered by a qualified person to inform staff accessing the work area on how to identify INNPS and what to do should they identify any or come into contact with plants. Control and clearance of these species would be beneficial for biodiversity locally, and count as site enhancement.

The clearance and control of the vegetation should be done according to a management plan, and any vegetation treated as hazardous and disposed of by licensed waste carriers and in accordance with the relevant legislation, depending on disposal method (such as regulatory position statement 178). Although not recorded during field surveys or in desk study records, giant hogweed in particular can be hazardous to health, the sap causing photosensitivity and skin burns on contact, and as such personal protective equipment should be considered if working near the plant.

## 7A.4 References

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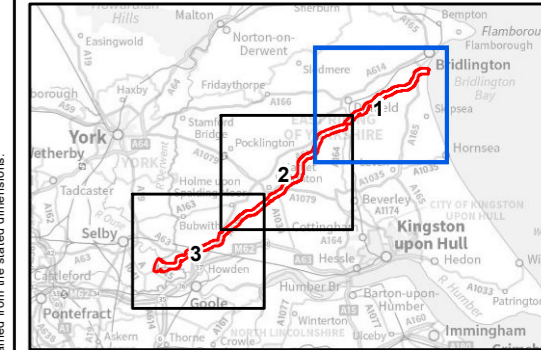
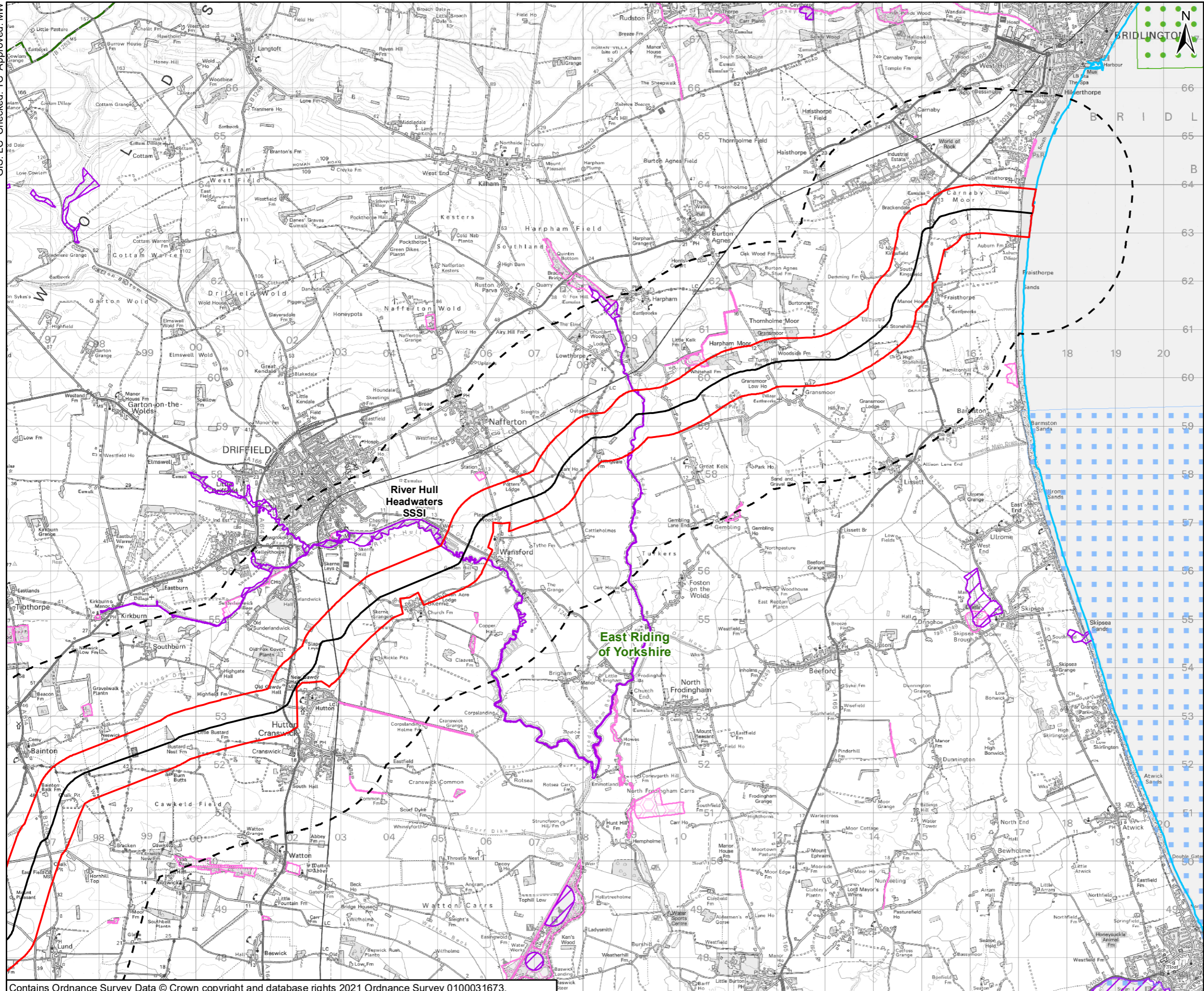
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GIS: LC Checked: TC Approved: MW

PROJECT  
**Scotland England Green Link 2**

- KEY**
- English Onshore Scheme Scoping Boundary
  - Preliminary DC Cable Route
  - 2km Study Area
  - Mean Low Water Springs
  - District Borough Unitary Boundary
- Statutory Designations**
- Site of Special Scientific Interest
  - Special Area of Conservation
  - Special Protection Area
- Non-Statutory Designations**
- Local Wildlife Site
  - Ancient Woodland

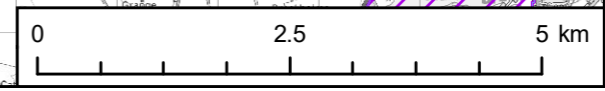


**TITLE**  
**Figure 2-1**  
**Statutory and Non-Statutory Designations**

**REFERENCE**  
SEGL2\_T\_PEA\_2-1\_v1\_20211220

**SHEET NUMBER** 1 of 3 **DATE** 20/12/2021

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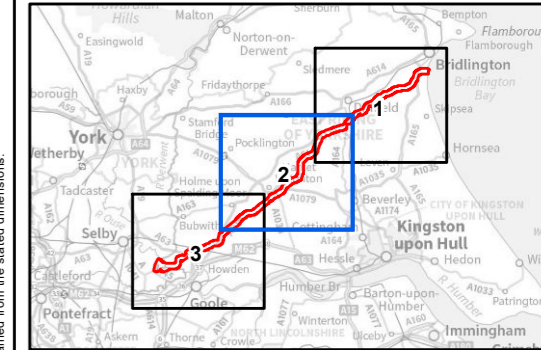
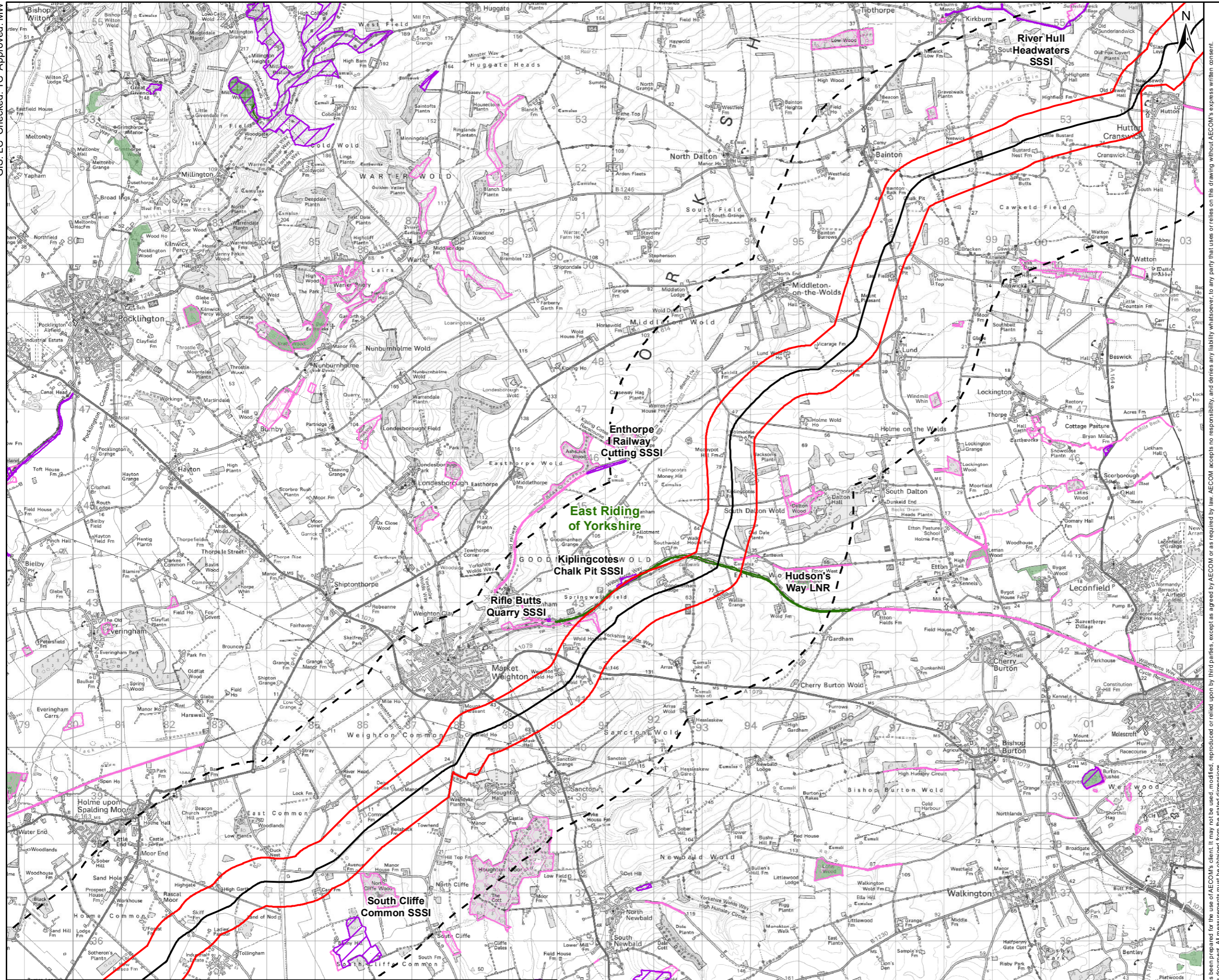


