

Great North Road Solar and Biodiversity Park

Environmental Statement

Volume 4 – Technical Appendices

Technical Appendix A8.2 – Ecology and Biodiversity Designated Sites
Baseline

Document reference – EN010162/APP/6.4.8.2

Revision number 1

June 2025

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009, APFP Regulation 5(2)(a)

Contents

A8.2.1 Introduction	2
A8.2.1.1 Introduction	2
A8.2.1.2 Aims and Objectives	2
A8.2.2 Methods	2
A8.2.2.1 Statutory Designated Sites.....	2
A8.2.2.2 Non-Statutory Designated Sites	3
A8.2.3 Results	3
A8.2.3.1 Statutory Designated Sites.....	3
A8.2.3.3 Non-Statutory Designated Sites	6
Appendix A – Figures	16

A8.2.1 INTRODUCTION

A8.2.1.1 INTRODUCTION

- 1 This Technical Appendix (TA) of the Environmental Statement (ES) presents the methods and results of a desk study about designated sites of nature conservation value in relation to the Great North Road Solar Park (the Development). The scope of the desk study was determined through a combination of professional judgement and prevailing good practice¹.
- 2 This TA includes no valuation or assessment of potential effects. These aspects are presented in the ES Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8].
- 3 This TA is supported by the following appendices:
 - Appendix A: Figures

A8.2.1.2 AIMS AND OBJECTIVES

- 4 The aim of the desk study was to obtain pre-existing data to help understand the effects of the Development on designated sites. The desk study provided data which helped to:
 - Inform the scope of baseline studies;
 - Contextualise survey findings; and
 - Identify features not otherwise identifiable by survey.

A8.2.2 METHODS

- 5 The Study Areas for designated sites, defined in the sections below, are based on the maximum distances over which there could be potential functional links and significant effect pathways (i.e., the Zone of Influence of the Development) for highly mobile or sensitive qualifying and notified features of the designated sites.

A8.2.2.1 STATUTORY DESIGNATED SITES

- 6 Searches of MAGIC² and the Natural England Open Data Geoportal³ have been undertaken to identify statutory designated sites as set out below.
- 7 'International Sites' within 30 km of the Order Limits (OL):
 - Special Areas of Conservation (SAC) (including possible sites, pSAC);
 - Special Protection Areas (SPA) (including potential sites, pSPA, and possible pSPA, ppSPA); and
 - Ramsar sites (including proposed sites, pRamsar).
- 8 'National Sites' within 5 km of the Order Limits:
 - Sites of Special Scientific Interest (SSSI);
 - National Nature Reserves (NNR); and
 - Local Nature Reserves (LNR).

¹ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal (2nd edition). Chartered Institute of Ecology and Environmental Management, Winchester.

² <https://magic.defra.gov.uk/>

³ <https://naturalengland-defra.opendata.arcgis.com/>

A8.2.2.2 NON-STATUTORY DESIGNATED SITES

- 9 Details of non-statutory sites were requested from Nottinghamshire Biological and Geological Records Centre (in January 2024) as set out below.
- 10 'Local Sites' within 2 km of the Order Limits:
 - Local Wildlife Sites (LWS).

A8.2.3 RESULTS

A8.2.3.1 STATUTORY DESIGNATED SITES

- 11 Table A8.2.1 provides a summary of the statutory designated sites and Figure A8.2.1 shows them in relation to the Order Limits. There are only two International sites within 30 km of the Order Limits, the furthest at 7.0 km, and so Figure A8.2.1 shows only a 10 km radius for ease of reference.
- 12 SSSIs are associated with Impact Risk Zones which help provide an initial assessment of the likely risk of impacts on SSSIs posed by different types of developments. The Order Limits cross several IRZs including two for which 'All Planning Applications' are included as a development category warranting consultation. These IRZs relate to Eakring and Maplebeck Meadows SSSI and Mather Wood SSSI. None of the other IRZs in the Order Limits include 'Wind and Solar Energy' as a development category.

Table A8.2.1: Statutory Designated Sites

Site Name	Designation	Distance and Direction from the OL ⁴	Description
<i>International Sites within 30 km of the Order Limits</i>			
Birklands and Bilhaugh	SAC	7.0 km NW	The most northerly site for old acidophilous oak woods. Smaller areas of dry heath. Habitats support rich invertebrate and fungal assemblages. Annex I habitats that are a primary reason for selection: old acidophilous oak woods. Sherwood Forest National Nature Reserve (NNR) overlaps the Bilhaugh SAC.
Sherwood Forest	ppSPA	4.5 km W & NW	'Possible' pSPA for nightjar and woodlark. Figure shows the maximum extent of the possible area ⁵ .

