ENVIRONMENTAL STATEMENT – VOLUME 3 – APPENDIX 8.6

Ecological Impact Assessment – FGD Demolition

Drax Bioenergy with Carbon Capture and Storage

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

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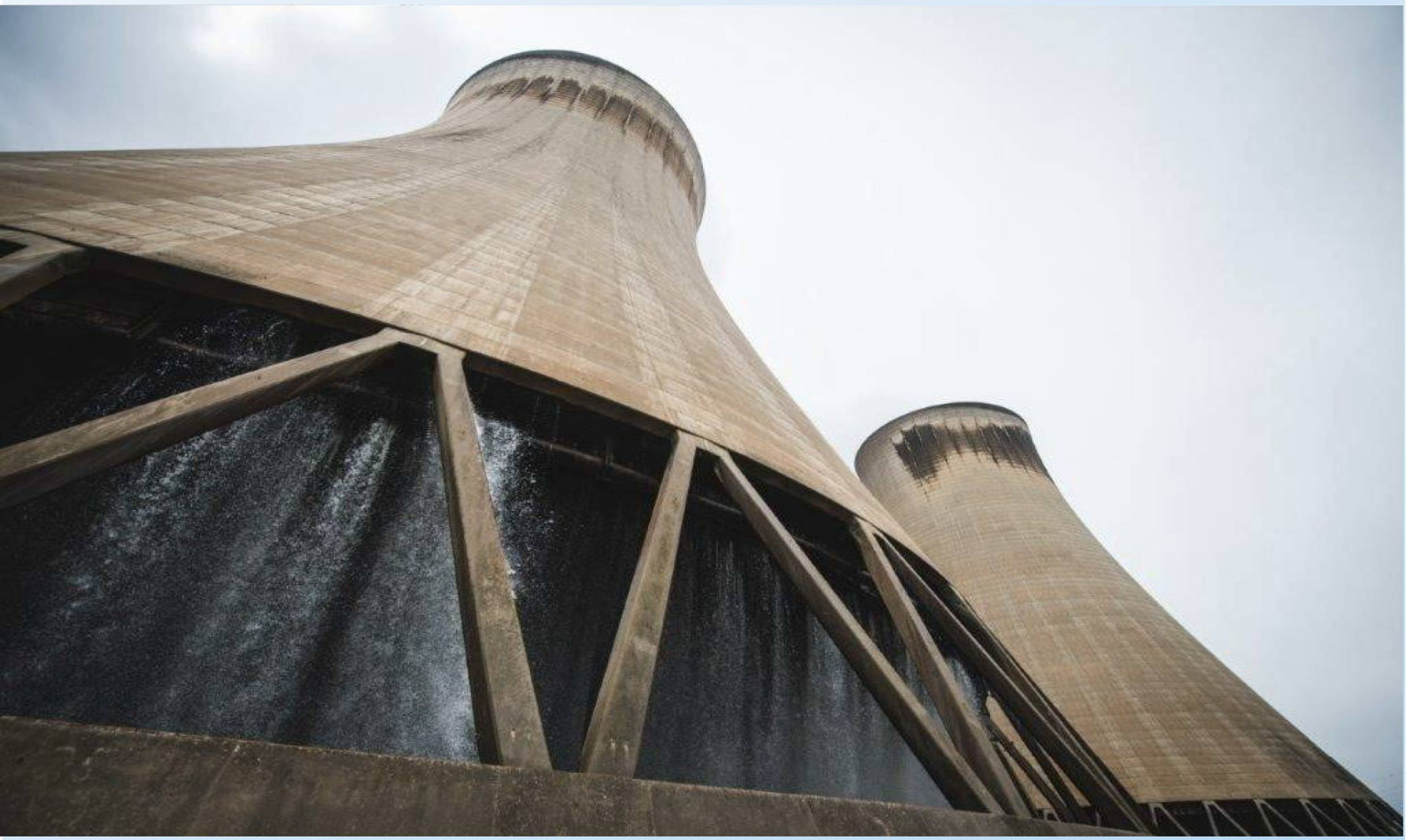
Drax Power Ltd

ECOLOGICAL IMPACT ASSESSMENT

Flue Gas Desulphurisation (FGD) Demolition



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Flue Gas Desulphurisation (FGD) Demolition

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WSP

Three White Rose Office Park
Millshaw Park Lane
Leeds
LS11 0DL

Phone: +44 113 395 6200

Fax: +44 113 395 6201

WSP.com

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EXECUTIVE SUMMARY

Drax Power Ltd propose to demolish Flue Gas Desulphurisation infrastructure at the Drax Power Station Site. WSP was instructed by Drax Power Ltd to undertake an Ecological Impact Assessment (EcIA) to support the planning application for these works. To support the EcIA, a series of ecological surveys and assessments have been completed. These included a Preliminary Ecological Appraisal (incorporating a desk study and extended Phase 1 habitat survey), plus targeted surveys for great crested newts, peregrine falcon, and roosting bats.

This work has confirmed that the Site is comprised largely of existing buildings and hard standing of negligible ecological interest. Important Ecological Features identified include statutory designated sites in the surrounding area, a limited extent of habitats adjacent to the Site, and the likely presence of breeding peregrine falcon on the main stack of the existing power station.

A number of design changes and embedded mitigation measures were included prior to finalising the design of the Proposed Development. These included significant modifications to the red-line boundary in the north of the Site, in order to reduce habitat loss and minimise potential effects on great crested newts.

With these embedded measures in place, no significant effects to Important Ecological Features are expected to arise. Targeted mitigation measures have also been identified to support compliance with wildlife legislation and planning policy.

Providing the Proposed Development is delivered as per the parameters of the planning application and with the Embedded Measures and Targeted Mitigation set out in this report, significant ecological effects will be avoided and compliance with wildlife legislation and planning policy achieved.

1 INTRODUCTION

1.1.1. WSP was instructed by Drax Power Ltd to undertake a Preliminary Ecological Appraisal (PEA) and Ecological Impact Assessment (EcIA) of land within Drax Power Station (North Yorkshire, National Ordnance grid reference SE 66162 27289).

1.1.2. Existing FGD systems at Drax Power Station associated with generating Units 1, 2, 3 and 4 are no longer in operation and are therefore redundant. This includes Absorber buildings 1 to 6. The land on which they are sited may be required for future developments at the site. In addition, Drax has safety concerns regarding the redundant plant, with damage to cladding having occurred during high winds in 2020.

1.1.3. Maintenance works have been completed on the structures, but they are deemed to be a potential hazard moving forward. The FGD systems are expected to be demolished to a level site.

1.1.4. The demolition work will be undertaken in phases. FGD Absorber building 1 and 2 is expected to commence decommissioning in 2021, with demolition expected to commence in Q4 2022/Q1 2023 and expected to be completed by the end of 2023. Demolition of FGD Absorber building 4, 5 and 6 will then follow and is expected to commence in 2024.

1.1.5. Demolition of Absorber building 3 is expected to take longer due to the position of the building and equipment within the remaining operational plant. Absorber 3 demolition is expected to follow from Absorbers 4,5 and 6.

1.1.6. FGD common plant buildings and infrastructure along with the WWTP may be demolished in parallel with the above activities due to the physical location on site. It is estimated that decommissioning may commence for some of the systems in Q1 2021 with demolition commencing in 2023; post coal operations ceasing.

1.1.7. The existing infrastructure is detailed within the suite of planning drawings submitted to support the planning application, which this report also accompanies.