Scale @ A3 1:75,000

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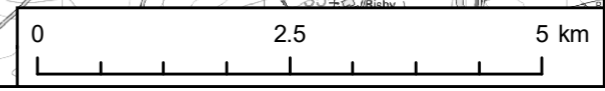
**PROJECT**  
Scotland England Green Link 2

- KEY**
- English Onshore Scheme Scoping Boundary
  - Preliminary DC Cable Route
  - 2km Study Area
  - Site of Special Scientific Interest
  - Local Nature Reserve
  - Non-Statutory Designations
  - Local Wildlife Site
  - Ancient Woodland



**TITLE**  
Figure 2-1  
Statutory and Non-Statutory Designations

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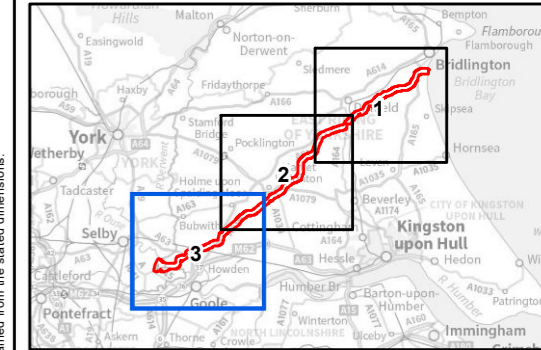
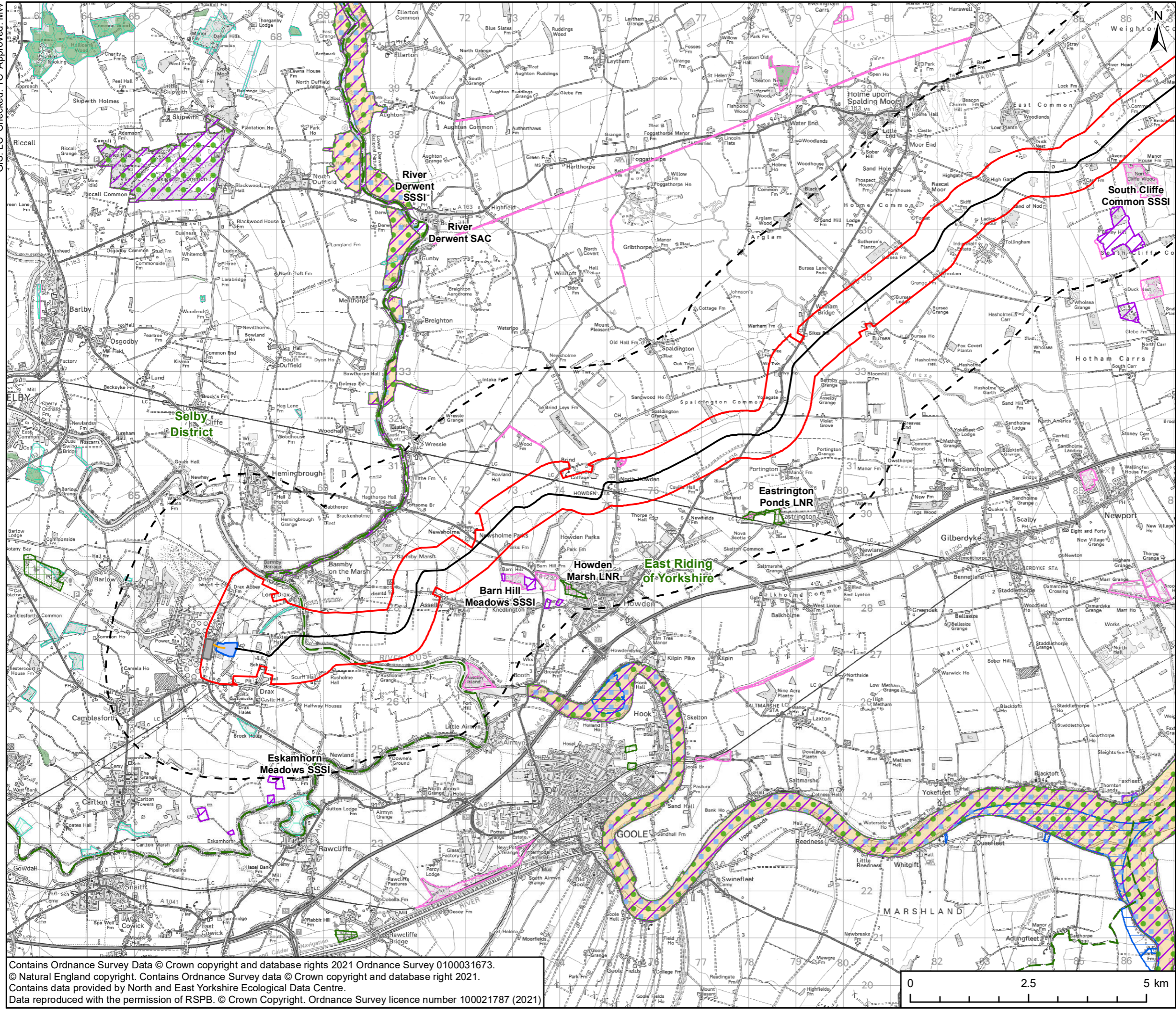


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**PROJECT**  
Scotland England Green Link 2

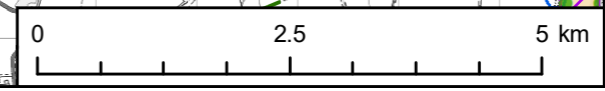
- KEY**
- English Onshore Scheme Scoping Boundary
  - Preliminary DC Cable Route
  - Preliminary AC Cable Route
  - Proposed Converter Station Location
  - Existing Drax 400kV Substation
  - 2km Study Area
  - District Borough Unitary Boundary
- Statutory Designations**
- Site of Special Scientific Interest
  - Ramsar
  - Special Area of Conservation
  - Special Protection Area
  - Local Nature Reserve
- Non-Statutory Designations**
- Local Wildlife Site
  - Site of Importance for Nature Conservation
  - RSPB Nature Reserve
  - Ancient Woodland