⁴ At closest point

⁵ Natural England (2024) Advice Note to Local Planning Authorities regarding the consideration of likely effects on the breeding population of nightjar and woodlark in the Sherwood Forest region.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
<i>National Sites within 5 km of the Order Limits</i>			
Eakring and Maplebeck Meadows	SSSI	Bordering	Species-rich neutral grassland. Supports a notable breeding bird assemblage. Also a Nottinghamshire Wildlife Trust (NWT) Nature Reserve.
Mather Wood	SSSI	<0.1 km S	Semi-natural ash-oak-maple woodland.
Laxton Sykes	SSSI	0.3 km NW	Traditional (hay and occasional grazing) species-rich neutral grasslands.
Redgate Woods and Mansey Common	SSSI	0.5 km W	Semi-natural ash-elm woodland and species-rich neutral grassland. Also includes two NWT reserves.
Roe Wood	SSSI	1.0 km WSW	Semi-natural broadleaved woodland.
Besthorpe Meadows	SSSI	2.4 km E	Unimproved alluvial grasslands within the floodplain of the River Trent.
Wellow Park	SSSI	3.7 km NW	Largest remaining example of semi-natural ash-wych elm woodland in Nottinghamshire.
Besthorpe Warren	SSSI	3.6 km NE	Mosaic of dry acid grassland vegetation including nationally uncommon types of parched acid grassland and an inland example of dune grassland.
Kirton Wood, Notts	SSSI	4.2 km NNW	Semi-natural ash-wych elm woodland. Also a NWT nature reserve.
<i>Local Sites within 5 km of the Order Limits</i>			
Farndon Ponds	LNR	1.5 km S	Large pond and surrounds supporting a range of aquatic and terrestrial species.
Southwell Trail	LNR	2.2 km SW	Typical habitats include scrub woodland, gorse

Site Name	Designation	Distance and Direction from the OL ⁴	Description
			scrub, acid and neutral grassland. Supports a diverse breeding bird assemblage, common lizard and a variety of butterflies.
Devon Park Pastures	LNR	3.0 km SE	A range of habitats including grassland, marginal river vegetation and an area of deciduous woodland.
Rufford Country Park	LNR	3.6 km NW	A range of aquatic, emergent and marginal species as well as semi-improved grassland, unimproved grassland, secondary mixed deciduous woodland, a small area of yew wood, immature planted areas and mature individual trees.

A8.2.3.3 NON-STATUTORY DESIGNATED SITES

¹³ Table A8.2.2 provides a summary of the non-statutory designated sites and Figure A8.2.2 shows them in relation to the Order Limits.