1.1.8. This report addresses impacts on ecological receptors arising from the Proposed Development within the power station site, hereafter referred to as 'the Site' and has been produced to support a planning application. The Site Boundary is shown on **Figure 1**.

1.2 SCOPE OF REPORT

1.2.1. Drax Power Ltd commissioned WSP to complete a Preliminary Ecological Appraisal (PEA) in April 2020.

1.2.2. Further to the PEA, Drax commissioned additional ecology surveys and assessments to assess the following species and species groups:

- Environmental DNA (eDNA) surveys for great crested newts (GCN) *Triturus cristatus*;
- Vantage point surveys for peregrine falcon *Peregrinus falco*;
- Internal and external building inspections for bats; and
- Emergence surveys of potential bat roosts.

1.2.3. The findings of these additional surveys are presented in this report.

1.2.4. This report includes an Ecological Impact Assessment of the Proposed Development, produced with due regard to the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment (CIEEM, 2018).

1.2.5. This report also provides information on the predicted effects of the Proposed Development on internationally important designated nature conservation sites. This information is provided to enable Selby District Council to discharge their duties as the Competent Authority under the Conservation of Habitats and species Regulations (2017, as amended) when determining the proposed planning application.

1.3 RELEVANT LEGISLATION, POLICY AND GUIDANCE

1.3.1. The appraisal has been prepared with reference to the following relevant nature conservation legislation, planning policy, and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. The context and applicability of each item is explained as appropriate in the relevant sections of the report and additional details are presented in **Appendix A**.

- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- Countryside Rights of Way Act 2000;
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Protection of Badgers Act 1992;
- The Wild Mammals (Protection) Act 1996;
- The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012);
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (DEFRA, 2011);
- UK Biodiversity Action Plan (UKBAP)[1];
- The National Planning Policy Framework (NPPF) 2019 (Ministry of Housing Communities & Local Government, February 2019);
- Selby District Core Strategy, 2013; and
- Selby Biodiversity Action Plan, 2004.

[1] The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework; however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant.

2 METHODS

2.1 OVERVIEW

2.1.1. This appraisal and its underpinning survey and assessment work has been prepared with reference to current good practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2017; CIEEM, 2018), Joint Nature Conservation Committee (JNCC, 2010), and guidance contained in the British Standard - Code of Practice for Biodiversity and Development BS42020:2013 (British Standards Institute (2013).

2.1.2. This Ecological Impact Assessment is based on the following data sources:

- An ecological desk study;
- An extended Phase 1 habitat survey including protected and notable species assessment;
- Targeted surveys for GCN, peregrine falcon, and bats (detailed in **Section 2.3**);
- Consultation with the North Yorkshire County Council Ecologist;
- Information on the extent and nature of the Proposed Development provided by Drax; and
- Information on other environmental effects of the Proposed Development, provided by members of the project team working on the planning application.

2.2 DESK STUDY

2.2.1. The desk study was undertaken in May 2020 to review existing ecological information available in the public domain and information held by relevant third parties. For the purpose of the desk study exercise, records were collated within various radii around the Site. This approach is consistent with current good practice guidance published by the CIEEM (2017 and 2018). To provide baseline data for the ecological desk study the following information was requested from North and East Yorkshire Ecological Data Centre (NEYEDC):

- Records of legally protected and notable species within 2 km of the Site;
- Bat records within a 5 km radius of the Site; and
- Records of non-statutory sites designated for nature conservation value within 2km of the Site.

2.2.2. Freely downloadable datasets (available from Natural England (NE) through the Multi-Agency Geographic Information for the Countryside (MAGIC) map) were consulted for information regarding the presence of statutory designated habitats[2] within 2km of the Site. This search was extended to 10km for Natura 2000 sites[3] of European importance and internationally designated Ramsar sites.

2.2.3. Information regarding the presence of Habitats of Principal Importance (HPI)[4] and ancient woodland was also collected within 1km of the Site, through data on the MAGIC website.

[2] Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR).

[3] Special Areas of Conservation (SAC) and Special Protection Areas (SPA)

[4] Mapped locations of HPI are usually not available, but HPI aligns in the most part with UKBAP habitats. Inventories of UKBAP habitat have been prepared by a variety of organisations and at a national (Natural England priority habitat

2.2.4. In addition, open source 1:25,000 Ordnance Survey mapping was used to identify any mapped water bodies and watercourses within 500m of the Site.

2.2.5. The ecological desk study was carried out by a Principal Ecologist who has several years' experience of desk top studies. The findings of the desk study have been incorporated within Section 3 and **Appendix B** of this report and are shown on **Figure 2.**

2.3 FIELD SURVEYS

EXTENDED PHASE 1 HABITAT SURVEY

2.3.1. An extended Phase 1 habitat survey of the Site and additional land under consideration at the time of survey was carried out on the 18th and 19th April 2020 in sunny and bright conditions. The survey covered the entire Site including boundary features and is hereafter referred to as the "Survey Area". The extended Phase 1 habitat survey was carried out by a suitably qualified ecologist who has extensive experience of completing similar surveys on a variety on greenfield and brownfield sites.

2.3.2. Habitats were described and mapped following the standard Phase 1 habitat survey methodology (JNCC, 2010). Phase 1 habitat survey is a standard technique for classifying and mapping British habitats. The dominant plant species are recorded, and habitats are classified according to their vegetation types. Where appropriate consideration was given to whether habitats qualify, or could qualify, as a HPI following habitat descriptions published by the Joint Nature Conservation Committee (JNCC, 2008).

2.3.3. A list of plant species encountered during the survey was compiled with scientific names following those in the New Flora of the British Isles (Stace, 2019) and presented in **Appendix C**.

2.3.4. Habitats were marked on a paper base map and were subsequently digitised using a Geographical Information System (GIS).

2.3.5. Target notes were used to provide information on specific features of ecological interest (e.g. a badger *Meles meles* sett) or habitat features too small to be mapped. These are included in **Appendix D**.

2.3.6. Any invasive plant species listed on Schedule 9 of the WCA 1981 (as amended) which were evident during the Phase 1 habitat survey were also target noted. Detailed mapping of such species; or a full survey of the Site for all invasive plant species was beyond the scope of this commission.

2.3.7. During the survey, the suitability of habitats to support protected species, or species otherwise of conservation concern, was recorded.

HABITAT SUITABILITY INDEX (HSI) ASSESSMENT

2.3.8. Identified waterbodies within a 500m radius of an initial redline boundary for the Proposed Development (subsequently reduced for this planning application), to which access was possible, were assessed in May 2020 for their suitability to support GCN, using the standard HSI assessment

inventory) and local scale (e.g. by local records centres). In some instances, these are primarily based on aerial photograph analysis rather than field survey.

method (ARG UK, 2010, based on Oldham *et al*. (2000)). Waterbodies were identified using 1:25,000 OS mapping; and cross-referenced against aerial photography.

2.3.9. Waterbodies were assessed and scored on ten key variables which are known to influence breeding populations of GCN, in accordance with standard methods (ARG UK, 2010). These variables are:

- Geographic location;
- Waterbody area;
- Waterbody permanence;
- Water quality;
- Waterbody shading;
- Impact of waterfowl;
- Fish stocks;
- Number of waterbodies within 1km;
- Terrestrial habitat around the waterbody; and
- Macrophyte cover of the waterbody.

