

Preliminary Ecological Appraisal



Environmental Business Solutions

Land at Grimethorpe Colliery, Grimethorpe, South
Yorkshire, S72 7FZ
Grid Ref: SE 3993 0851

Quality Management

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1 Introduction

1.1 Background to the scheme

Environmental Business Solutions was instructed in May 2022 to carry out a Preliminary Ecological Appraisal (PEA) for possible re-landscaping / improvement to agricultural land on land at Grimethorpe Colliery, Grimethorpe, South Yorkshire (Grid Ref: SE 3993 0851).

1.2 Site context

The site is located at National Grid Reference Se 3993 0851 and comprises a total area of approximately 110ha (see Appendices).

The proposed development is for a redevelopment of land at Grimethorpe Colliery, South Yorkshire; Outline planning application for the placement of 190,000m³ of imported subsoils and topsoils to deliver a locally distinct and assimilated topographic landform, and to facilitate the establishment of c.10.5 hectares of quality agricultural land, along with wider landscape and biodiversity enhancements through the planting of new native woodland, trees and hedgerow. The establishment of areas of species rich grassland and supplementary scrub planting to further diversify site ecology and habitat structure.

1.3 Purpose of this report

This report has been produced to set out the methods, results, and conclusions of a Preliminary Ecological Appraisal (PEA). This will inform the need for any further ecological surveys as required in order to fully assess the impacts of the proposals.

For the purposes of this study, the term 'protected and notable species' is defined in Appendix 1.

Further information on legal protection of those species which are formally protected is defined in Appendix 2.

2 Methods

2.1 Deskstudy

Sources of information used in the desk study are presented in Table 2.1 below.

Table 2.1 – Desk study sources of information

Source	Date latest consulted	Information sought
MAGiC website www.magic.gov.uk	09/22	Locations of statutorily-designated wildlife sites within 1km of the site boundary
Natural England https://designatedsites.naturalengland.org.uk/	09/22	Relevant SSSI citations
JNCC http://jncc.defra.gov.uk/	09/22	Information on European wildlife sites Details of relevant Section 41 species and habitats
Sheffield Biological Records Centre	05/22	Locally designated wildlife sites within 2km of site boundary Records of protected and notable species within 2km of the site boundary
OSmaps online www.ordnancesurvey.co.uk	09/22	Ponds and waterbodies within 250m of the site.

2.2 Fieldsurvey

The site was subject to a field survey on 31st August 2022. The weather conditions were sunny, dry with good visibility. Surveys were undertaken by Bill Gaudie.

Bill Gaudie BSc (Wildlife Conservation), MCIEEM is an ecologist and has 15 years experience in undertaking ecological surveys including Preliminary Ecological Appraisals.

The methods were based on the standard 'Phase 1' habitat survey technique (JNCC 2010), which was extended (IEA 1995) to include any relevant information on evidence or suitability for use by protected or notable species.

3 Results

3.1 Deskstudy

There are 4 statutory site within 2km of the proposed development site.

There are no areas of ancient woodland present within 1km of the proposed development.

This is detailed in Table 3.1 below.

Table 3.1 – Sites of note within the search area.

Grid Ref	Site Name	Status	details
SE 412 081	Carlton Main Brickworks	SSSI	Situated approximately 890m east from the Site and is isolated by major roads and infrastructure.
SE 411 072	Dearne Valley Wetlands	SSSI	Situated approximately 630m south of the site and is isolated by major roads and infrastructure.
SE 426 086	West Haigh Wood	LNR	Situated approximately 1800m east from the Site and is isolated by major roads and infrastructure.
SE 379 098	Carlton Marsh	LNR	Situated approximately 1700m west from the site and is isolated by major roads and infrastructure.

In addition, the desk study highlighted a number of protected species within the search area. The list below highlights those recorded within the past 10 years and their nearest sighting to the Site;

- Bats – Common Pipistrelle Bats (*Pipistrellus pipistrellus* and Noctule Bat (*Nyctalus noctula*) are recorded within the site boundary.
- Great Crested Newt – GCN are recorded within the site boundary.
- Common Lizard have been recorded within 1000m of the Site and separated by roads.
- Grass Snake have been recorded within the site boundary.
- Numerous bird species have been recorded have been recorded within within boundary of site.

3.2 Field survey

3.2.1 Habitats on site

The habitats on site, and accompanying Target Notes are presented in Appendix 3, and described in more detail below.