Table A8.2.2: Non-statutory Designated Sites

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Carlton Wood	LWS	Bordering/ Onsite	A mature, mainly deciduous, plantation on a historical woodland site with a number of fungi species.
Hagley's Plantation	LWS	Bordering/ Onsite	A mature broadleaved wood of some botanical value, providing habitat for woodland birds and mammals.
Lake Plantation	LWS	Onsite	A mature broadleaved plantation around Ossington Lake.
Kneesall Dumble	LWS	Onsite	A section of wooded dumble of botanical note.
Kneesall Green Verge	LWS	Bordering/ Onsite	A herb-rich grassland community on a damp roadside verge.
Maplebeck Viewpoint Verges	LWS	Onsite	A verge with notable flora.
Moorhouse Lane Drain	LWS	Onsite	A drain with a notable plant community.
Wood Lane Grassland	LWS	Onsite	A notable neutral grassland with valuable scrub community.
Cheveral Wood	LWS	Bordering	A sizeable mature deciduous woodland with varied flora and a pond supporting amphibians.
Eakring Meadows	LWS	Bordering	An important sequence of wet meadows and scrub of considerable botanical interest.
High Wood, Laxton	LWS	Bordering	An old woodland site containing a notable remnant ground flora.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Laxton Wood Roadside Verge	LWS	Bordering	An interesting verge with an unusual mixture of woodland and grassland herbs.
Muskham Wood	LWS	Bordering	Strip of deciduous woodland dominated by ash, with a number of plant species indicative of ancient woodland.
North Wood	LWS	Bordering	A rather disturbed but notable mature deciduous woodland.
River Trent – Kelham	LWS	Bordering	A section of the River Trent of interest for water beetles.
Spring Wood, Kelham	LWS	Bordering	A characteristic Mercia Mudstone woodland with a diverse ground flora.
Coppice, Mather & Lady Woods	LWS	< 0.1 km S	A rich and varied deciduous woodland on damp clay soils of botanical and zoological interest.
Goosemoor Dyke	LWS	< 0.1 km N	A stream of interest for Water beetles.
Kersall Grassland	LWS	< 0.1 km W	A damp grassland with characteristic species.
Kelham Hills	LWS	< 0.1 km E	A predominantly mature, deciduous woodland, largely of zoological interest.
Kneesall Wood	LWS	< 0.1 km NW	A large area of mostly semi-natural broadleaved woodland.
Laxton Wood	LWS	< 0.1 km N	A mature deciduous site, majority broadleaved, with a variety of ground flora.
Laxton Middle Wood	LWS	< 0.1 km N	A sizeable area of mostly deciduous woodland.
Mainwood Farm Arable	LWS	< 0.1 km E	A field supporting the notable and scarce arable weed shepherd's needle.
Ossington Airfield	LWS	< 0.1 km SE	Arable land with a weed flora including a rare species.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Ossington Lake	LWS	< 0.1 km E	A lake with a notable wetland flora.
Kelham Trent and Island	LWS	< 0.1 km S	A valuable community of scrub, ruderals and notable gravel colonists on a Trent river island.
Lady Wood	LWS	< 0.1 km N	A woodland with botanically diverse communities.
Hunt's Meadow	LWS	< 0.1 km NW	A species-rich damp meadow.
Kelham Pool	LWS	0.1 km SE	A seasonal pool of interest for Water Beetles and Water Bugs.
Ollerton Road Grasslands	LWS	1.0 km E	Notable neutral grassland on a slope.
Beesthorpe Plantation	LWS	0.3 km SE	A small area of semi-natural deciduous woodland with a notable ground flora.
Dilliner Wood	LWS	0.3 km SW	An ancient woodland site of some note, with diverse ground flora.
Laxton South Field Sykes	LWS	0.3 km W	Species-rich grassland strips and farm tracks adjoining South Field of botanical and historical significance.
Park Springs Wood	LWS	0.3 km NW	A woodland that retains considerable botanical and zoological interest, especially along its rides.
Brunk Wood	LWS	0.4 km E	A primary woodland site with a typically diverse flora.
Eakring Road Verges Kneesall	LWS	0.4 km NE	A notable neutral grassland and a rich hedgerow.
Hare Hill	LWS	0.4 km N	A valuable woodland site with herb-rich rides.
Choulers Gorse, Kelham	LWS	0.4 km E	A small valley with a mosaic of extensive scrub and species-rich unimproved neutral grassland.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Ossington Green Lane	LWS	0.4 km NE	A notable grassland community along a green lane.
Highland Lane Verges	LWS	0.5 km SW	A notable grassland community on the verges of a farm lane.
Mansey Common	LWS	0.5 km W	An excellent herb-rich grassland with developing scrub.
South Muskham Gravel Pits	LWS	0.5 km SE	An excellent complex of pools, scrub and ruderal habitats among old gravel workings of particular ornithological value.
Spring Farm Pond, Ossington	LWS	0.5 km SW	A pond with aquatic, marginal, scrub and woodland communities.