2.3.10. Scores for each of the above variables were used to calculate an overall HSI value for each waterbody. This was then cross referenced with the guidelines (ARG, 2010) to assign the pond to one of five categories: 'poor, below average, average, good or excellent'. Index calculation is not a failsafe method of identifying whether a waterbody supports GCN or not; therefore, professional judgement and availability of records of GCN in the locality has also been used to inform the requirement for further survey.

GREAT CRESTED NEWT EDNA SURVEY

2.3.11. GCN eDNA surveys were undertaken on 25 June 2020 on all identified waterbodies within 500m of the initial redline boundary for the Proposed Development, where ponds were in a suitable condition for this survey technique. Pond locations are shown on Figure 3. eDNA surveys were completed on Ponds 3 and Pond 4. Pond 1 was visited on the same date; however, it was possible to establish presence/absence of GCN without an eDNA sample being taken. This was due to individual GCN being seen in the pond by the survey team on this date. Pond 2 was also visited; however, low water levels and poor access rendered the pond unsuitable for survey.

2.3.12. The sampling and analysis were undertaken in accordance with the protocol set out in Appendix 5 of the Natural England approved guidelines (Biggs *et al*, 2014).

2.3.13. For each waterbody, a total of 20 water samples were collected into a sample bag, from locations evenly spaced around each waterbody. The contents of the bag were mixed and pipetted into six 50ml bottles.

2.3.14. The samples were sent to a laboratory for analysis by NatureMetrics. DNA was precipitated by centrifugation at 14,000 x g and then extracted using Quagen Blood and Tissue extraction kits. DNA was detected using qPCR amplification, carried out in 12 replicates per sample, using the primers and probe described by Biggs *et al,* (2014), in the presence of both positive and negative controls.

PRELIMINARY BAT ROOST ASSESSMENT – EXTERNAL INSPECTION

2.3.15. All structures and trees within the Site, where access was possible, were subject to a Preliminary Bat Roost Assessment (PBRA) to assess their potential to support bat roosts and search for

evidence indicating the current or historic use by roosting bats. This was carried out during the extended Phase 1 habitat survey in April 2020. Surveyors had no access to buildings to undertake internal inspections.

2.3.16. A ground-based visual assessment of trees and buildings was completed using binoculars to search for Potential Roosting Features (PRF) that may provide suitable roosting opportunities for bats. The surveys were conducted in accordance with Bat Conservation Trust (BCT) best practice guidelines (Collins, 2016). Where suitable features were noted, their location and a brief description of their character was recorded. Additionally, each feature was visually inspected for evidence indicating use by roosting bats such as; droppings, urine staining, scratch marks, and characteristic staining (from fur oils).

2.3.17. Trees and buildings were categorised in line with descriptions in **Table 2-1** based on features present and their location. The suitability for different types of bat roosts were also considered. For the purpose of the PBRA, potential roost types were grouped as follows;

- Maternity (breeding roost);
- Summer / transitional (to include transitional, satellite, night and day roosts); and
- Hibernation.

2.3.18. The PBRA was undertaken on 21 April 2020 by experienced surveyors, one of whom has over six years bat survey experience.

Table 2-1 - Roost Potential Categorisation

Category	Description
Confirmed	Structure or tree with features confirmed to be used by roosting bats either by historic records (verified appropriately), or evidence recorded during survey.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[5] and surrounding habitat.
Moderate	A structure or tree with one of more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[5] and surrounding habitat but unlikely to support a roost of high conservation importance (with respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[5] and/or

[5] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

Category	Description
	suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRF but with none seen from the ground or features seen with only very limited roosting potential[6].
Negligible	Buildings or trees with no realistic prospect of being used by bats.

PRELIMINARY BAT ROOST ASSESSMENT – INTERNAL INSPECTION

2.3.19. An internal and endoscopic inspection of structures where required were completed on 14 July 2020. The internal spaces of the structures were searched for evidence indicating use by roosting bats. Evidence might include droppings, urine staining, and scratch marks or characteristic staining (from fur oils). An endoscope was used to access the internal spaces of potential roost features present across the structures. This survey was undertaken by a Natural England Level 2 Class licenced bat surveyor, with several years' experience completing preliminary bat roost assessments. The additional information obtained enabled an updated assessment of the bat roosting suitability of the structures to be made, in line with the descriptions in **Table 2-1**.

BAT DUSK EMERGENCE SURVEY

2.3.20. Structures identified as having features with potential to support bat roosts were subject to further surveys to observe if bats emerged from any of the identified potential roost features. The level of survey effort employed was proportional to the category of identified roost features in each structure of potential for roosts to be present. A single dusk emergence survey was undertaken on the 14 July 2020 on each of the structures confirmed as having potential roost features (Buildings B1 and B2) during the Preliminary Bat Roost Assessment. Two surveyors were positioned at each building and surveyor locations were utilised to fully cover the potential roosting features on the buildings.

2.3.21. The dusk emergence surveys began 15 minutes before sunset and continued until approximately 120 minutes after sunset.

2.3.22. The surveyors used Duet bat boxes and SM2 recorders to listen to and record echolocation calls of any bats observed.

PEREGRINE FALCON SURVEY

2.3.23. A dedicated peregrine falcon survey was undertaken around the main exhaust stack, following the methods set out in Gilbert *et al*. 1998. A single two-hour vantage point (VP) survey was undertaken on 25 June 2020. The VP location was from the roof of the boiler structure, which provided views of the light housings on the exhaust stack, where splashing on two of the light housings indicated use

[6] This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

by peregrine falcon and the presence of a male had been recorded during the PEA. The presence of any adults, eggs or young were recorded.

2.4 ECOLOGICAL IMPACT ASSESSMENT

2.4.1. The ecological impact assessment (EcIA) presented in this report has been carried out with regard to relevant legislation and planning policy and guidance, including the CIEEM Guidelines for EcIA as identified above. In accordance with the CIEEM EcIA Guidelines (2019) an assessment has been carried out that collates relevant baseline information in order to predict the effects of the Proposed Development on Important Ecological Features (IEF). Ecological features that were determined not to be IEF are not assessed. The relative importance of the identified IEF's is defined in a geographic context as per section 4.7 of the CIEEM Guidelines (2019).

2.4.2. Where measures may be required to support legal compliance for features that are not IEF, these are identified in **Section 4.6** and are not subject to full ecological impact assessment.

SETTING THE ZONE OF INFLUENCE

2.4.3. In the first stage of the assessment, biophysical changes (impacts) that would result from implementation of the Proposed Development are identified. Where these could have an effect upon IEF, the Zone of Influence (ZoI) over which the change would occur is identified. The impacts on IEF resulting from these biophysical changes are then described.

DETERMINING SIGNIFICANT EFFECTS

2.4.4. A significant effect is defined as an effect that could have an impact upon the integrity or conservation status of a designated site, habitat/eco-system or species population where these are defined as IEF. Ecological impacts and effects are described according to the criteria in Section 5.9 of the CIEEM Guidelines (2019), as quoted below:

- Whether the impact/effect is positive or negative;
- The spatial extent over which the impact/effect may occur;
- The magnitude of the impact, for example the extent of a habitat lost or the noise levels generated by demolition activities;
- The duration over which the impact leading to the effect will occur;
- frequency and timing of the identified impact; and
- whether the effect is reversible or irreversible.

2.4.5. Significant effects on IEF are assessed as either positive or negative. Where an effect is neither positive nor negative, this is assessed as not significant.