**TITLE**  
Figure 2-1  
Statutory and Non-Statutory Designations

**REFERENCE**  
SEGL2\_T\_PEA\_2-1\_v1\_20211220

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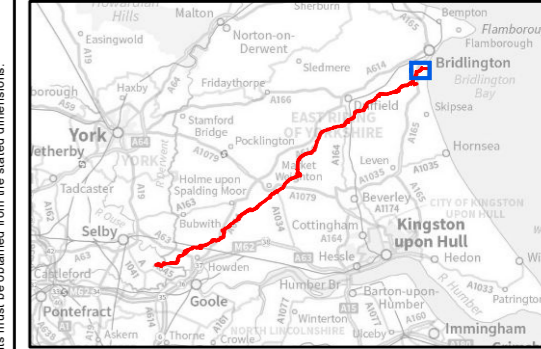
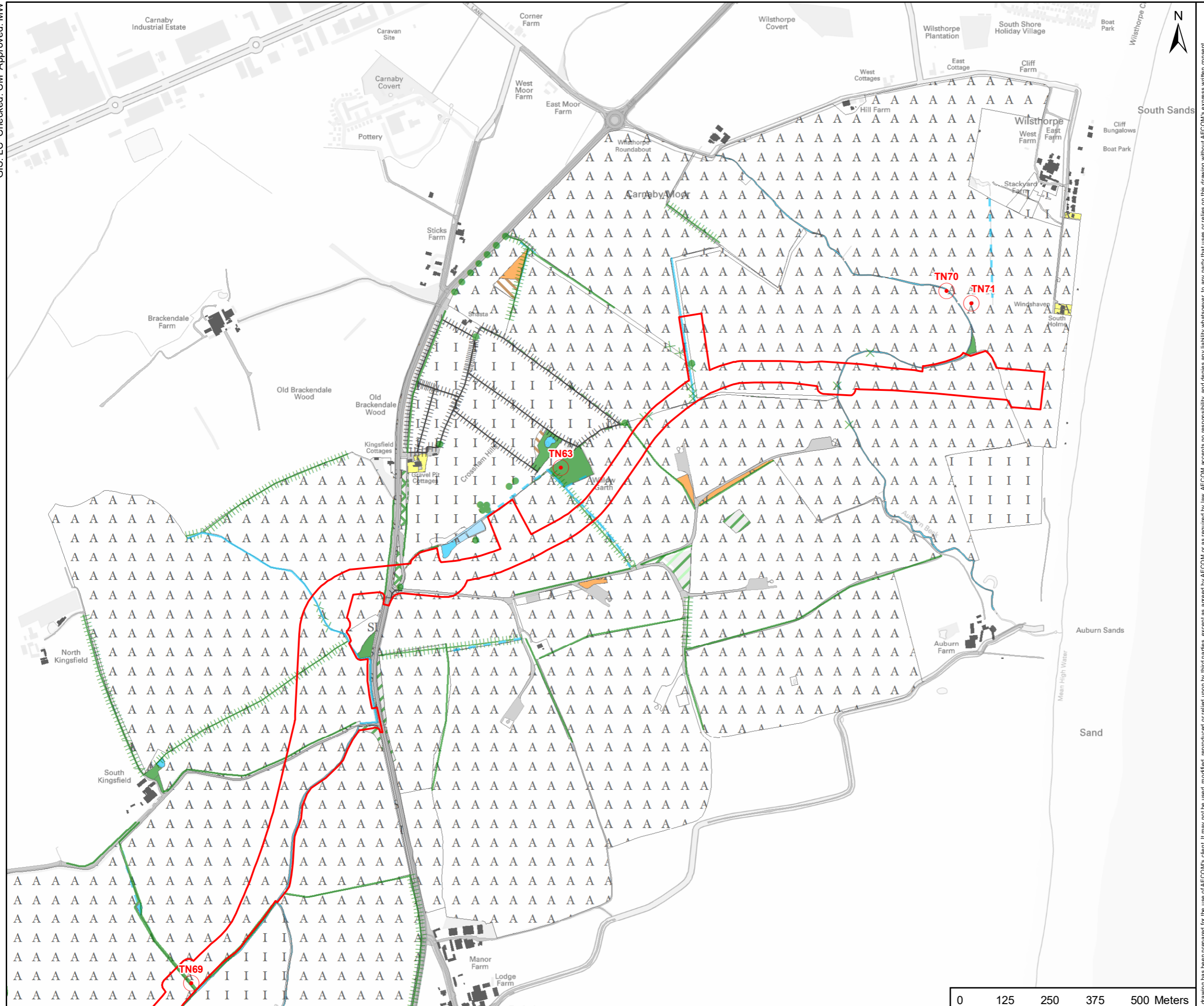


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**PROJECT**  
**Scotland England Green Link 2**

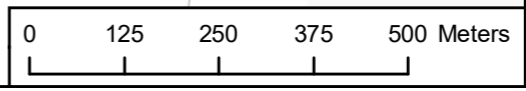
- KEY**
- Indicative Planning Application Boundary
  - Target Note
  - × A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - X X X A2.2 - Scrub - scattered
  - ● ● A3.1 - Broadleaved parkland/scattered trees
  - G2 - Running water
  - J2.1.2 - Intact hedge - species-poor
  - - - J2.2.2 - Defunct hedge - species-poor
  - ||||| J2.3.2 - Hedge with trees - species-poor
  - ||||| J2.4 - Fence
  - - - J2.6 - Dry ditch
  - A1.1.1 - Broadleaved woodland - semi-natural
  - ▨ A1.1.2 - Broadleaved woodland - plantation
  - ▨ A1.3.2 - Mixed woodland - plantation
  - X X X A2.1 - Scrub - dense/continuous
  - B2.1 - Neutral grassland - unimproved
  - S B2.2 - Neutral grassland - semi-improved
  - I B4 - Improved grassland
  - I B6 - Poor semi-improved grassland
  - ▨ C3.1 - Other tall herb and fern - ruderal
  - F1 - Swamp
  - G1 - Standing water
  - M G1.2 - Standing water - mesotrophic
  - G2 - Running water
  - A J1.1 - Cultivated/disturbed land - arable
  - A J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - Z99 - Hardstanding



**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

**REFERENCE**  
SEGL2\_T\_GCN\_3-1\_v2\_2022010

**SHEET NUMBER** 1 of 21  
**DATE** 10/02/2022



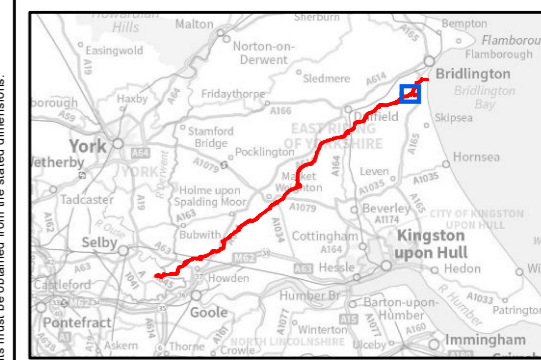
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**PROJECT**  
**Scotland England Green Link 2**

**KEY**

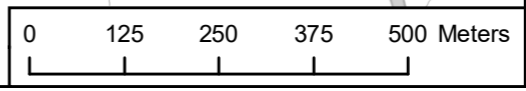
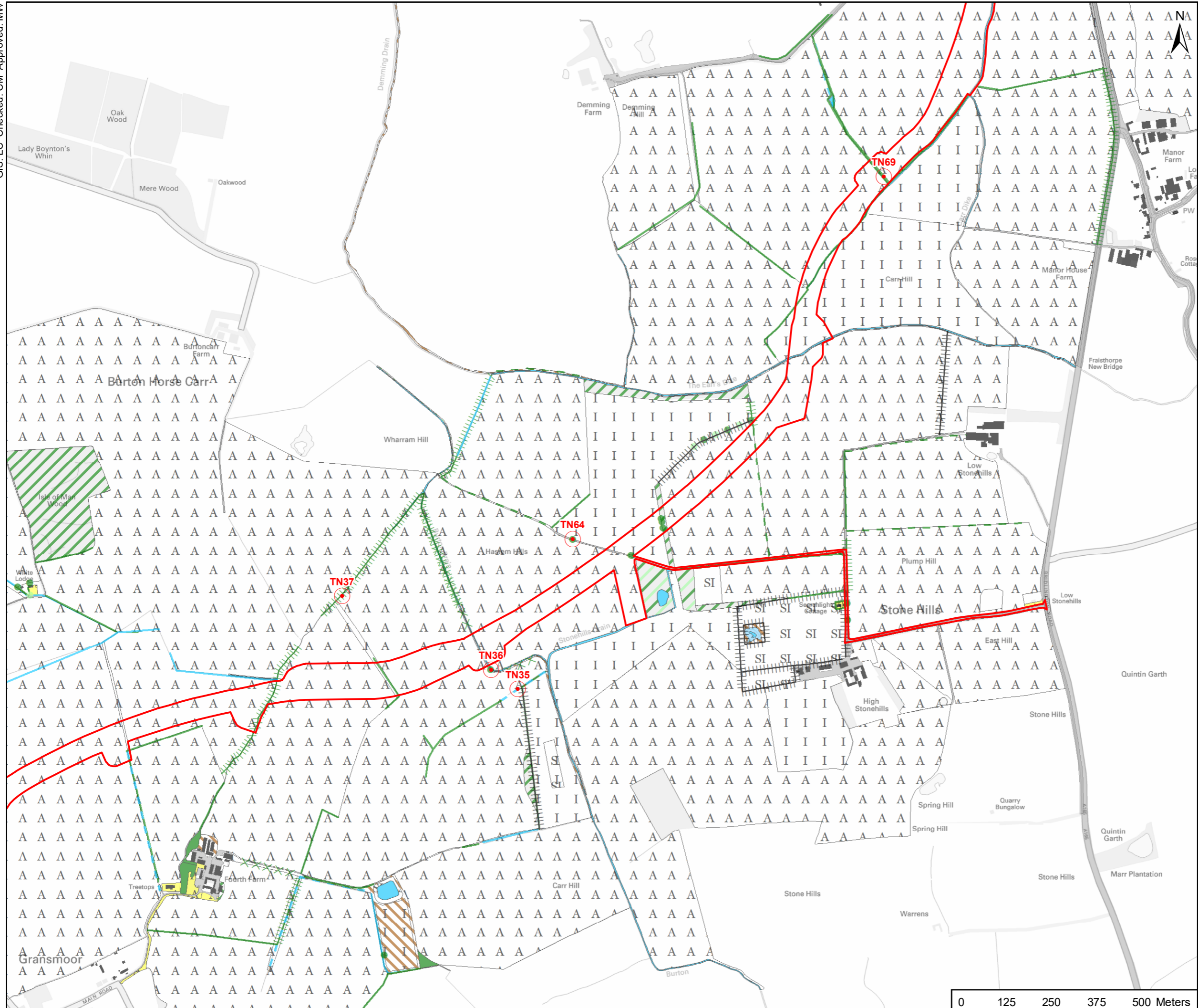
- Indicative Planning Application Boundary
- Target Note
- A3.1 - Broadleaved parkland/scattered trees
- X A2.2 - Scrub - scattered
- A3.1 - Broadleaved parkland/scattered trees
- A3.2 - Coniferous parkland/scattered trees
- A3.3 - Mixed parkland/scattered trees
- G2 - Running water
- J2.1.2 - Intact hedge - species-poor
- - J2.2.2 - Defunct hedge - species-poor
- |||| J2.3.2 - Hedge with trees - species-poor
- |||| J2.4 - Fence
- - J2.6 - Dry ditch
- A1.1.1 - Broadleaved woodland - semi-natural
- / / A1.1.2 - Broadleaved woodland - plantation
- \ \ A1.3.2 - Mixed woodland - plantation
- X X A2.1 - Scrub - dense/continuous
- B4 - Improved grassland
- B6 - Poor semi-improved grassland
- C3.1 - Other tall herb and fern - ruderal
- F1 - Swamp
- G1 - Standing water
- G2 - Running water
- E G2.1 - Running water - eutrophic
- A J1.1 - Cultivated/disturbed land - arable
- A J1.2 - Cultivated/disturbed land - amenity grassland
- J3.6 - Buildings
- J4 - Bare ground
- Z99 - Hardstanding