The Beck – Norwell	LWS	0.5 km S	A stream of interest for water beetles and water bugs.
The Ness Trentside, North Muskham	LWS	0.5 km E	A varied dry grassland community on the Trent floodbank.
Cromwell Pits	LWS	0.7 km NE	Former gravel pits supporting a notable flora.
Norwell Meadows	LWS	0.8 km SE	Species rich-hay meadow.
River Trent Staythorpe	LWS	0.8 km SE	A good representative stretch of the River Trent with broad aquatic margins.
Mill Lane Grassland	LWS	0.6 km W	A horse paddock with a species rich neutral grassland community.
Brunk Wood Grassland	LWS	0.6 km E	An unimproved neutral grassland in a series of fields of varying degrees of improvement.
Mill Lane, Eakring	LWS	0.6 km SW	A species-rich green lane.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Norwell Churchyard	LWS	1.4 km W	Base-rich neutral grassland with notable species.
Staythorpe Drain	LWS	1.1 km SE	A woodside drain supporting notable species.
Egmanton Wood	LWS	0.7 km W	Planted woodland and remnant dumble with a rich and diverse ground flora.
Farndon Gravel Pit and Marina	LWS	1.4 km SE	Mature gravel pits of botanical interest.
Lound Wood	LWS	0.7 km NW	A plantation with relict ancient woodland flora and zoological interest.
Weston Road Verge	LWS	1.4 km E	Species-rich roadside verges in a predominately arable area.
Old Trent Dyke	LWS	0.7 km S	A species-rich aquatic community in a secondary channel of the River Trent.
Cromwell Meadow	LWS	1 km SE	A damp grassland supporting tall herb communities.
River Trent, Holme	LWS	0.7 km SE	A characteristic section of the River Trent.
Broadwaters Wood	LWS	0.8 km W	A characteristic and still mostly deciduous Mercia Mudstone wood.
The Fleet, South Muskham	LWS	0.9 km E	A linear strip of open water and swamp with notable aquatic and emergent plant communities.
Redgate Woods	LWS	0.9 km SW	A substantial area of deciduous woodland with a diverse character and a notable flora.
Worner Wood	LWS	0.9 km NE	A mature deciduous woodland with a characteristic species composition.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Langford Lowfields, Laxton	LWS	1.0 km E	A complex of restored and evolving sand and gravel pits of zoological and botanical note supporting large scale wetland habitats including reedbeds and open water, grassland and woodland. Also a Royal Society for the Protection of Birds (RSPB) Reserve.
East Park Wood, Laxton	LWS	1.0 km W	Plantation on an ancient woodland site with a notable remnant ground and woodland flora.
Greenaway Fishponds	LWS	1.0 km SW	Noteworthy communities of aquatic plants on a series of shallow moats and fish ponds in a grazed pasture.
Kelham Road Redoubt	LWS	1.0 km SE	Civil war redoubt supporting a notable flora.
Mill Hill Green Lane	LWS	1.0 km W	A species-rich green lane.
Eakring North Meadow	LWS	1.0 km NW	A meadow of importance for moths.
Trent West Bank	LWS	1.0 km E	A representative stretch of the River Trent with notable bankside grassland communities and marginal aquatic vegetation.
Roe Wood	LWS	1.0 km SW	A fine example of the central Nottinghamshire woodland series with a very rich woodland flora and fauna.
Long Lane Grassland, Farndon	LWS	2.0 km SE	A good association of common grassland species.
Kelham Hall Shingle Bank	LWS	< 1.0 km S	A point bar in the River Trent with developing scrub and ruderal communities.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Brickyard Plantation, Kneesal	LWS	1.0 km W	A mature deciduous plantation with a species-rich ground flora.
Holme Lane	LWS	1.0 km E	A stock pen supporting the county rare plant Mousetail <i>Myosurus minimus</i> .
Winthorpe Lake	LWS	1.1 km E	A former gravel pit of botanical and zoological note.
North Holme Meadows by Sutton on Trent	LWS	1.1 km E	Species-rich alluvial hay meadows.
Park Wood	LWS	1.1 km E	An old coppice woodland with notable species, with a stream border to the north.
Farndon Willow Holt	LWS	1.2 km SE	An excellent wet woodland plant community.
Kelham Road Redoubt Grassland	LWS	1.2 km SE	Civil war redoubt supporting a range of notable flora.
South Holme Dyke, Sutton on Trent	LWS	1.2 km E	A dyke flowing through a grasslands with rich aquatic and emergent plant communities.
Newark Grassland	LWS	1.3 km SE	Species-rich grassland on river gravel.
Park Wood Meadow	LWS	1.3 km E	A rather coarse but species-rich hay meadow.
Valley Farm Grassland	LWS	1.3 km SE	Damp grassland with notable species.
Moorhouse Lane, Laxton	LWS	1.3 km NW	A roadside verge supporting a base-rich grassland community.
Kneesall Green Lane	LWS	1.4 km NW	A species-rich green lane running into Laxton Mill Field Sykes.
Whitestub Lane	LWS	1.4 km SW	A green lane with a diverse woody flora.