CONSIDERATION OF MITIGATION IN THE ECIA

2.4.6. The impact assessment set out in Section 4 provides an initial impact assessment which includes 'embedded mitigation' but does not include 'targeted mitigation'. 'Embedded mitigation' includes the following:

- Modifications to the location or design of the Proposed Development, that are an inherent part of the Proposed Development; and
- Measures that would be delivered regardless of effects on IEF, for example standard practice pollution prevention measures.

2.4.7. Where significant effects to IEF are predicted in the initial assessment, targeted avoidance, mitigation, and as a last resort compensation measures are considered. The initial impact assessment is then revisited with these measures included, and any residual effects are described.

2.5 NOTES AND LIMITATIONS

2.5.1. Every effort has been made to provide a comprehensive description of the Site; however, the following specific limitations apply to this assessment:

- Ecological survey data is typically valid for two years unless otherwise specified, for example if conditions are likely to change more quickly due to ecological processes or anticipated changes in management. This limitation has not negatively impacted the results or conclusions of this report.
- Records held by local biological record centres and local recording groups are generally collected on a voluntary basis; therefore, an absence of records does not demonstrate an absence of species, it may simply indicate a gap in recording coverage.
- The Phase 1 habitat survey was carried out over a period of two days, as such, only a selection of all species that occur within the Site will have been recorded. However, through use of desk study information to supplement site survey data, it is considered that an accurate assessment of the potential for the Site to support protected species or those of conservation concern was possible and this has not affected the overall conclusions of the appraisal.
- The extended Phase 1 habitat map (**Figure 3**) has been reproduced from field notes and plans. Whilst this provides a sufficient level of detail to fulfil the requirements of a PEA, maps are not intended to provide exact locations of habitats and are not suitable for scaling.
- A number of ornamental plant species were present within the Site. These have been identified to species level where possible; however, owing to the large number of horticultural varieties some plants could not be identified. Ornamental plants may be of value to wildlife; however, none are characterised as rare or notable from a native biodiversity conservation perspective. Thus, this limitation does not affect the overall conclusions of this appraisal.
- The peregrine falcon survey was conducted at the end of June. Although this falls within the suitable survey period for this species documented within Gilbert *et al 1998*, it is possible that peregrine falcons could have bred and the young fledged and dispersed prior to the survey. This could be due to the mild winter and early spring of 2019/2020, in combination with the warm microclimate associated with the structures around the Site. This is explored in more detail in Results (**Section 3.4**).
- Pond 2 was dry at time of eDNA survey and was therefore not suitable for eDNA analysis. Ponds 3 and 4 were sampled, but an inconclusive result was returned from the eDNA analysis laboratory. This is explored in more detail in the Results (**Section 3.4**), and Ecological Impact Assessment.

3 RESULTS

3.1 DESIGNATED SITES

STATUTORY SITES

3.1.1. The desk study identified three statutory nature conservation sites of European or International importance within 10km of the Site. Descriptions of the sites are detailed in **Table 3-1** below.

Table 3-1 - Statutory Designated Sites of European or International Importance

Site Name	Designation	Approximate Distance and orientation from Site	Description
River Derwent	SAC, RAMSAR, SSSI	2.4km to the north-east	The River Derwent is considered to represent one of the best British examples of the classic river profile. It supports diverse communities of aquatic flora and fauna, many elements of which are nationally significant. The river is also noted for its diversity of fish species. The riverine habitat also supports an excellent breeding bird community. During the winter, the Lower Derwent is vital in maintaining internationally important populations of Bewick's swan *Cygnus columbianus*.
Lower Derwent Valley	SAC, SPA, Ramsar and SSSI	5.7km to the north-east	The river and flood meadows play a substantial role in the hydrological and ecological functioning of the Humber River Basin. The river and associated wetland and flood plain meadows support a diverse assemblage of wetland plants and invertebrates, which in turn support important populations of otter, migratory fish, and breeding and wintering waterfowl. The site is of particular note as a staging area for passage birds in spring.

Site Name	Designation	Approximate Distance and orientation from Site	Description
Humber Estuary	SAC, SPA, Ramsar, SSSI	7.2km to the east	The Humber is the second-largest coastal plain estuary in the UK, and the largest coastal plain estuary on the east coast of Britain. Habitats within the Humber Estuary include Atlantic salt meadows and a range of sand dune types in the outer estuary, together with subtidal, extensive intertidal mudflats, glasswort beds and coastal lagoons. Significant fish species include river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus*. Populations of these fish species migrate from marine and estuarine habitats to freshwater habitats to breed – a proportion of the Humber population is likely to also be part of the River Derwent SAC population, and vice versa.
Skipwith Common	SAC, NNR, SSSI	9.4km to the north	The northern Atlantic wet heath at Skipwith Common is the most extensive of its type in the north of England. There is a small population of marsh gentian *Gentiana pneumonanthe.* The wet heath is part of transitions from open water, fen, reed and swamp to European dry heaths and other habitats. The site has great ornithological and entomological importance.

3.1.2. No other statutory nature conservation sites were identified within 2km of the Site.

NON-STATUTORY SITES

3.1.3. The Drax Skylark Centre and Nature reserve lies 1.2km north west of the Site. This is maintained by Drax Power Ltd and information on the Drax website notes that it supports a diverse range of wildlife.

3.1.4. Data received from NEYEDC identified four non-statutory nature conservation sites within 2km of the centre of the Site. Sites of Importance for Nature Conservation (SINCs) are sites important for their nature conservation value. Sites that have had their SINC status revoked by the North Yorkshire SINC panel have been surveyed and assessed against the SINC selection guidelines and found to no longer qualify for SINC status. Some district planning authorities may still use a historic list of SINC sites in their local development plan. As such, former SINC should be considered as part of any planning application. These sites may not be of sufficient quality to qualify as a SINC but are still likely to be of higher ecological quality than other land in the area. Sites within 2km of the Site are detailed in **Table 3-2** below:

Table 3-2 - Non-statutory designated sites identified within 2km of the Site

Site Name	Designation	Approximate Distance and orientation from Site	Description
Brockholes	SINC	1.9km to the south east	A wetland area
Fields near Barlow Grange Farm	SINC	2.0km to the north west	An area of neutral grassland
Meadow East of Orchard Farm	SINC	2.0km to the north west	An area of neutral grassland
Disused Railway Embankment	Deleted SINC	1.5km to the east	The site is composed of secondary scrub, tall ruderals, young broadleaved woodland and acid grassland. It no longer qualifies as a SINC, being denotified by the North Yorkshire SINC Panel in 2005.

3.1.5. Some of the designated sites identified could theoretically be affected by the Proposed Development. As such, they will be considered further in this report.

OTHER HABITATS OF CONSERVATION IMPORTANCE

3.1.6. Multiple stands of deciduous woodland Habitat of Principal Importance (HPI; as defined in the NERC Act 2006) were identified within 1km of the Site. No areas of ancient woodland or other confirmed or possible HPI were identified, with the exception of four waterbodies (Waterbodies 1 – 4 as described below).

3.1.7. Some of these HPI could theoretically be affected by the Proposed Development. As such, they will be considered further in this report.

3.2 HABITAT SURVEY

OVERVIEW

3.2.1. The Site consisted of a mosaic of habitats including semi-improved neutral grassland, short ephemeral vegetation, tall ruderal vegetation and plantation woodland. There are three waterbodies with 500m of the Site.