**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

**REFERENCE**  
SEGL2\_T\_GCN\_3-1\_v2\_2022010

**SHEET NUMBER** 2 of 21  
**DATE** 10/02/2022

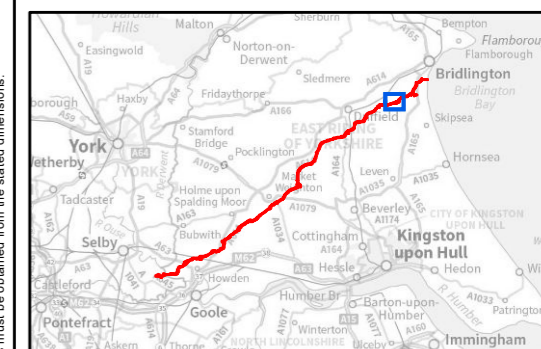


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**PROJECT**  
**Scotland England Green Link 2**

- KEY**
- Indicative Planning Application Boundary
  - Target Note
  - X A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - X X X A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - A3.2 - Coniferous parkland/scattered trees
  - G2 - Running water
  - V V V J2.1.1 - Intact hedge - native species-rich
  - J2.1.2 - Intact hedge - species-poor
  - - - J2.2.2 - Defunct hedge - species-poor
  - V V V V J2.3.1 - Hedge with trees - native species-rich
  - H H H H J2.3.2 - Hedge with trees - species-poor
  - H H H H J2.4 - Fence
  - - - J2.6 - Dry ditch
  - A1.1.1 - Broadleaved woodland - semi-natural
  - ▨ A1.1.2 - Broadleaved woodland - plantation
  - ▨ A1.2.2 - Coniferous woodland - plantation
  - ▨ A1.3.2 - Mixed woodland - plantation
  - X X A2.1 - Scrub - dense/continuous
  - B2.2 - Neutral grassland - semi-improved
  - B4 - Improved grassland
  - B6 - Poor semi-improved grassland
  - ▨ C3.1 - Other tall herb and fern - ruderal
  - G1 - Standing water
  - G2 - Running water
  - A J1.1 - Cultivated/disturbed land - arable
  - A J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - J4 - Bare ground
  - Z99 - Hardstanding

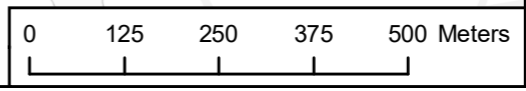
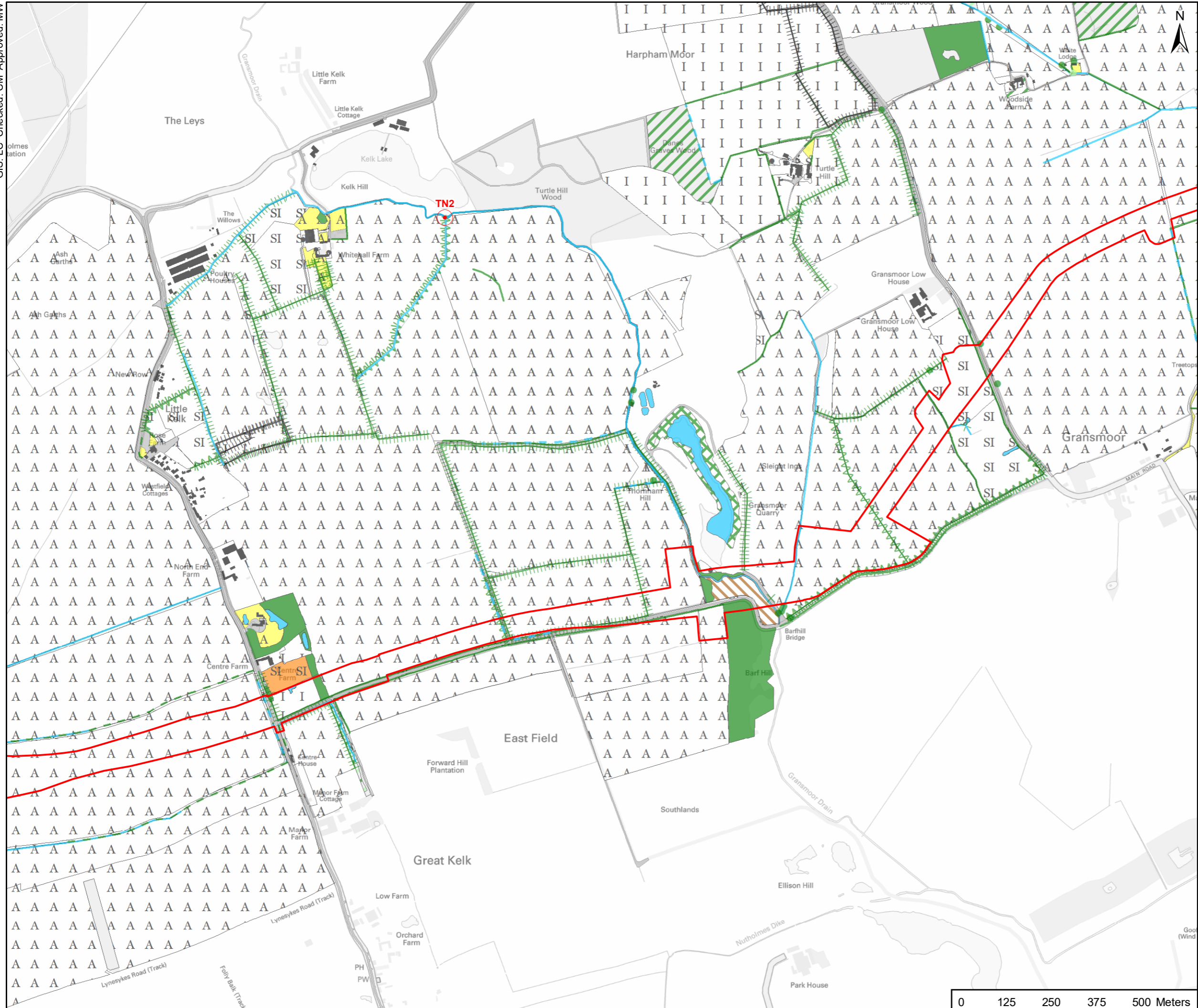