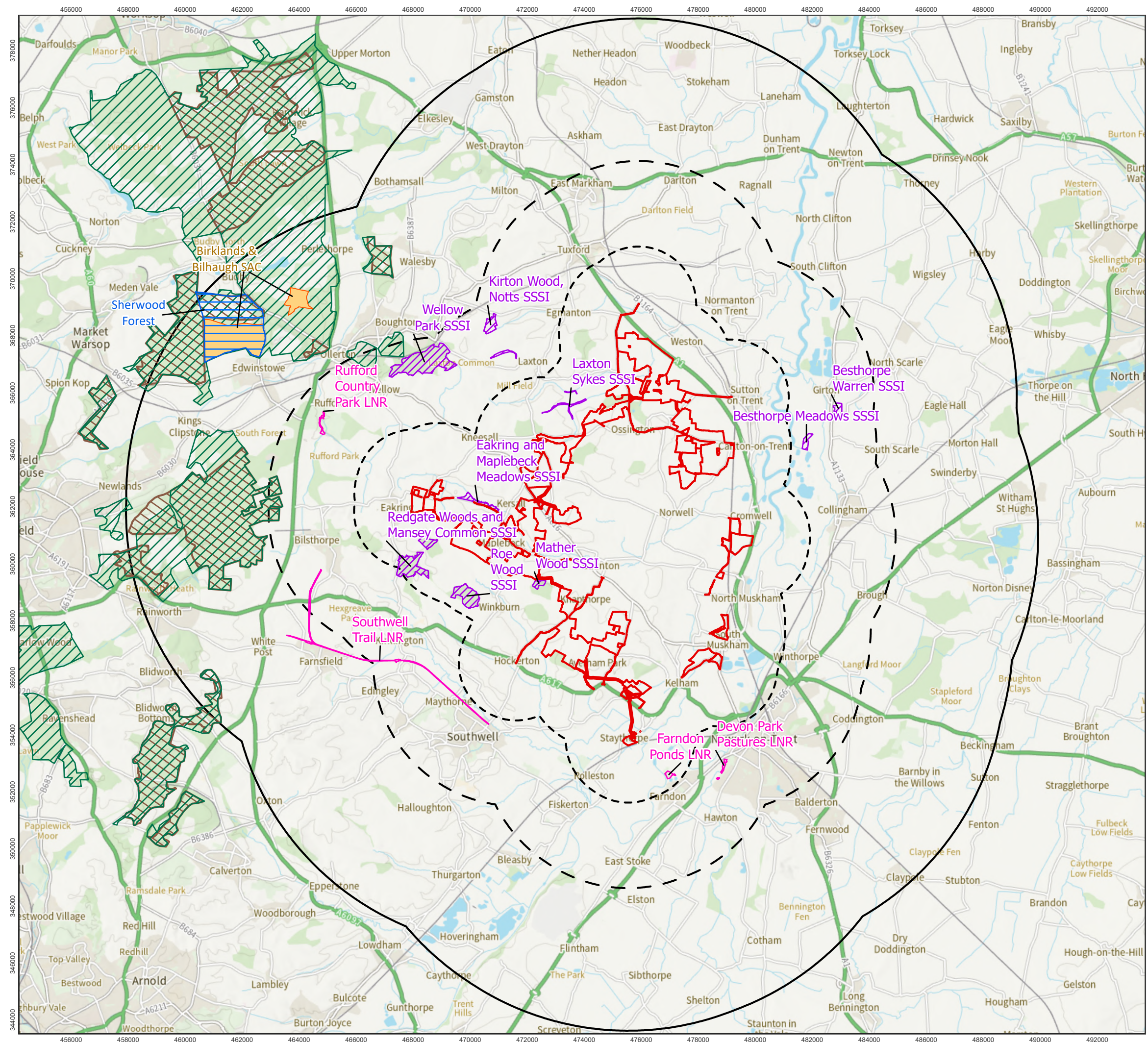
Site Name	Designation	Distance and Direction from the OL ⁴	Description
Trent Meadow, Sutton on Trent	LWS	1.4 km SE	A notable series of hay meadows with a rich alluvial grassland association.
The Beck, Caunton	LWS	1.5 km NE	A stream of interest for water beetles.
Kelham Road Grassland	LWS	1.5 km SE	A herb-rich grassland.
Newark (Beet Factory) Dismantled Railway	LWS	1.5 km SE	Noteworthy track-side communities along a disused railway line.
Kelham Road Grassland II	LWS	1.5 km SE	A notable horse grazed species-rich neutral grassland.
Eakring Brail Wood	LWS	1.5 km SW	An old woodland site retaining considerable interest in spite of large scale replanting.
Great North Road Grasslands	LWS	1.5 km SE	A series of diverse meadows with damp hollows.
Kneesall Churchyard Grassland	LWS	1.5 km NW	Noteworthy neutral grassland in a churchyard.
Trentside Meadows Grassland	LWS	1.6 km SE	A characteristic neutral floodplain meadow.
Mill Field Grassland East	LWS	1.6 km N	A traditionally managed grassland strip of botanical significance.
Laxton Mill Field Syke	LWS	1.6 km NW	Extremely herb-rich grassland strips around the Mill Field, of historical and botanical importance.
Horse Pool, Collingham	LWS	1.7 km NE	A small pool with a rich diversity of aquatic plants.
Southwell Racecourse Grassland and Pond	LWS	1.8 km SW	Remnant grassland communities on golf course, large pond and drain.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Trent Banks / Wharves, Newark	LWS	1.7 km SE	A mosaic of emergent, ruderal and tall herb communities along the banks of the River Trent.
Broadclose Wood	LWS	1.8 km SW	A deciduous woodland with characteristic species.
Whip Ridding Dumble	LWS	1.8 km SW	A characteristic dumble with steep wooded sides of native broadleaved trees and a ground flora indicative of ancient woodland, with a stream at its foot.
Egmanton Wall	LWS	1.8 km W	A wall supporting a notable species.
Besthorpe and Collingham Gravel Pits	LWS	1.9 km E	Gravel pits of ornithological interest.
Dale's Wood	LWS	1.9 km SW	Deciduous area of Ancient Woodland with species-rich ground flora and damp soils adding further botanical interest.
Newark Dismantled Railway	LWS	1.9 km SE	A dismantled railway line with a range of characteristic flora and partially wooded areas.
Laxton Meadow	LWS	1.9 km NW	A traditionally managed unimproved hay meadow.
Crowhill Wood and Summerhouse Plantation	LWS	1.9 km SW	A large area of secondary scarp woodland. Throughout the site there is much dead wood, both standing and lying, providing habitat for invertebrates and birds.
Trentside Grassland, Rolleston	LWS	1.9 km SE	Valuable damp cattle-grazed pasture situated next to the River Trent, where parts of the site are subjected to seasonal flooding.
Wyke Lane Grassland and Ponds	LWS	1.9 km SE	Meadows with dry and wet areas and old retting ponds of botanical interest.