3.2.2. The following account summarises the findings of the Phase 1 habitat survey and associated protected and notable species assessment. Thirteen Phase 1 habitat types, in addition to hardstanding (not listed as a habitat type within the JNCC handbook) were identified in the Survey Area. These are illustrated on **Figures 3.1** to **3.6**. A description of the dominant and notable species and composition of each habitat is provided below, with an indicative species list provided in **Appendix C**. Target notes are provided in **Appendix D** and photographs in **Appendix E**.

BROAD-LEAVED PLANTATION WOODLAND – A.1.2.2

3.2.3. Areas within the Site contained small stands of broad-leaved plantation woodland dominated with willow *Salix sp.* and birch *Betula sp.* with occasional alder *Alnus glutinosa*. The plantation woodland was about 20 years of age, of an even age structure with no ground flora. The majority of this habitat within the Survey Area formed part of landscaping around an existing car park.

DENSE AND SCATTERED SCRUB – A.2.1 AND A2.2

3.2.4. Areas of scrub dominated by hawthorn *Cratageus monogyna* with frequent birch species occurred at the northern end of the Site and beyond the Site within the Biomass storage area **(Appendix E: Photograph E-1).**

NEUTRAL SEMI-IMPROVED GRASSLAND – B.2.2

3.2.5. Neutral semi-improved grassland was present within the Biomass Storage Area and smaller areas around the boundaries of the Site (**TN3) (Appendix E: Photo E-2)**. Abundant grass species included crested dog's-tail *Cynosurus cristatus*, cock's-foot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus* and creeping soft-grass *Holcus mollis.* Herb species included red clover *Trifolium arvense*, bird's-foot trefoil *Lotus corniculatus*, hop trefoil *Trifolium campestre,* ribwort plantain *Plantago lanceolata,* common vetch *Vicia sativia* and tufted vetch *Vicia cracca*. Green-winged orchid *Anacamptis morio* and common spotted orchid *Dactylorhiza fuchsii* were both rare in the vicinity of **TN1.**

3.2.6. In areas around buildings within the Site oxeye daisy *Leucanthemum vulgare* was abundant with occasional red campion *Silene dioca* and yarrow *Achillea millefolium*. (**TN8**) (**Appendix E: Photograph-3**)**.** A similar species mix was recorded around the southern cooling towers (**TN11**) (**Appendix E: Photograph E-4**).

TALL RUDERAL VEGETATION – C.3.1

3.2.7. Areas around the old biomass bales within the Biomass Storage Area were overgrown with tall ruderal vegetation with dominant spear thistle *Cirsium vulgare* and cleavers *Galium aparine*. Common nettle *Urtica dioica* was frequent and Himalayan balsam *Impatiens glandulifera* locally frequent (**TN4**) (**Appendix E: Photographs E-5**). Habitats within the Biomass Storage Area were within the initial redline boundary for the Proposed Development, but no longer fall within the Site.

OPEN STANDING WATER – G.1

3.2.8. There were several areas of standing water within the Site associated with the processes of the power plant. These were all concrete lined with steep sides and with no macrophytes and were considered of negligible ecological importance.

3.2.9. Four ponds were located outside of the Site and main Survey Area (**TN2, 5, 6 and 7**), with three of these within 500m of the Site These were all subject to HSI assessment; the results of which are in **Section 3.3**. All of the ponds contained floating and emergent vegetation and did not appear to support fish or wildfowl. The ponds are shown in **Appendix E: Photographs E-5, 6 and 7**.

3.2.10. No watercourses have been identified outside the Drax Power Station Site, that are within 100m of the Proposed Development.

AMENITY GRASSLAND – J.1.2

3.2.11. Several small sections of amenity grassland were present throughout the Site, each section showing signs of regular management, with a sward height of less than 5cm.

3.2.12. These sections were dominated by perennial rye grass *Lolium perenne*, with dandelion *Taraxacum officinale* and common daisy *Bellis perennis* recorded as frequent. Species which were rare in amenity grassland included cock's-foot, Yorkshire fog and ribwort plantain.

EPHEMERAL VEGETATION – J.1.3

3.2.13. Small areas of ephemeral vegetation were found around the Site comprising mainly pioneering vegetation on bare ground or hardstanding. Species included broad-leaved dock *Rumex obtusifolius*, white clover *Trifolium repens*, colt's foot *Tussilago farfara*, and scentless mayweed *Tripleurospermum inodorum* (**TN9**).

ORNAMENTAL PLANTING – J.1.4

3.2.14. Ornamental planting was distributed around the Site, particularly around the office buildings and car parking areas. Ornamental planting and landscaping comprised non-native species, as such no plants were identified to species or genus level.

INTACT SPECIES-RICH HEDGEROW – J.2.3.1

3.2.15. A single intact species rich hedgerow was located adjacent to the Biomass Storage Area (**TN10**) **(Appendix E: Photograph E-7**), on the edge of the Site. The hedge was dominated by hawthorn with occasional field maple *Acer campestris,* blackthorn *Prunus spinosa*, rose, *Rosa sp* and alder.

INTACT SPECIES-POOR HEDGEROW – J.2.3.2

3.2.16. Intact species poor hedgerows comprising hawthorn and blackthorn were recorded at the northern end of the Site, bordering areas of semi-improved grassland located around buildings.

BUILDINGS – J.3.6

3.2.17. The majority of the Site is dominated by large industrial steel-clad buildings **(Appendix E: Photograph E-10)**. There were several single and double storey brick buildings with flat concrete roofs **(Appendix E: Photograph E-11)** and three small steel-clad sheds **(Appendix E: Photograph E-12)**.

BARE GROUND – J.4

3.2.18. Bare ground was present in areas of the Biomass Storage Area. (**TN7** and **Appendix E: Photo E-13).** Habitats within the Biomass Storage Area were within the initial redline boundary for the Proposed Development, but no longer fall within the Site of the Proposed Development.

3.2.19. Some of the habitats identified could be affected by the Proposed Development. As such, they will be considered further in this report.

3.3 PROTECTED AND NOTABLE SPECIES ASSESSMENT

3.3.1. Habitats present within the Site have been assessed suitable to support a range of protected and notable species with further consideration given to the following species to be present within the Site:

- Bats;
- Badger;
- Birds;
- Reptiles;
- Amphibians including great crested newts; and
- Invasive Non-Native Species (INNS).

3.3.2. The Site was considered of limited suitability to support other protected or notable species and as such no species or species groups beyond those listed above will be considered further in this assessment.

3.4 AMPHIBIANS

HABITAT SUITABILITY INDEX (HSI) ASSESSMENT

3.4.1. A summary of the HSI results and location information for waterbodies is included in **Table 3-3.** Waterbody numbers correspond to those in **Figures 3.1** to **3.6**, with photographs of each waterbody provided in **Appendix E**. The HSI results indicated all waterbodies were suitable for use by great crested newts.

Table 3-3 - Habitat Suitability Index Results

Pond Name		1	2	3	4
Grid Ref		**SE 66160 28341**	**SE 66230 28425**	**SE 66295 28121**	**SE 66286 23121**
SI No	**SI Description**	**SI Value**			
1	Geographic location	1	1	1	1
2	Pond area	0.5	1	1	0.8
3	Pond permanence	0.9	0.9	0.1	0.9
4	Water quality	1	0.67	1	0.33
5	Shade	1	1	1	1
6	Waterfowl effect	1	0.67	0.67	0.67
7	Fish presence	0.7	0.7	1	1
8	Pond Density	1	1	1	1
9	Terrestrial habitat	1	1	1	1
10	Macrophyte cover	0.5	0.9	0.35	0.3
HSI Score		**0.83**	**0.87**	**0.69**	**0.74**
Pond suitability		Excellent	Excellent	Average	Average

3.4.2. The HSI results are considered to be an accurate reflection of all waterbodies surveyed. Pond 3 was a newly created pond within the Biomass Storage Area and was not visible on 2018 aerial photography.