**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

**REFERENCE**  
SEGL2\_T\_GCN\_3-1\_v2\_2022010

**SHEET NUMBER** 3 of 21 **DATE** 10/02/2022

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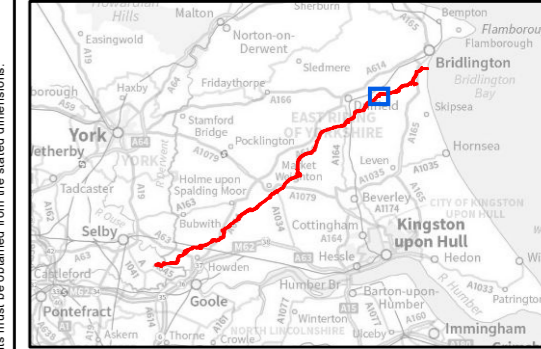
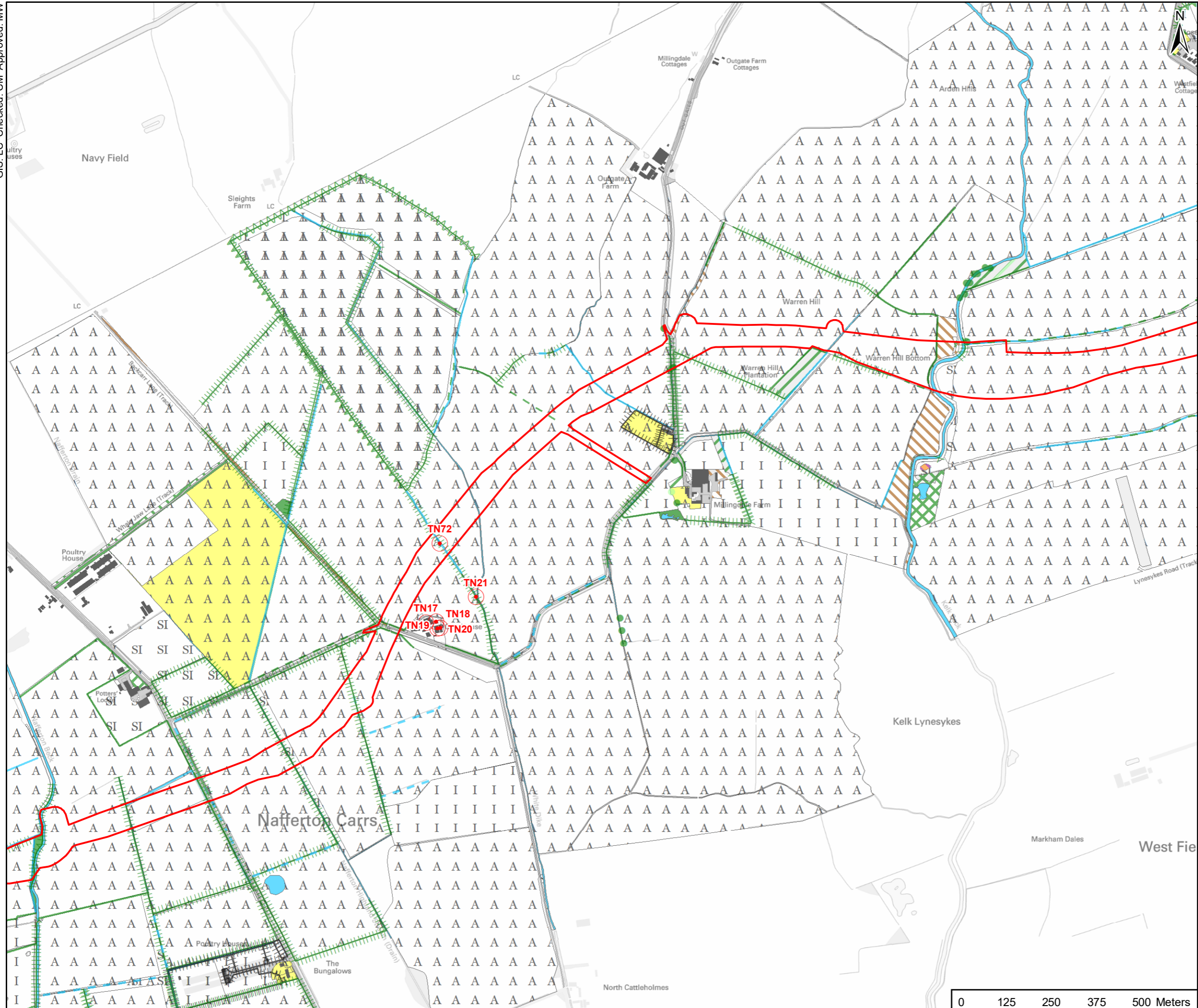
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Coordinate System: British National Grid

Scale @ A3 1:10,000

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**PROJECT**  
**Scotland England Green Link 2**

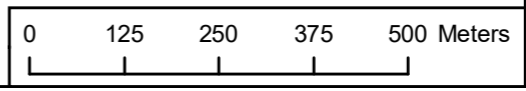
- KEY**
- Indicative Planning Application Boundary
  - Target Note
  - A3.1 - Broadleaved parkland/scattered trees
  - X A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - A3.3 - Mixed parkland/scattered trees
  - G2 - Running water
  - V J2.1.1 - Intact hedge - native species-rich
  - J2.1.2 - Intact hedge - species-poor
  - - J2.2.2 - Defunct hedge - species-poor
  - V J2.3.1 - Hedge with trees - native species-rich
  - |||| J2.3.2 - Hedge with trees - species-poor
  - |||| J2.4 - Fence
  - - J2.6 - Dry ditch
  - A1.1.1 - Broadleaved woodland - semi-natural
  - ▨ A1.1.2 - Broadleaved woodland - plantation
  - ▨ A1.3.2 - Mixed woodland - plantation
  - X A2.1 - Scrub - dense/continuous
  - B4 - Improved grassland
  - B5 - Marsh/marshy grassland
  - B6 - Poor semi-improved grassland
  - C3.1 - Other tall herb and fern - ruderal
  - G1 - Standing water
  - G1.1 - Standing water - eutrophic
  - G2 - Running water
  - A J1.1 - Cultivated/disturbed land - arable
  - A J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - J4 - Bare ground
  - Z99 - Hardstanding



**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

**REFERENCE**  
SEGL2\_T\_GCN\_3-1\_v2\_2022010

**SHEET NUMBER** 4 of 21  
**DATE** 10/02/2022



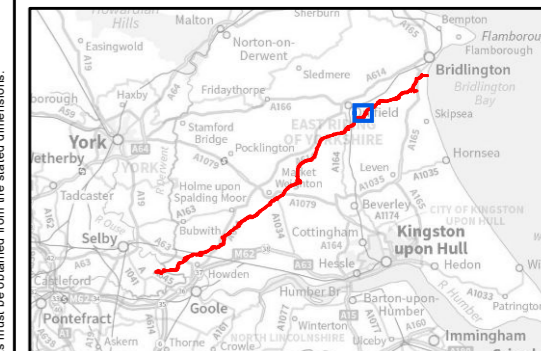
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**PROJECT**  
**Scotland England Green Link 2**