The site is dominated by Semi-Improved Grassland. With areas of broad-leaved woodland, scrub / young trees and water bodies. Please note the survey was undertaken in sub optimum conditions, the site was extremely dry with signs of grass fires, so only species that could be fully identified are listed below. It is recommended that full floral surveys be conducted during spring / summer months 2023.

Semi-Improved Grassland is the dominant habitat type Grassland having succeeded from previous worked / bare ground. This habitat comprises of Red fescue (*Festuca rubra*), False Oat-grass (*Arrhenaerum elatius*), Common Reed (*Phragmites australis*), Birds-foot Trefoil (*Lotus corniculatus*), Common Ragwort (*Senecio jacobaea*), Dandelion (*Taraxacum officinale* agg), Spear Thistle (*Cirsium vulgare*), Sedge (*Carex* spp), white clover (*Trifolium repens*), Yorkshire fog (*Holcus lanatus*), Creeping Buttercup (*Ranunculus repens*), broad-leaved dock (*Rumex obtusifolius*) and Timothy grass (*Phleum pratense*). Please note these are plants that could be identified with a degree of certainty at the time of year. Further surveys are required.

Scrub. Areas of dense scrub can be found around site. Species include Broom (*Cytisus scoparius*), Silver Birch, Willow and Bramble (*Rubus fruticosus*), Dog Rose (*Rosa canina*).

Broad-leaved Woodland. Species include Oak (*Quercus robur*), Hawthorn (*Crataegus monogyna*) Ash (*Fraxinus excelsior*), Silver Birch, Willow, Hazel and White Beam. Ground flora was sparse.

Tall Ruderal. Scattered areas can be found pathways. Species include Greater Willowherb (*Epilobium hirsutum*), Rosebay Willowherb (*Chamerion angustifolium*), Creeping Thistle, and Hogweed (*Heracleum sphondylium*). Cleavers (*Galium aparine*).

Water Bodies. Consists of 7 ponds on site (including lagoon) and 2 off site. All ponds on site were dry at the time of surveying. See below.

The above 9 ponds were not made the subject of aquatic habitat appraisal using the Suitability Index (SI) as they were all dry at time of surveys.

See photos below.



Scrub and Young Trees.



Dry Improved Grassland



Improved Grassland and Woodland.



Turbine.



Dried out pond.



Dried out lagoon.

3.2.2 Habitats off site which require consideration

Mature trees are found immediately adjacent to the site and will require protection to BS5837 recommendations.

3.2.3 Species and species groups which may be present

Table 3.2.3 indicates the species, species groups, designated sites and habitats which are given further consideration in this appraisal.

Table 3.2.3 Species and species groups requiring further consideration

Species / species group	Field evidence	Rationale for consideration
Birds	Signs of foraging.	There is suitable nesting habitat in hedgerows and trees onsite
Bats Species	None	Trees on site boundary with suitable features to support bat roosts. Suitable foraging habitat throughout site
Reptiles	None	Suitable habitat structure between grassland, scrub and bare ground around the periphery of the site. Records of Grass snake and Common Lizards within 500m of site boundary
Amphibians	None	Several ponds suitable to support great crested newt and common toad on site. GCN recorded on site
Badger	None	Suitable habitat within site for foraging.

3.2.4 Species and species groups which are unlikely to be present

Table 3.2.4 indicates the species, species groups, designated sites and habitats could be present / affected based on a very basic knowledge of the site, but aren't given further consideration in the appraisal due either to the lack of suitable habitat or the lack of an effect caused by the development.

Table 3.3 Species and species groups which are not given further consideration

Species / species group	Field evidence	Rationale for exclusion from the appraisal
Dormouse	None	No suitable habitat noted within site. Mainly young trees with little understorey
Water vole (<i>Arvicola amphibius</i>)	None	No suitable water bodies within immediate area of the site. No records of water voles within search area
Otters	None	The Site is isolated. No suitable water bodies within immediate area of the site.

Statutorily Designated Sites	N/A	The only Statutorily Site within the search area is approximately 630m from the site and separated by major infrastructure.
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3.3 Constraints to the survey

The following constraints applied to the field survey:

- Site visits occurred over 1 day only. The site was extremely dry with only minimum plant identification possible and no assessment of waterbodies suitability for GCN possible.