3.4.3. The desk-top study returned seven records each of common toad *Bufo bufo*, common frog, *Rana temporaria* and smooth newt *Lissotriton vulgaris* from within Drax Power Station in 2011. Further details are provided in **Table B-1** in **Appendix B**

3.4.4. The waterbodies and surrounding grassland, scrub and woodland habitat within the Survey Area and wider landscape have the potential to support widespread amphibians, including great crested newt, providing opportunities for sheltering, foraging and breeding. The piles of unused biomass bales in the Biomass Storage Area (approximately 130m from Pond 3) offer potential hibernacula for amphibians as identified by TN4 and shown in Appendix **E Photo E-5**.

3.4.5. From the results of the HSI assessment, four ponds (Ponds 1, 2, 3 and 4) within 500m of the Proposed Development were identified as having Average or above habitat suitability and therefore suitable for eDNA survey.

3.4.6. Ponds 1 and 4 were subsequently subject to eDNA survey on the 26th June 2020. Surveyors directly observed a total of eight GCN rising to the surface of Pond 2 to breathe, prior to sampling. As GCN presence could be visually confirmed, eDNA sampling of this pond was not undertaken. Pond 3 had dried out at the time of the eDNA survey and could not be sampled. The eDNA survey results returned by NatureMetrics were Inconclusive for both Ponds 1 and Pond 4.

3.4.7. Observations made at Pond 2 indicate that GCN are present within the Survey Area and in the vicinity of the Proposed Development. Anecdotal reference to the presence of GCN in terrestrial habitat close to Pond 1 was also confirmed by staff working at the Site, during the eDNA survey on 26 June 2020. It is possible GCN could have used Ponds 1 and 4 during the 2020 breeding season, and on a precautionary basis this is assumed. GCN could not have bred successfully in Pond 3 in the 2020 breeding season. This was due to the pond drying out before any young would have matured enough to leave the water.

3.4.8. GCN could potentially use terrestrial habitats within the Proposed Development area and will therefore be considered further in this report.

BATS

3.4.9. The desk study returned 40 records of bats within 5km of the Site within the last yen years. These included records of unidentified bats *Myotis sp.*, soprano pipistrelle *Pipistrellus pygmaeus,* common pipistrelle *Pipistrellus pipistrellus* and noctule *Nyctalus noctula,* with all records located within the boundary of Drax Power Station. No records of roosts were returned.

3.4.10. The majority of the buildings within the Site offered limited suitability to support roosting bats. The main buildings were large with 24-hour internal lighting and industrial processes taking place. The interior of these buildings housed various boilers, furnaces and conveyor systems. The operation of the conveyors and equipment resulted in a noisy environment. Smaller brick buildings within the Site had the potential to support roosting bats and the waterbodies, scrub and grassland habitats provided a limited extent of potential foraging opportunities. None of the buildings were in the vicinity of any likely commuting routes to suitable foraging habitat beyond the Site.

3.4.11. Three buildings were considered to offer Low potential to support roosting bats during the preliminary external inspection on the 18 – 19 April 2020, with Building B3 subsequently downgraded to negligible during the detailed internal/external inspection on the 14 July 2020; these are detailed in **Table 3-4** with photographs provided in **Appendix E**.

Table 3-4 - Bat Roost Potential

Building	Location	Surrounding Habitat	Building	Feature	Photo Reference	Suitability
B1	SE 65979 26949	Highly industrial surrounding, with constant light and activity.	Brick and concrete construction. Flat, felt roof. Well maintained with a single feature identified	Feature on west side, adjacent to railway line. Overlapping cladding providing potential access to internal structure.	**Appendix E: Photo E14** and **E15**	Low
B2	SE 66018 26574	Highly industrial surrounding, with constant light and activity.	Brick and concrete construction. Flat, felt roof. Well maintained with a single feature identified. Undergoing maintenance work at time of survey.	Feature on east side. Lifting soffit board and roofing felt allowing potential access to internal brick work and internal structure.	**Appendix E: Photo E16** and **E17**	Low
B3	SE 65972 26779	Highly industrial surrounding, with constant light and activity.	Brick construction with flat corrugated iron roof. Single storey.	Damage to brick work and plaster on west side allowing potential access to internal brick work and internal structure.	**Appendix E: Photo E18**	Negligible

3.4.12. An internal survey of B3 provided no evidence of roosting bats. The internal assessment enabled the suitability of the structure to be reduced from Low to Negligible. No further survey effort in relation to bat roosting potential was required for this structure and it can be assumed that bat roosts are likely absent from this structure.

3.4.13. The bat dusk emergence survey returned no evidence of roosting bat within B1 and B2. In addition, no bat activity was recorded in the general vicinity of the surveyed structures. It is therefore almost certain that Buildings B1 and B2 do not support roosting bats, with the overall Survey Area considered to be of negligible value for roosting bats. The majority of the Site is comprised of hard-standing and buildings, is disturbed by ongoing industrial activity and lighting, with limited semi-natural habitats that could support foraging activity. Bats are therefore not considered further in this report, other than in relation to legal compliance.

BADGER

3.4.14. No records of badger were returned during the desk study for the Site.

3.4.15. No definitive signs of badger were identified during the field survey. The Site does not support any suitable habitat for badger setts (with limited areas of ground suitable for excavation, and a lack of banks/slopes) and provides limited foraging opportunities. Badgers are known to be present in eastern parts of the Drax Power Station site, from previous survey work for the Drax Repower DCO, carried out by WSP (WSP, 2018). None of the locations where badgers were previously recorded are within the Zone of Influence for the Proposed Development. Badger are therefore not considered further within this report, other than in relation to legal compliance.

BIRDS

3.4.16. The desk-top study returned details of 11 bird species listed on the Birds of Conservation Concern (BoCC) red-list alongside 17 amber-listed species. Seven species listed under Section 41 of the NERC ACT (2006) were also returned. These are listed in **Table B-2** in **Appendix B.** Schedule 1 species returned from the desk-top study included marsh harrier *Circus aeruginosus,* peregrine falcon and barn owl *Tyto alba,* all records were located from within the Drax Power Station boundary (including the Barlow Mound Nature Reserve). No habitats suitable for nesting, roosting, or foraging marsh harrier or barn owl were identified within the ZoI of the Proposed Development.

3.4.17. A male peregrine falcon was observed flying around the large vent stack within the Site during the extended Phase 1 habitat survey. White-wash (produced by the bird's droppings), was present on the stack at several points indicating that a bird of prey was roosting or nesting on the stack. No further evidence was observed, but it was considered possible that peregrine falcon could be nesting on the stack as white-wash was present beneath ledges suitable for nesting.

3.4.18. Several occupied swallow *Hirundo rustica* nests were present within buildings on Site, including those to be demolished.

3.4.19. The plantation woodland and ornamental planting also provide suitable nesting opportunities for various bird species. The semi-improved grassland within the Biomass Storage Area (within an initial redline boundary for the Proposed Development, but subsequently removed from the Site when the redline boundary was reduced) was assessed to offer suitable nesting habitat for a limited number and range of ground-nesting birds such as lapwing *Vanellus vanellus* and skylark *Alauda arvensis*. A single lapwing was recorded in this area during the survey, but no evidence of nesting was recorded. Power station personnel were observed working adjacent to this area during the extended Phase 1 habitat survey; it is likely that ongoing power station operations limit use of this area by nesting birds.