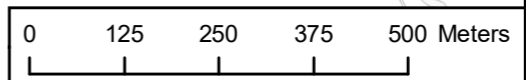
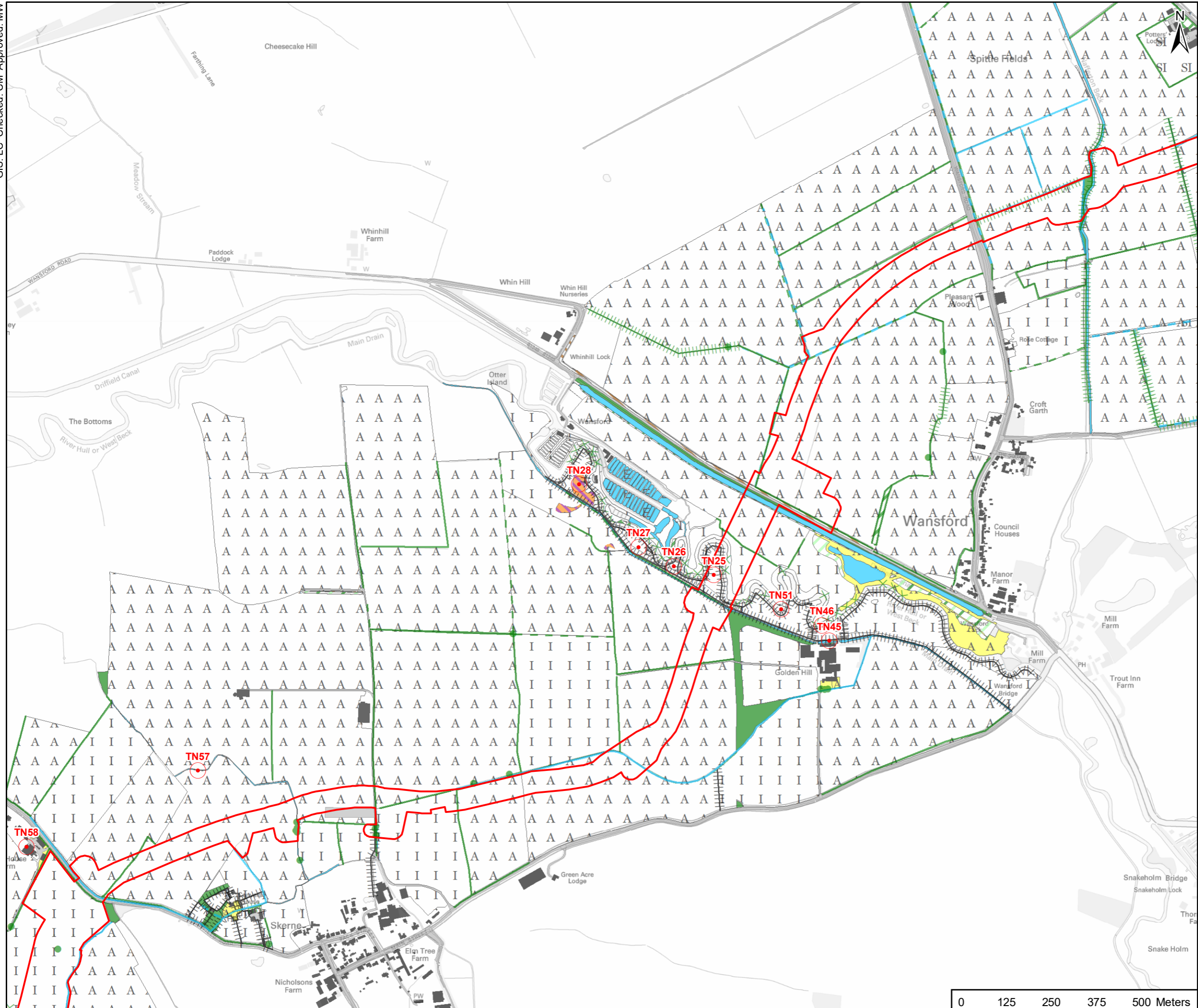
- KEY**
- Indicative Planning Application
  - Target Note
  - A3.1 - Broadleaved parkland/scattered trees
  - X X A2.2 - Scrub - scattered
  - G2 - Running water
  - J2.1.2 - Intact hedge - species-poor
  - - J2.2.2 - Defunct hedge - species-poor
  - |||| J2.3.2 - Hedge with trees - species-poor
  - |||| J2.4 - Fence
  - - J2.6 - Dry ditch
  - A1.1.1 - Broadleaved woodland - semi-natural
  - ▨ A1.1.2 - Broadleaved woodland - plantation
  - ▨ A1.2.2 - Coniferous woodland - plantation
  - ▨ A1.3.2 - Mixed woodland - plantation
  - X X A2.1 - Scrub - dense/continuous
  - B4 - Improved grassland
  - B5 - Marsh/marshy grassland
  - B6 - Poor semi-improved grassland
  - C3.1 - Other tall herb and fern - ruderal
  - G1 - Standing water
  - G1.1 - Standing water - eutrophic
  - G2 - Running water
  - J1.1 - Cultivated/disturbed land - arable
  - J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - J4 - Bare ground
  - Z99 - Hardstanding



**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

**REFERENCE**  
SEGL2\_T\_GCN\_3-1\_v2\_20220210

**SHEET NUMBER** 5 of 21 **DATE** 10/02/2022

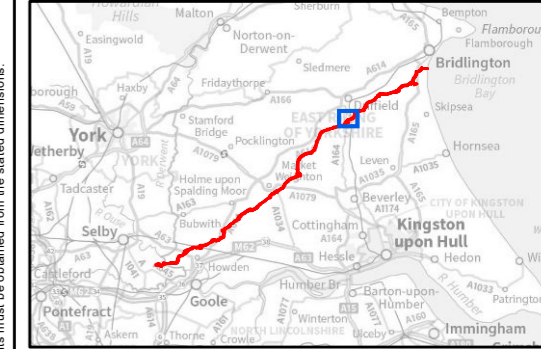


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**PROJECT**  
Scotland England Green Link 2

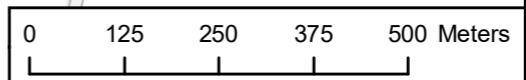
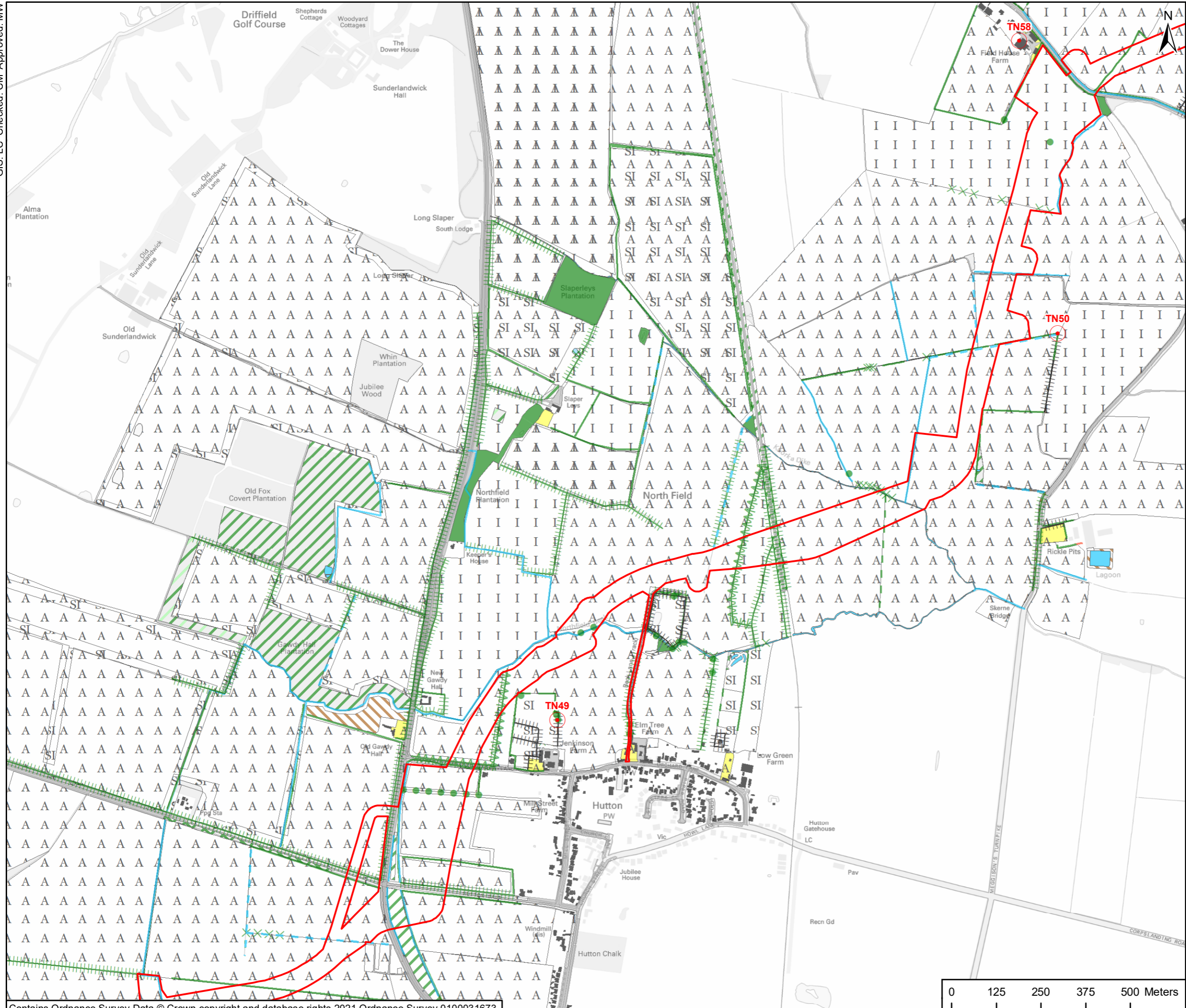
- KEY**
- Indicative Planning Application
  - Target Note
  - × A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - ××× A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - G2 - Running water
  - J2.1.2 - Intact hedge - species-poor
  - - - J2.2.2 - Defunct hedge - species-poor
  - | | | | J2.3.1 - Hedge with trees - native species-rich
  - | | | | J2.3.2 - Hedge with trees - species-poor
  - | | | | J2.4 - Fence
  - J2.5 - Wall
  - - - J2.6 - Dry ditch
  - A1.1.1 - Broadleaved woodland - semi-natural
  - ▨ A1.1.2 - Broadleaved woodland - plantation
  - ▧ A1.3.2 - Mixed woodland - plantation
  - ×× A2.1 - Scrub - dense/continuous
  - × A2.2 - Scrub - scattered
  - B2.2 - Neutral grassland - semi-improved
  - | | B4 - Improved grassland
  - | | B6 - Poor semi-improved grassland
  - ▨ C3.1 - Other tall herb and fern - ruderal
  - F1 - Swamp
  - G1 - Standing water
  - G1.1 - Standing water - eutrophic
  - G2 - Running water
  - J1.1 - Cultivated/disturbed land - arable
  - J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - J4 - Bare ground
  - Z99 - Hardstanding