4 Recommendations

4.1 Protected and notable species

Based on the findings of the PEA, the following additional surveys / mitigation would be required to inform a complete ecological baseline;

- Great Crested Newts and other amphibians;
- Reptiles;
- Badgers
- Bats;
- Birds;
- Trees;
- Flora

These are discussed in more detail in the following sections.

4.1.1 Great Crested Newts and other Amphibians.

There is a history of GCN presence on site. Therefore it is recommended that all 7 ponds on site and 2 ponds off site to full Great Crested Newt Presence surveys as per Natural England standards Great crested newt mitigation guidelines (2001). This will entail 4x visits. Surveys to be conducted between March and Early June 2023. If GCNs are noted then the surveys will be extended to 6x visits and any proposed development will be subject to a Natural England Great Crested Newt European Protected Species Licence being granted.

4.1.2 Badgers

As there is suitable habitat on site for foraging it is recommended that walk over badger surveys be conducted prior to any development commencing.

4.1.3 Reptiles

Due to suitable habitat for reptiles being present on site and the data showing Grass Snake and Common Lizard being present within the search area, it is recommended that full reptile presence / absence surveys (7x visits) be conducted over the months of April – June 2022 as per As per Froglife (1999) *Reptile survey: an introduction to planning, conducting and interpreting surveys* for snake and lizard conservation. *Froglife. Advice Sheet 10*. Froglife Halesworth.

4.1.4 Breeding Birds.

Any tree, hedgerow or scrub clearance should be conducted outside of the breeding bird season (March – September). If this is not possible then a breeding bird survey should be conducted by a suitably qualified ecologist prior to works commencing. If nesting birds are discovered then the area around the nest shall be isolated and works halted until nesting has finished.

4.1.5 Trees.

Any trees on Site to be retained and those adjacent to the Site but outside the redline boundary should be protected to BS5837 recommendations.

4.1.6 Flora.

Due to the timing of the above walkover surveys an full floral survey was not possible. It is therefore recommended that a full floral survey be conducted over the spring / summer months of 2022 so that a confident assessment of flora species and habitat references can be recorded.

4.2 General mitigation and opportunities for enhancement

Where possible trees should be retained on site. Suggestions for biodiversity enhancement include the provision of bat and bird nesting boxes (if possible), and the creation of habitats through planting of native trees and hedgerows.

All construction activities should comply with general environmental best practice measures including;

- the measures set out in the Environment Agency's Pollution Prevention Guidelines;
- excavations should be sealed overnight or should have at least one shallow-sloping side allowing animals to escape should they fall in;
- an ecologist should be contacted for advice should any protected species be discovered during construction; and,
- appropriate measures to suppress dust should be put in place during hot, dry, or windy weather.
- broadleaved trees, and the scrub on site are suitable to be used by nesting birds. Therefore, vegetation removal should be undertaken outside of the breeding bird season (which is from March to August inclusive). If this is not possible, a suitably experienced ecologist should check the habitat for breeding bird activity no more than 48 hours before clearance. If nesting activity is found, it will need to be left in situ until the nesting effort has been completed.

5 Summary

A desk-based study and a field study were conducted in order to identify habitats and determine the suitability for any 'protected and notable' species to occur on site, with specific focus on bats due to the characteristics of the site.

The habitats present are common and widespread and are not of significant ecological value in their own right. Notwithstanding this, they are suitable to support a number of protected species.

Further surveys maybe required for the following species

- Great Crested Newts and other amphibians;
- Reptiles;
- Badgers
- Bats;
- Birds;
- Trees;
- Flora.

Suggestions for biodiversity enhancement include the provision of bat and bird nesting boxes (if possible), and the creation of habitats through planting of native trees and hedgerows. In the event that the recommended surveys confirm the presence of any protected species, then the approach to mitigation would need to be finalised via the Natural England licensing process.

Construction would also need to be managed appropriately to comply with best practice, as well as with any constraints posed by the outcome of further surveys.

6 References

IEA (1995). Guidelines for Baseline Ecological Assessment. E & F Spon.

JNCC (2010). Handbook for Phase One Habitat Survey – 2010 Edition. England Field Unit, Nature Conservancy Council, reprinted JNCC.