3.4.20. On the basis of the range of species recorded, birds (including peregrine falcon; see below) will be considered further in this report.

PEREGRINE FALCON

3.4.21. The dedicated peregrine falcon vantage point survey on 25 June 2020 recorded the presence of a female bird flying past the exhaust stack and evidence of splashing previously highlighted during the PEA around two of the light housings on the stack (approximately twenty metres below the highest point of the exhaust stack). The bird flew close to the vantage point location but did not exhibit any behaviours such as calling or patrolling that would otherwise indicate young to be present within the vicinity.

3.4.22. No further activity was recorded to indicate breeding within the Site, but anecdotal evidence from site personnel suggests breeding has occurred in previous years.

REPTILES

3.4.23. The desk-top study returned seven records of grass snake *Natrix helvetica* from 2011 from within Drax Power Station. Further details are provided in **Table B-1** in **Appendix B.**

3.4.24. The mosaic of habitats present within the Site, including grassland, scrub, woodland and waterbodies were assessed to provide potential sheltering, basking and foraging habitat for widespread reptile species including grass snake, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*. Additional features such as dead wood, log piles and compost heaps could be utilised by reptiles for shelter, foraging and breeding such as those in the Biomass Storage Area (**TN4** and shown in **Appendix E Photo E-5**), now outside the boundary of the Proposed Development.

3.4.25. The extent of suitable habitat present was not considered sufficient to support more than small numbers of reptiles and no notable assemblages. Previous surveys for reptiles carried out in connection with the Drax Repower DCO project in 2018 (WSP, 2018a) recorded no reptiles in suitable habitats to the east of the Survey Area for the Proposed Development. It is considered unlikely that any reptiles will be present in this location given previous survey data and the limited suitable habitat available.

3.4.26. Given that only small numbers of reptiles could potentially be present, they will not be considered further in this report, other than in relation to legal compliance.

NON-NATIVE INVASIVE PLANT SPECIES

3.4.27. The desk-top study returned records of Himalayan balsam from within Drax Power Station. Stands of Himalayan balsam were present within the Biomass Storage Area (**TN4**), but areas where this plant was recorded were subsequently removed from the red-line boundary for the Proposed Development. No other INNS were recorded.

3.4.28. As no Himalayan balsam was recorded within 50m of the Site, it will not be considered further in this report.

4 ECOLOGICAL IMPACT ASSESSMENT

4.1 OVERVIEW

4.1.1. This section of the report sets out the ecological impact assessment for the Proposed Development. This includes the following sections:

1. Proposed Development Impacts, including setting the Zone of Influence;
2. Identification and description of Important Ecological Features (IEF);
3. Description of Embedded Mitigation Measures;
4. Initial Impact Assessment (in the absence of Targeted Mitigation);
5. Description of Targeted Mitigation measures including for Legal Compliance;
6. Impact Assessment following application of Targeted Mitigation measures; and
7. Ecological Enhancement.

4.2 PROPOSED DEVELOPMENT IMPACTS & ZONE OF INFLUENCE

4.2.1. The potential impacts from the Proposed Development that could affect ecological resources are described in **Table 4-1**, below. Impacts are described with reference to EcIA terminology from the relevant CIEEM guidance. Potential impacts have been identified through review of the Proposed Development description (provided in Section 3 of the Planning Statement, submitted separately with this planning application) and in consultation with Drax and other specialists within the project team.

Table 4-1 – Proposed Development: Potential Ecological Impacts

Impact/Activity	Phase of Proposed Development	Biophysical changes that could result from impact	Potential Effects on Ecological Features	Zone of Influence
Site clearance and preparation; earthworks	Demolition	Removal of habitat	Reduction in extent of habitats; Reduction of habitat/resources used by protected and notable species; Incidental mortality or injury of protected and notable species	Within Site Boundary
Site clearance and preparation; earthworks	Demolition	Accidental emissions to air and water: dust and/or contaminants such as fuel/oil	Contamination of habitats, leading to harm to constituent plant species and protected/notable	Up to 10km for water-borne pollution (via hydrological connections such as watercourses

Impact/Activity	Phase of Proposed Development	Biophysical changes that could result from impact	Potential Effects on Ecological Features	Zone of Influence
		from mobile plant	species associated with habitat	only); up to 50m for demolition-phase air pollution (dust).
Site clearance and preparation; demolition / removal of existing structures	Demolition	Increase in human activity, plant movements, noise, and vibration from demolition activities	Noise and visual disturbance of protected and notable species	Up to 150m from the Site Boundary, dependent on location (as determined by 55db contour plots from Noise Demolition Statement)
Demolition / removal of existing structures	Demolition	Accidental emissions to air and water: dust and/or contaminants such as fuel/oil from mobile plant	Contamination of habitats, leading to harm to constituent plant species and protected/notable species associated with habitat	Up to 10km for water-borne pollution (via hydrological connections such as watercourses only); up to 50m for demolition-phase air pollution (dust).
Demolition / removal of structures	Demolition	Physical removal of buildings and other structures	Incidental mortality of protected species if present in buildings at time of demolition	Within the Site Boundary of Proposed Development
All demolition	Demolition	Use of artificial lighting	Artificial lighting may disturb protected or notable species, changing how they use the Site and surrounding areas	Up to 50m from the Site Boundary of Proposed Development
All demolition	Demolition	Transport and removal of material (deliberate and accidental) around and off-site	Accidental spread of non-native invasive species	Likely within the boundary of the Drax Power Station Site, but low potential to spread further afield.

4.2.2. Following completion of demolition, conditions are anticipated to be similar to the current baseline conditions, with no significant change from existing operation of the Drax Power Station. As such, no impact pathways which could lead to significant effects on IEF are predicted post-demolition.

4.3 IDENTIFICATION OF IMPORTANT ECOLOGICAL FEATURES

4.3.1. The Proposed Development would be located entirely within the footprint of the existing Drax Power Station boundary. The majority of demolition activity would take place within areas dominated by buildings and hard-standing. As such, only a limited number of IEF have been identified. These are set out in **Table 4-2**, which identifies whether the ecological features identified in Section 3 of this report are considered IEF or not.