**TITLE**  
Figure2-2  
Phase 1 Habitat Survey

**REFERENCE**  
SEGL2\_T\_GCN\_3-1\_v2\_20220210

**SHEET NUMBER** 6 of 21 **DATE** 10/02/2022



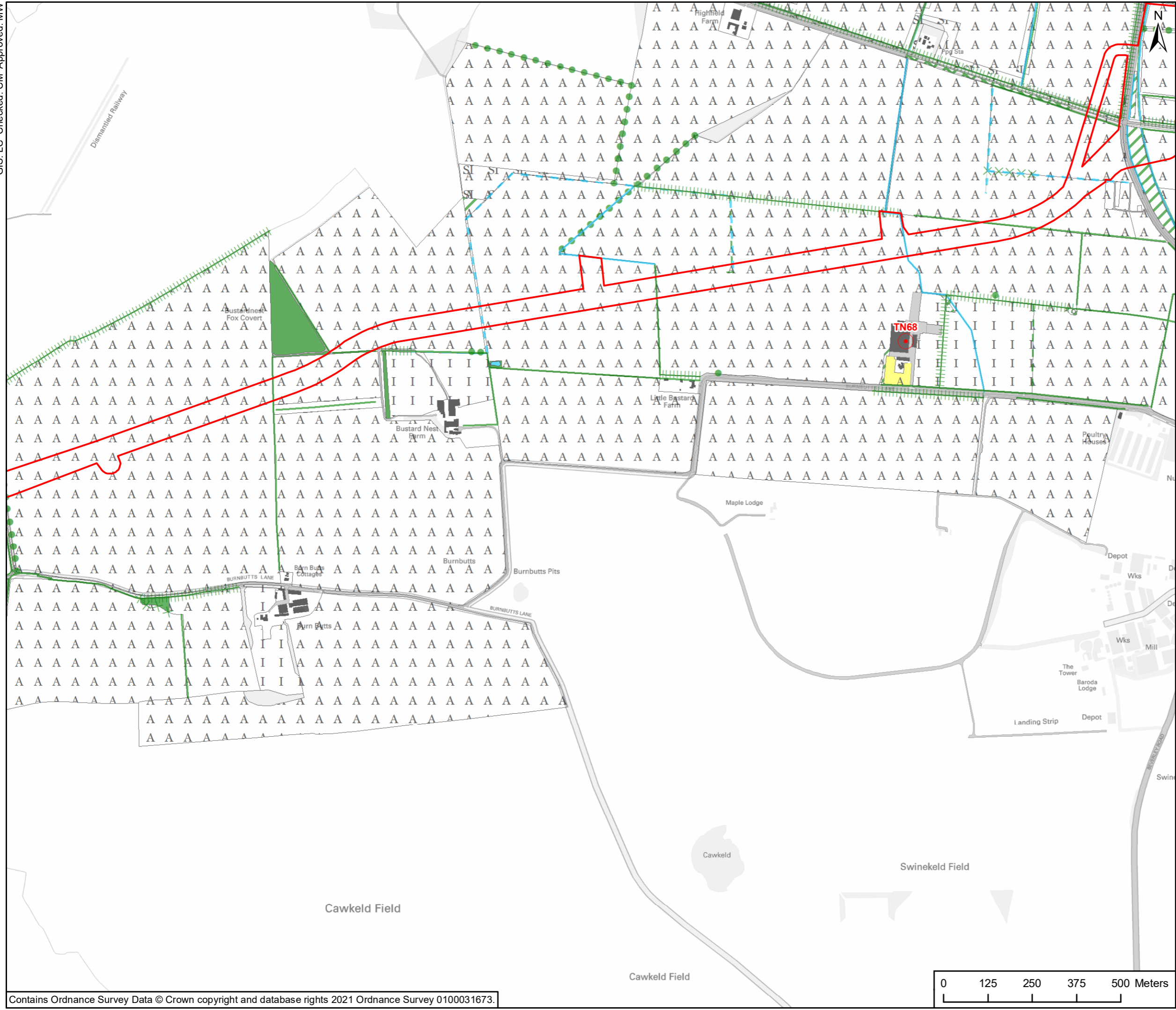
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GIS: LC Checked: CM Approved: MW

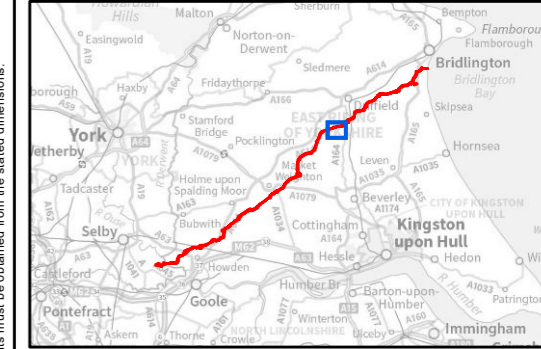
**PROJECT**  
**Scotland England Green Link 2**

- KEY**
- Indicative Planning Application
  - Target Note
  - A3.1 - Broadleaved parkland/scattered trees
  - X A2.2 - Scrub - scattered
  - A3.1 - Broadleaved parkland/scattered trees
  - G2 - Running water
  - J2.1.2 - Intact hedge - species-poor
  - - J2.2.2 - Defunct hedge - species-poor
  - |||| J2.3.2 - Hedge with trees - species-poor
  - - J2.6 - Dry ditch
  - A1.1.1 - Broadleaved woodland - semi-natural
  - ▨ A1.1.2 - Broadleaved woodland - plantation
  - ▩ A2.1 - Scrub - dense/continuous
  - B2.2 - Neutral grassland - semi-improved
  - B4 - Improved grassland
  - B6 - Poor semi-improved grassland
  - G1 - Standing water
  - J1.1 - Cultivated/disturbed land - arable
  - J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - Z99 - Hardstanding

GIS: LC Checked: CM Approved: MW



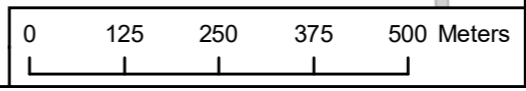
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**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

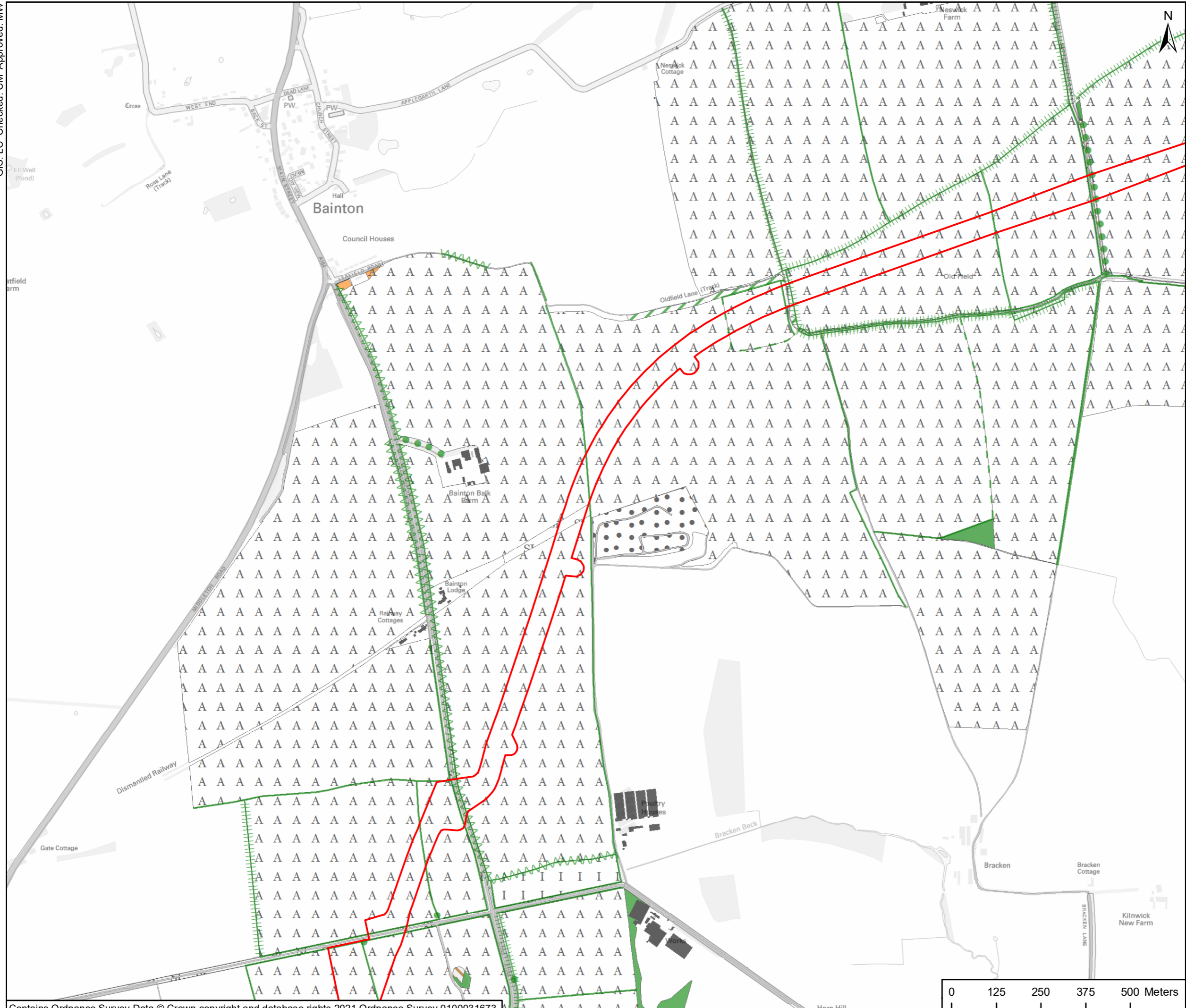
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**SHEET NUMBER** 7 of 21 **DATE** 10/02/2022