Site Name	Designation	Distance and Direction from the OL ⁴	Description
Mons Pool Gravel Pits	LWS	2.0 km E	Mature deciduous woodland surrounded by large areas of open water formed on gravel workings - of particular zoological interest.
North Muskham Lakes*	MWT Nature Reserve	0.9 km E	Restored gravel pits supporting wetland habitats and waterbirds.
Unnamed, potential nature reserve*	n/a	0.5 km E	Potential local nature reserve proposed by North Muskham Parish Council. No information available.

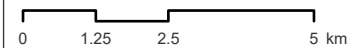
* Not shown on figure

APPENDIX A – FIGURES



-  Order Limits
-  2 km Buffer of Order Limits
-  5 km Buffer of Order Limits
-  10 km Buffer of Order Limits
-  Site of Special Scientific Interest
-  Special Area of Conservation
-  National Nature Reserve
-  Local Nature Reserve
-  Sherwood Forest Possible Potential Special Protection Area
-  Natural England Indicative Core Area
-  RSPB Important Bird Area

1:130,000 Scale @ A3

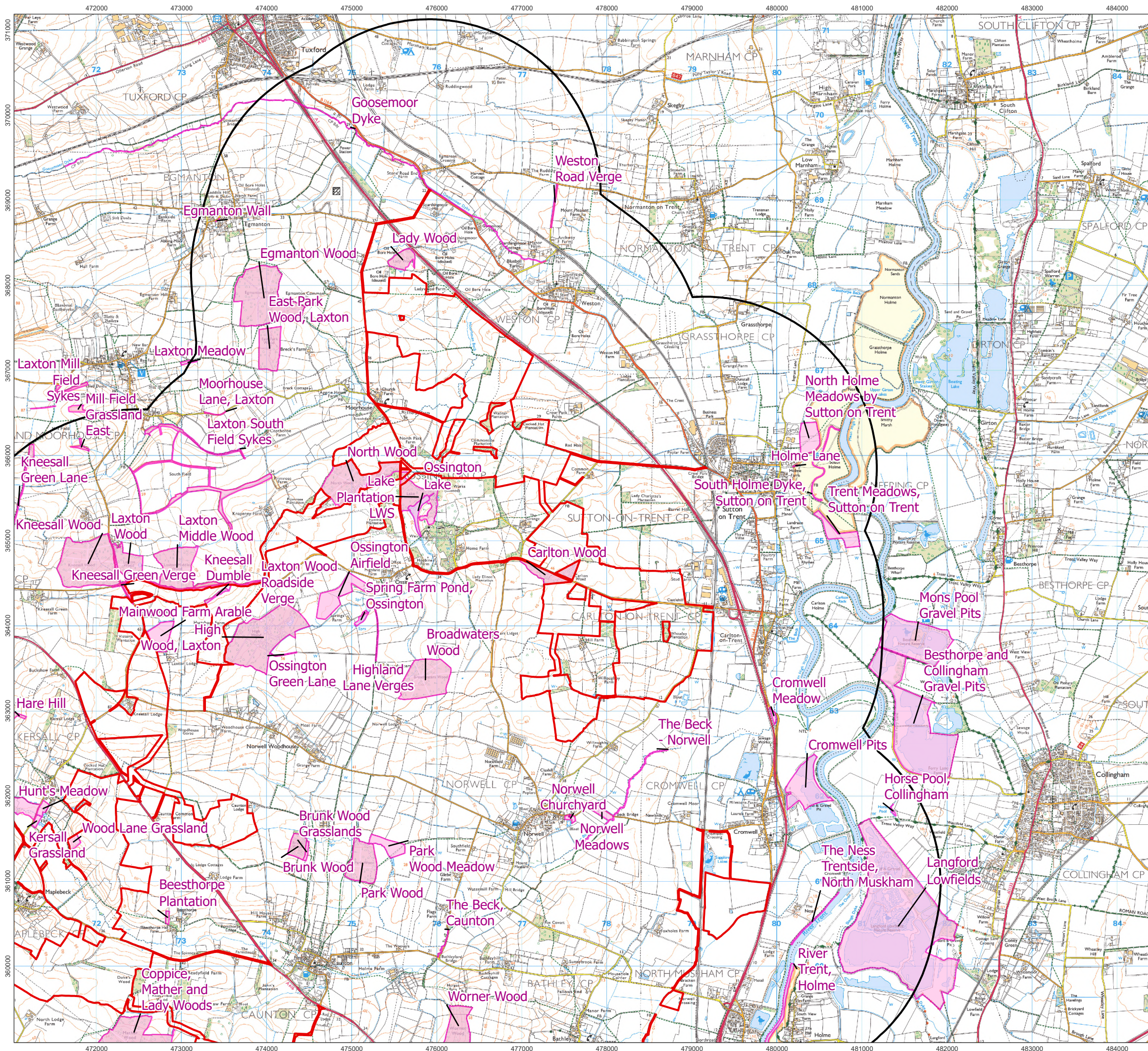





Ref: 026-ES-A8.2.1

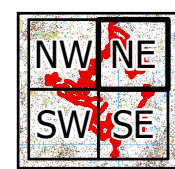
Date: 19/06/2025

Statutory Designated Sites Figure A8.2.1

Great North Road Solar and Biodiversity Park Environmental Statement



-  Order Limits
-  2 km Buffer of Order Limits
-  Local Wildlife Site

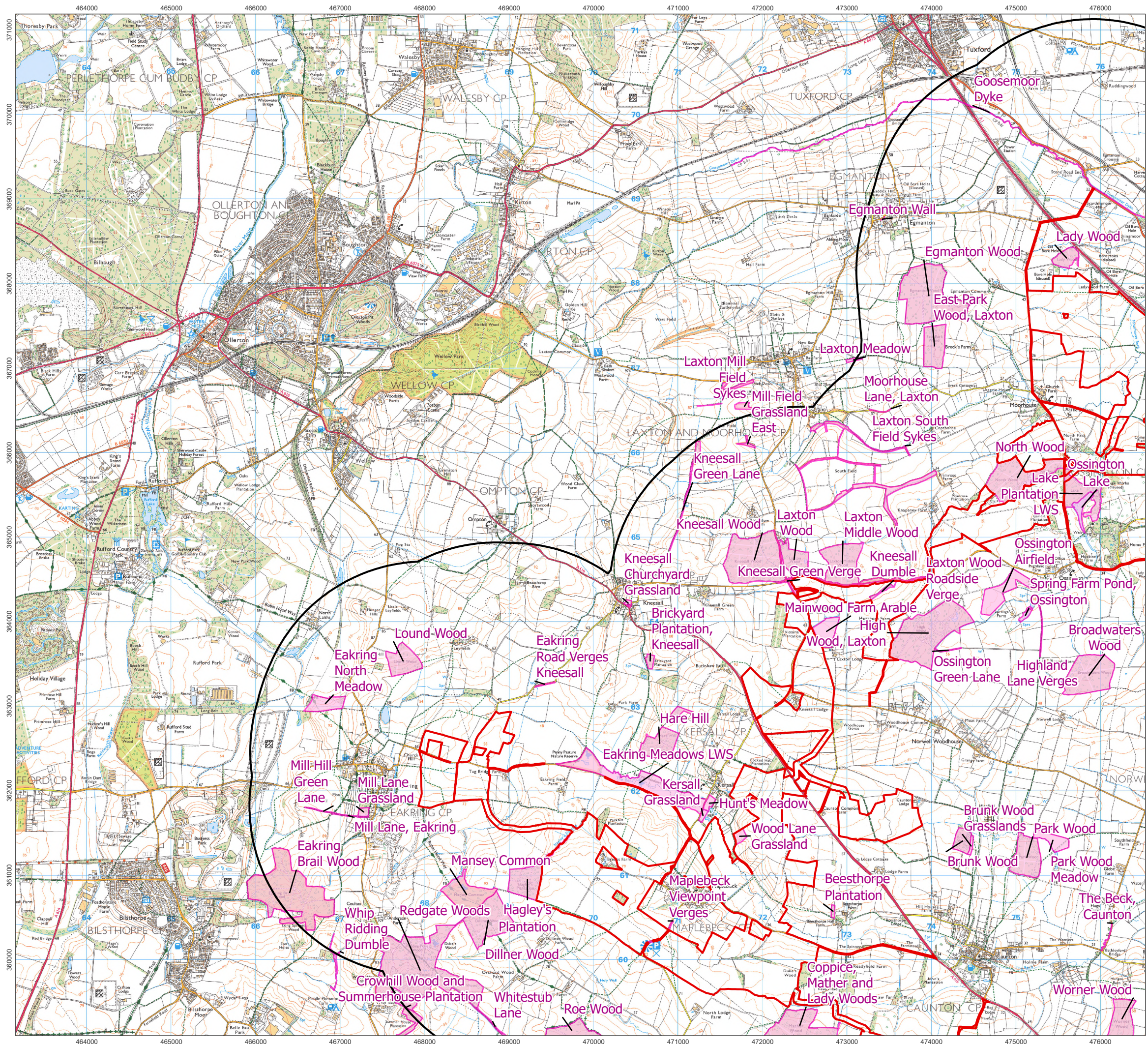


1:44,000 Scale @ A3
0 0.25 0.5 1 km

Ref: 026-ES-A8.2.2 Date: 20/06/2025

Non-Statutory Designated Sites
Figure A8.2.2 NE

Great North Road Solar and
Biodiversity Park
Environmental Statement



- Order Limits
- 2 km Buffer of Order Limits
- Local Wildlife Site