Appendix 1 – “Protected and notable species” as relevant to this report – Relevant legislation

BADGERS

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended) against damage or destruction of a sett, or disturbance, death or injury to the badgers. The Act defines a sett as “any structure or place which displays signs indicating current use by a badger”. The definition of current use is subject to considerable debate. Natural England have produced guidance on the definition of current use. (*Badgers and Development – A guide to best practice and development. Natural England 2011*). Given the ambiguity surrounding the definition in all circumstances we would recommend an assessment of current use is always undertaken by a qualified ecologist. Natural Resources Wales (NRW) have a slightly different definition of current use. Please see the NRW website for further information. Penalties for offences against badgers or their setts include fines of up to £5,000 and/or up to six months in prison.

Disturbance of badgers could be caused by any digging activity or scrub clearance within 30 metres of an occupied sett and therefore every case needs to be assessed individually. Felling of trees close to a badger sett may also cause disturbance in some situations. Some activities such as pile driving may cause disturbance at even greater distances, and should be discussed with Natural England or NRW.

Licences are issued by Natural England (or NRW in Wales) to allow the disturbance of badgers, and the destruction of their setts in certain circumstances, in relation to development. Full planning permission must be obtained before a licence application will be considered. Although licences can be applied for at any time of year, disturbance of badgers or exclusion of badgers from a sett can only take place between 1 July and 30 November, to avoid the breeding season when dependant young may be underground. This restriction may be relaxed in some cases where a sett is seasonal and badgers can be shown to be absent from a sett at that time of year.

This report contains information of a confidential nature relating to the location of badger setts. Public access to this data should be restricted to those who have a legitimate need to assess the information and to know the exact situation of the setts rather than simply that badgers are present.

BATS

All 17 species of bat known to breed in England and Wales, and their roost sites, are protected under the Conservation of Habitats and Species Regulations 2017, known as the ‘Habitats Regulations’. This makes it an offence to deliberately kill or injure a bat, or to deliberately disturb a bat such that its ability to hibernate, breed or rear young, or such that the species’ distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of bats in their resting places, and damage to or obstruction of resting places are also offences under the Wildlife and Countryside Act 1981 (as amended). Under UK law a bat roost is “any structure or place which any wild [bat]...uses for shelter or protection”. As bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time. Penalties for offences against bats or their roosts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of or alteration to roost sites, or which could result in killing of or injury to bats, need to take place under licence. Works which could disturb bats may also be licensable, though this needs to be assessed on a case by case basis, as bats’ sensitivity to disturbance varies depending on normal background levels, and the definition of disturbance offences under the Habitats Regulations is complex. In practice this means that works involving modification or loss of roosts (typically in buildings, trees or underground sites) or significant disturbance to bats in roosts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of bats in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

AMPHIBIANS

Great Britain supports seven native amphibian species. The four most widespread species; smooth and palmate newts, common frog, and common toad, receive partial protection under the Wildlife and Countryside Act 1981 (as amended) which prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy. The great crested newt, pool frog and natterjack toad are also fully protected in England and Wales under the Conservation of Habitats and Species Regulations 2017. Penalties for offences against amphibian species include fines of up to £5,000 and/or up to six months in prison.

Four amphibian species (great crested newt, pool frog, common toad, natterjack toad) are listed as priority species under the UK Biodiversity Action Plan, and are therefore considered to be Species of Principal Importance in England and Wales (excluding the pool frog, which does not occur in Wales) under the Natural Environment and Rural Communities (NERC) Act 2006. All public bodies including local and regional authorities have a duty under this legislation to have regard for the conservation of biodiversity.

GREAT CRESTED NEWTS

Great crested newts are protected in England and Wales under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a great crested newt, or to deliberately disturb a great crested newt such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place for great crested newts. Intentional or reckless disturbance of great crested newts in places of shelter (ponds or terrestrial refuges), and damage to or obstruction of places of shelter are also offences under the Wildlife and Countryside Act 1981 (as amended). Penalties for offences against great crested newts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of ponds or terrestrial habitat, or which could result in killing of or injury to great crested newts, need to take place under licence. Works which could disturb great crested newts may also be licensable, though this is rarely the case unless loss of great crested newt habitat is also proposed, and should be assessed on a case by case basis. In practice this means that works involving any removal of or significant modification to ponds or terrestrial habitats (typically rough grassland, scrub, hedgerow bases and woodland) supporting great crested newts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of great crested newts in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

REPTILES

All six native reptile species receive protection under the Wildlife and Countryside Act 1981 (as amended). The four more common species (common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix*) receive partial protection which makes it an offence to intentionally kill or injure a reptile. The two other reptile species (smooth snake

Coronella austriaca and sand lizard *Lacerta agilis*), both of which are rare with very restricted UK ranges receive full protection under the Conservation of Habitats and Species Regulations 2017. Penalties for offences against reptile species include fines of up to £5,000 and/or up to six months in prison.