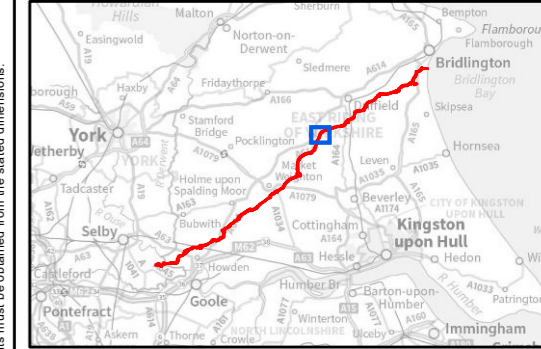


**PROJECT**  
**Scotland England Green Link 2**

- KEY**
- Indicative Planning Application
  - A3.1 - Broadleaved parkland/scattered trees
  - A3.1 - Broadleaved parkland/scattered trees
  - J2.1.1 - Intact hedge - native species-rich
  - J2.1.2 - Intact hedge - species-poor
  - J2.2.2 - Defunct hedge - species-poor
  - J2.3.2 - Hedge with trees - species-poor
  - A1.1.1 - Broadleaved woodland - semi-natural
  - A1.1.2 - Broadleaved woodland - plantation
  - B2.1 - Neutral grassland - unimproved
  - B4 - Improved grassland
  - B6 - Poor semi-improved grassland
  - C3.1 - Other tall herb and fern - ruderal
  - J1.1 - Cultivated/disturbed land - arable
  - J3.6 - Buildings
  - J4 - Bare ground
  - Z99 - Hardstanding



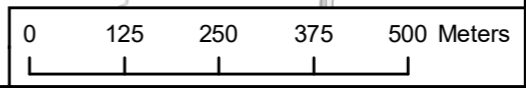
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**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

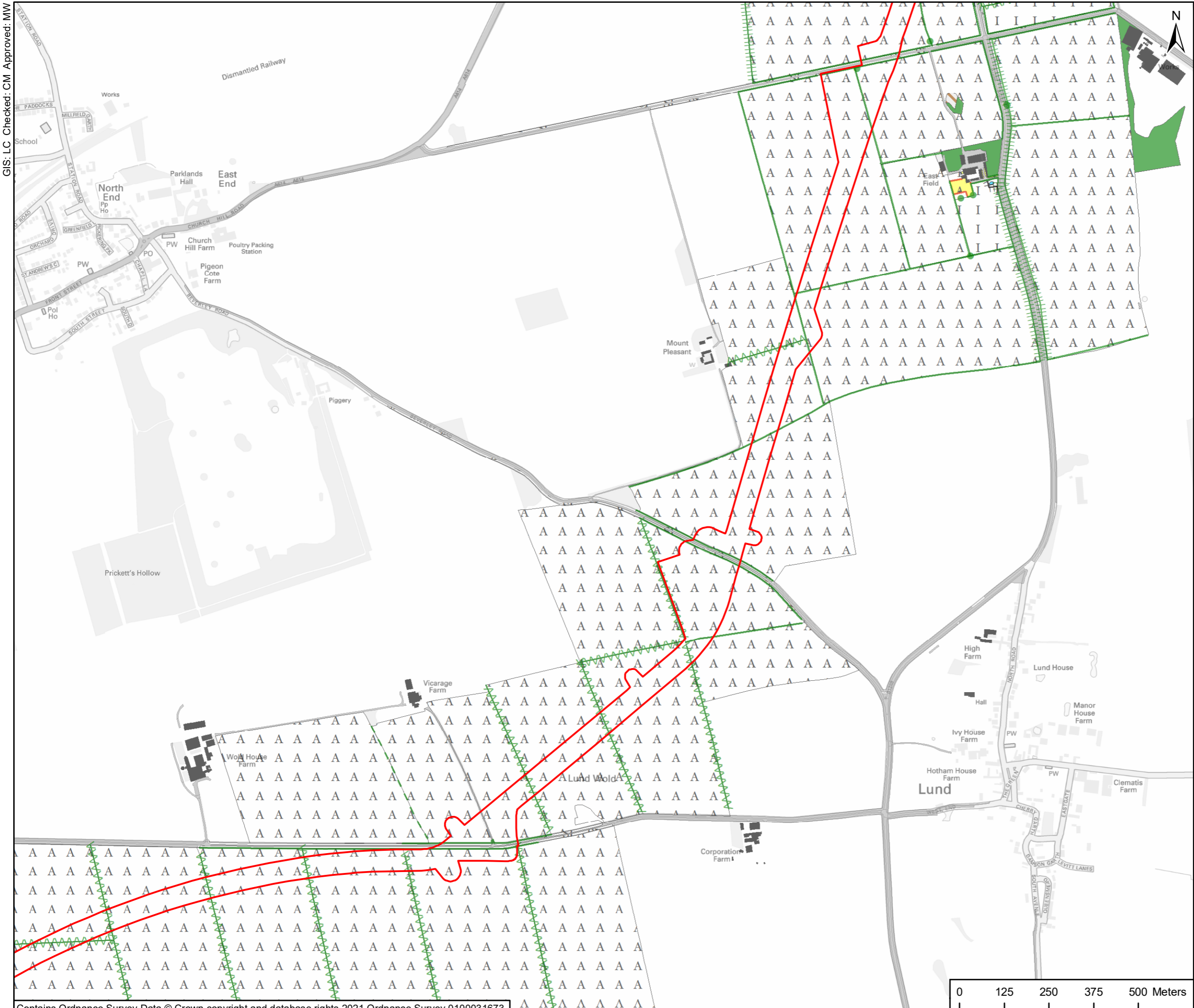
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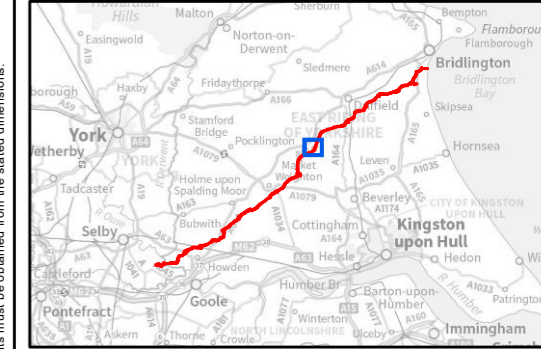


**PROJECT**  
**Scotland England Green Link 2**

- KEY**
- Indicative Planning Application Boundary
  - A3.1 - Broadleaved parkland/scattered trees
  - A3.1 - Broadleaved parkland/scattered trees
  - AAA J2.1.1 - Intact hedge - native species-rich
  - J2.1.2 - Intact hedge - species-poor
  - J2.2.2 - Defunct hedge - species-poor
  - ||||| J2.3.2 - Hedge with trees - species-poor
  - ||||| J2.4 - Fence
  - J2.5 - Wall
  - A1.1.1 - Broadleaved woodland - semi-natural
  - B4 - Improved grassland
  - B6 - Poor semi-improved grassland
  - C3.1 - Other tall herb and fern - ruderal
  - G1 - Standing water
  - J1.1 - Cultivated/disturbed land - arable
  - J1.2 - Cultivated/disturbed land - amenity grassland
  - J3.6 - Buildings
  - Z99 - Hardstanding



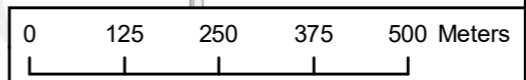
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**TITLE**  
**Figure2-2**  
**Phase 1 Habitat Survey**

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Coordinate System: British National Grid

Scale @ A3 1:10,000

GIS: LC Checked: CM Approved: MW