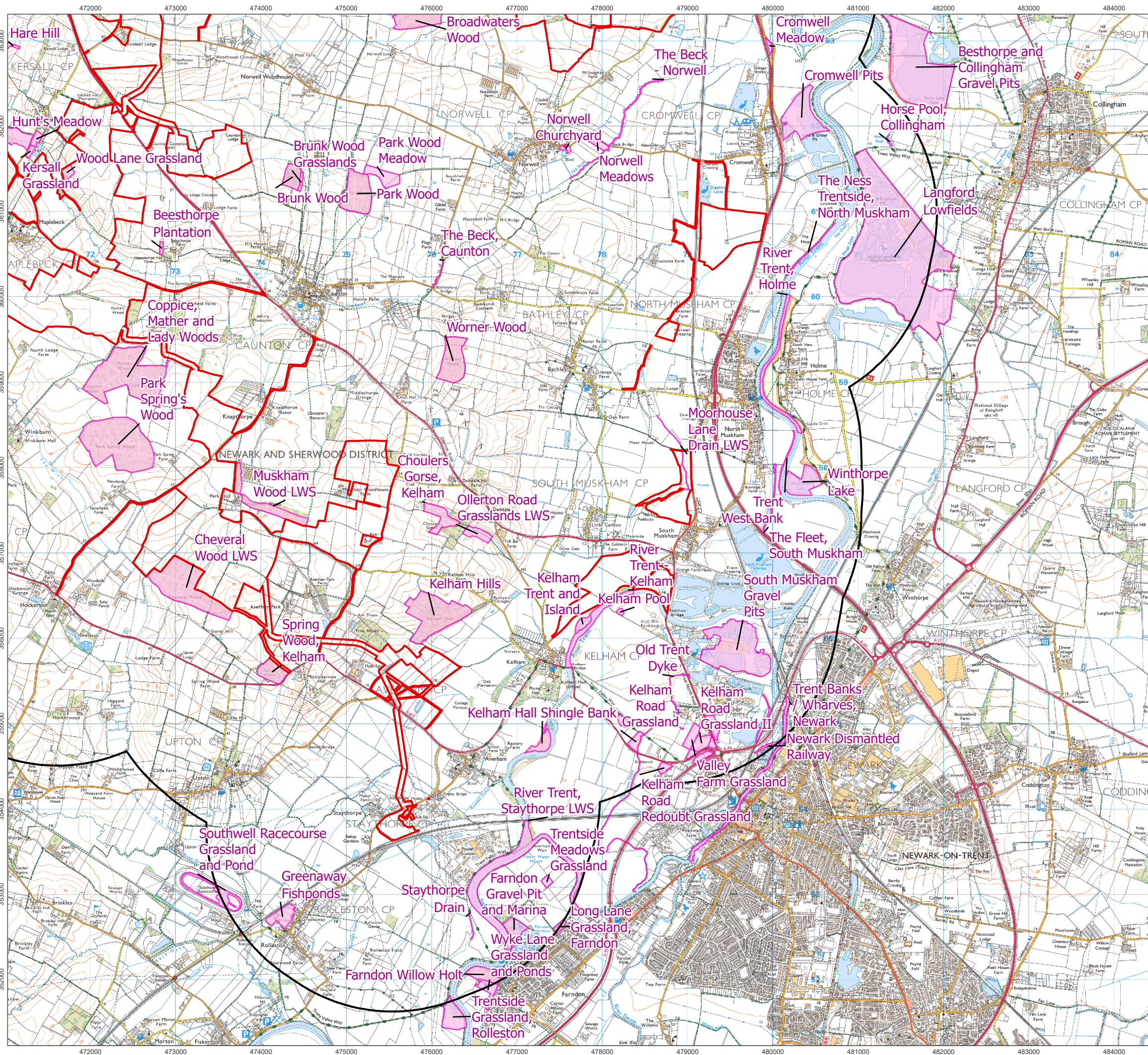


1:44,000 Scale @ A3
0 0.25 0.5 1 km

Ref: 026-ES-A8.2.2 Date: 20/06/2025

Non-Statutory Designated Sites
Figure A8.2.2 NW

Great North Road Solar and
Biodiversity Park
Environmental Statement



- Order Limits
- 2 km Buffer of Order Limits
- Local Wildlife Site

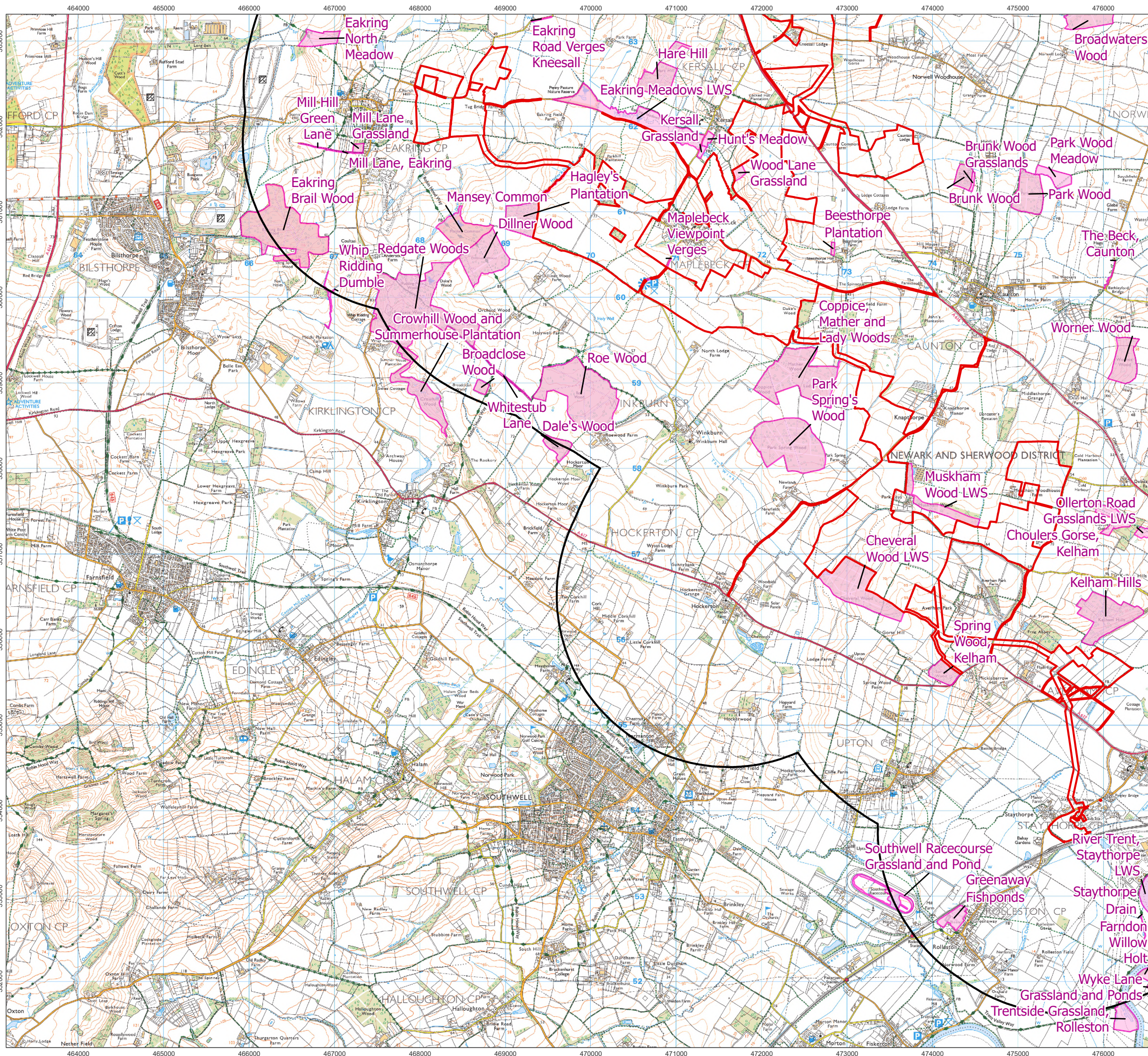


1:44,000 Scale @ A3
0 0.25 0.5 1 km

Ref: 026-ES-A8.2.2 Date: 20/06/2025

Non-Statutory Designated Sites
Figure A8.2.2 SE

Great North Road Solar and
Biodiversity Park
Environmental Statement



- Order Limits
- 2 km Buffer of Order Limits
- Local Wildlife Site



1:44,000 Scale @ A3
0 0.25 0.5 1 km

Ref: 026-ES-A8.2.2 Date: 20/06/2025

Non-Statutory Designated Sites
Figure A8.2.2 SW

Great North Road Solar and
Biodiversity Park
Environmental Statement