Works such as site clearance or topsoil stripping which could result in killing or injury of reptiles could be considered result in an offence unless measures are taken to minimise the risk of this occurring. Any inadvertent impacts on common reptile species despite these mitigation measures being in place would be considered an 'incidental result of an otherwise lawful operation' which 'could not reasonably have been avoided' and therefore not an offence. Works which could affect smooth snakes or sand lizards, or their habitats, would need to take place under licence from Natural England or Natural Resources Wales. However sites supporting smooth snakes or sand lizards are very rarely affected by development proposals.

In practice, mitigation for impacts of development on common reptiles generally comprise one or more of the following techniques: displacement, in which reptiles are encouraged to move to suitable retained habitat by changing the management of areas affected by development; exclusion, where reptile-resistant fencing is provided between a development site and suitable retained habitat allowing reptiles to be trapped from the development footprint and released elsewhere on the site; and translocation, where animals are trapped from a development site and released on another suitable site nearby. Reptile mitigation proposals, particularly those involving translocation of animals, should be agreed in advance with the local planning authority.

BIRDS

All British birds, their nests and eggs (with certain exceptions) are protected under the Wildlife & Countryside Act 1981 (as amended) which makes it an offence to: intentionally kill, injure or take a wild bird; intentionally take, damage or destroy nests which are in use or being built; intentionally take or destroy birds' eggs; or possess live or dead wild birds or eggs. A number of species receive additional protection through inclusion on Schedule 1 of the Wildlife and Countryside Act; for these it is also an offence to intentionally or recklessly disturb birds while nest building, or at a nest containing eggs or young, or to disturb the dependant young of such a bird. Penalties for offences against bird species include fines of up to £5,000 and/or up to six months in prison.

General licences for control of some bird species are issued by Natural England and Natural Resources Wales in order to prevent damage or disease, or to preserve public health or public safety, but it is not possible to obtain a licence for control of birds or removal of eggs/nests for development purposes. Consequently if nesting birds are present on a development site when works are programmed to start it is usually necessary to delay works, at least in the areas supporting nests, until any chicks have fledged and left the nest. It is usually possible, once chicks have hatched, for an experienced ecologist to predict approximately when they are likely to fledge, in order to inform programming of works on site.

OTTERS

Otters and their holts are protected in England and Wales under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure an otter, or to deliberately disturb an otter such that its ability to breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of otters in their holts, and damage to or obstruction of holts are also offences under the Wildlife and Countryside Act 1981 (as amended). Penalties for offences against otters or their holts include fines of up to £5,000 and/or up to six months in prison.

Any development works which are likely to involve the loss of holts, or which could result in killing of or injury to otters (which are only likely to occur extremely rarely), need to take place under licence. Works which could disturb otters may also be licensable, though this is also rarely the case as the majority of developments on watercourses and coastal areas where otters are present can be carried out in a way which avoids significant disturbance.

Where it is necessary, licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of otters in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

WATER VOLES

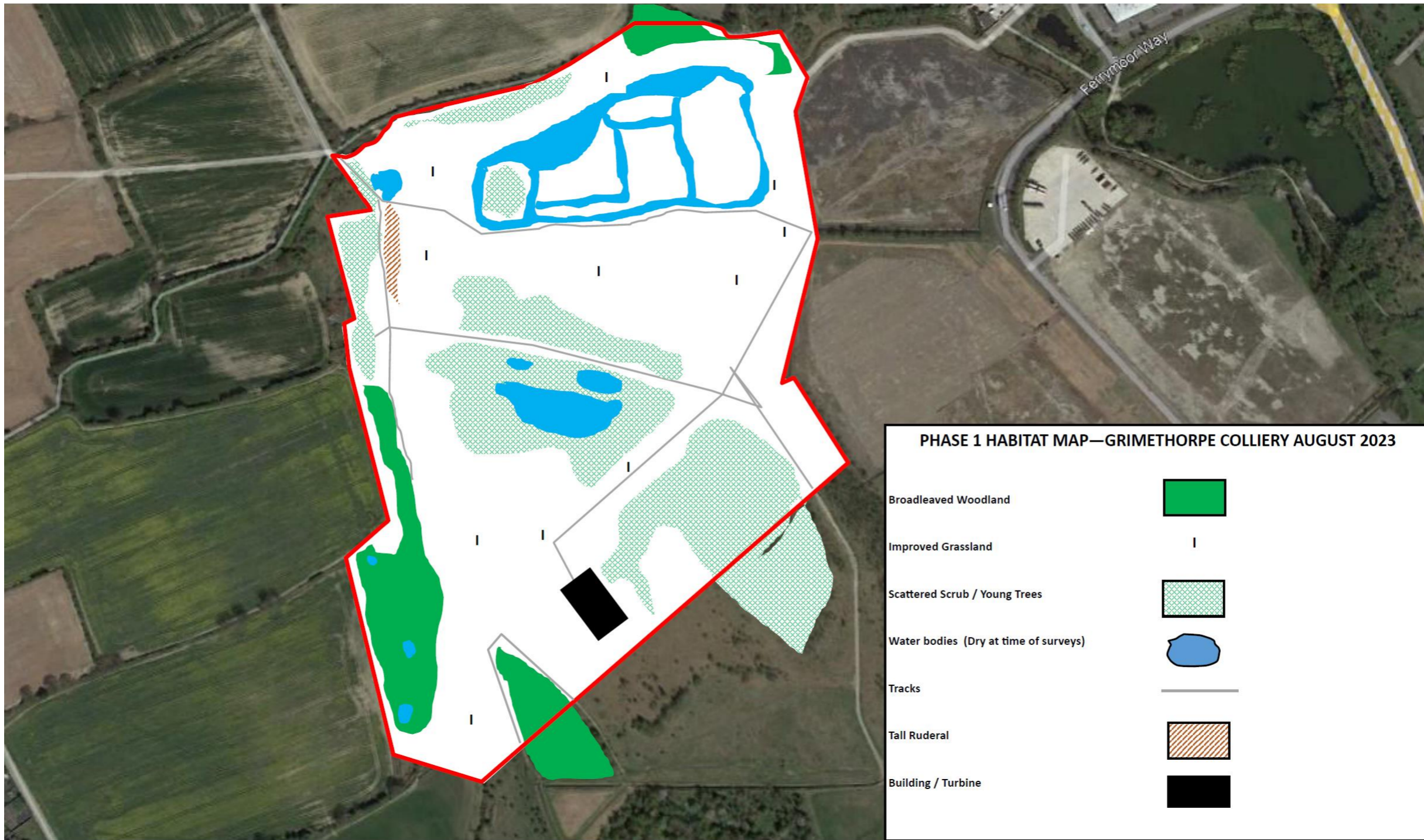
Water voles *Arvicola amphibius* receive protection under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to: intentionally kill, injure, or take a water vole; intentionally or recklessly disturb a water vole whilst in its place of shelter; intentionally or recklessly damage, obstruct or destroy a water vole's place of shelter; or intentionally or recklessly obstruct access to a place of shelter. Penalties for offences against water voles include fines of up to £5,000 and/or up to six months in prison.

Works such as watercourse re-profiling, installing culverts, or topsoil stripping close to watercourses and

ponds which could result in destruction or obstruction of burrows could be considered reckless, and/or could be considered intentional if water voles are killed or injured, unless measures are taken to minimise the risk of this occurring. Any inadvertent impacts on water voles despite these mitigation measures being in place would be considered an 'incidental result of an otherwise lawful operation' which 'could not reasonably have been avoided' and therefore not an offence.

In practice, mitigation for impacts of development on water voles generally comprise one or more of the following techniques: displacement, in which water voles are encouraged to move to suitable retained habitat by changing the management of areas affected by development; exclusion, where water vole-resistant fencing is provided between a development site and suitable retained habitat allowing animals to be trapped from the development footprint and released elsewhere on the site; and translocation, where animals are trapped from a development site and released on another suitable site nearby. Water vole mitigation proposals, particularly those involving translocation of animals, should be agreed in advance with Natural England or Natural Resources Wales.

Appendix 2 – Habitat Map and Target Notes



Appendix 3 – RECORD Data Report – Summary

Due to sensitive data this information is not for public circulation.

A copy is available to the Local Authority Ecologist upon request.