Table 4-2 – Identification of Important Ecological Features

Ecological Feature	Level of Importance	Justification	Notes
River Derwent SAC, SPA and Ramsar and underpinning SSSI; Lower Derwent Valley SAC, SPA, Ramsar and underpinning SSSI; Humber Estuary SAC, SPA, Ramsar and underpinning SSSI	International/national	Internationally/European designated nature conservation sites Potential hydrological connections between the Proposed Development and the designated site, via the River Ouse, which is used by otter and migratory fish species that form part of these designations.	No disturbance impacts on bird features associated with these designations are anticipated, as the relevant species are outside the ZoI.
Skipwith Common SAC, SSSI, NNR	N/A	No conceivable impact pathways by which this site or it's qualifying features could be in any way affected by the Proposed Development	Outside the ZoI
Non-statutory designated sites	N/A	Drainage pathways from the Survey Area take a general route north-east towards the River Ouse. None of the non-statutory designated sites are in this area, and they are all located in excess of 50m from the Proposed Development. As	Outside the ZoI

Ecological Feature	Level of Importance	Justification	Notes
		such, there are no conceivable impact pathways by which they could be affected.	
On-site Habitats (adjacent to Site) Broad-leaved plantation woodland; Neutral semi-improved grassland; Intact species-rich hedgerow; Off-site habitats (various)	Local	None of the habitats within the Survey Area or the immediate surroundings are especially rare in a local or wider geographic context. The identified on-site habitat types comprised the most diverse and species-rich present. Species-rich Hedgerows are identified as HPI under the NERC Act and are a priority habitat under the Selby Biodiversity Action Plan.	Off-site habitats are referenced due to the ZoI for dust extending 50m from the Site boundary and for hydrological impacts extending up to 10 km downstream via watercourse connections. Standing water more than 50m from Proposed Development so outside ZoI for dust. On-site habitats other than those listed are considered so limited in extent, so common and widespread, and of such limited nature conservation interest that they are not IEF.
Great crested newts and other amphibians	Local	Present within 500m (maximum distance GCN are likely to travel over land) of the Proposed Development. Protected under Habitats Regulations and WCA legislation. Species of Principal Importance under The NERC Act and identified as a priority Species on Selby Biodiversity Action Plan. UK population thought to have declined in recent decades due to widescale reductions in suitable aquatic habitat. Size of population present not exceptionally large, or otherwise of importance for maintaining UK, Regional, or District population, with breeding ponds located outside	Present in off-site ponds, some limited potential to be present in suitable terrestrial habitats within the Proposed Development.

Ecological Feature	Level of Importance	Justification	Notes
		the ZoI of the Proposed Development	
Peregrine falcon	District	Likely to be breeding on-site. Specially protected from disturbance during breeding, via inclusion on Schedule 5 of WCA. Populations have generally increased across UK in recent decades, as the species increasingly exploits city-centre and industrial habitats which replicate its natural breeding habitat (ledges on cliffs and steep rocky slopes). Bird(s) using habitats on-site likely to form a significant proportion of the Selby District population.	Use of the Site likely to be primarily confined to use of main stack for breeding/roosting
Other breeding birds	N/A	Breeding bird communities within the ZoI of the Proposed Development not considered to be IEF, due to low numbers of breeding pairs, lack of rare or notable species, limited suitability of habitats, and limited diversity of species recorded.	Will be considered in relation to legal compliance only (**see Section 4.6)**
Widespread reptiles	N/A	Not considered to be an IEF	Will be considered in relation to legal compliance only (**see Section 4.6)**

4.4 EMBEDDED MITIGATION MEASURES

4.4.1. A number of measures are embedded into approach to demolition or represent standard good-practice that would be implemented regardless of the presence of ecological features. These measures are set out in **Table 4-3,** along with a description of the potential impacts they help avoid or mitigate.

Table 4-3 – Embedded Mitigation Measures

Measure	Ecological Impacts Avoided or Mitigated
Site Boundary amended – land-take from former biomass yard and some other areas substantially reduced.	Significant reduction in loss of semi-improved neutral grassland and other habitats in former biomass storage yard (5.51ha total area, all areas of IEF habitat brought outside Site boundary or retained within Site boundary with no loss during demolition activities. No loss of potential great crested newt terrestrial habitat within 245m of Pond 1 (may be used by great crested newts) and 330m of Pond 2 (confirmed to be used by great crested newts). No loss of potential terrestrial habitat within 400m of Pond 3 and 700m of Pond 4. Under previously proposed versions of the Site Boundary, loss of habitat within 50m of Pond 1 and 120m of Pond 2 would have occurred, with habitat loss occurring within 250 – 500m of Ponds 3 and 4.
Additional Site Boundary amendment (see Target Note 10 on **Figure 3.2**)	Loss of single on-site species-rich hedgerow avoided.
Habitats associated with southern cooling towers to be retained within Proposed Development (at Target Note 11 on Figure 3.6)	Loss of semi-improved neutral grassland in this area avoided.
Health and Safety Executive 'Health and Safety in Construction' guidance to be followed (see outline Demolition Environmental Management Plan (DEMP) submitted separately with this planning application).	Natural light will be used as far as possible, with use of artificial lighting minimised. Where artificial lighting is required the impacts to receptors such as biodiversity will be taken into consideration
Dust Mitigation and Monitoring Strategy will be implemented during demolition (see Outline DEMP)	Dust generation where demolition activities take place within 50m of IEF habitats will be supressed such that perceptible effects on these habitats will not occur.
A noise and vibration management strategy will be implemented during demolition activities (see Outline DEMP).	Noise levels will be controlled so as to achieve or better the predicted levels assessed in the Demolition Noise Assessment (WSP, 2020; submitted separately with this planning application).
Runoff from demolition activities would pass through the existing on-site Drax drainage system, which includes pollution control measures	Significant levels of water-borne pollution are unlikely to leave the Drax Power Station site, avoiding impacts on any IEF outside the Proposed Development.
In the event of the discovery of contaminated land, the Contaminated Land Management	Significant levels of water-borne pollution are unlikely to leave the Drax Power Station site, avoiding impacts on any IEF outside the Proposed Development.

Measure	Ecological Impacts Avoided or Mitigated
Strategy (contained in the Outline DEMP, submitted separately with this planning application) would be implemented	
Where adjacent to retained IEF habitats, the boundary of the Proposed Development would be securely fenced to prevent accidental straying into retained habitats by plant and personnel (contained in the Outline DEMP, submitted separately with this planning application).	Accidental tracking over/storage of materials in areas supporting IEF habitats will be avoided.

4.5 INITIAL IMPACT ASSESSMENT

4.5.1. This section of the EcIA sets out the initial impact assessment for each of the identified IEF, with inclusion of Embedded Mitigation.

STATUTORY DESIGNATED SITES

4.5.2. The nearest Statutory Designated Site is the River Derwent, located approximately 2.4 km from the Proposed Development. No habitats suitable to support species for which this (or any other) Statutory Designated Site are present on-site or within the ZoI for dust or disturbance impacts of the Proposed Development.

4.5.3. Therefore, the only relevant impact pathway is the accidental release of water-borne pollution. As set out in **Table 4-3**, Embedded Mitigation Measures would be in place that would minimise the risk of a significant pollution event. With these measures in place there is a negligible risk of water-borne pollution leading to any perceptible effects on Statutory Designated Sites. As such, no significant effects on Statutory Designated Sites are likely to arise; no targeted mitigation is required to avoid significant effects.

HABITATS

4.5.4. The following on-site and off-site habitats were considered of sufficient importance (Local) to require assessment:

- Broad-leaved plantation woodland;
- Neutral semi-improved grassland; and
- Intact species-rich hedgerow.

4.5.5. Off-site habitats were also identified as IEF, in the context that those within 50m of the Proposed Development could be subject to demolition-phase air quality impacts and those up to 10km downstream (e.g. where hydrologically connected via drainage ditches and watercourses) could be subject to water-borne pollution impacts.

4.5.6. As set out in **Table 4-3**, Embedded Mitigation Measures would be in place that would minimise the risk of a significant pollution event. With these measures in place, there is a negligible risk of air-borne or water-borne pollution leading to any perceptible effects to IEF habitats. The Embedded Mitigation Measures have also avoided the loss or disturbance of IEF habitats that would otherwise have occurred, through amendments to the Site Boundary. There would be no loss of any IEF habitats under the current Site boundary for the Proposed Development. There would be a loss of 0.27ha of ruderal herb vegetation and 0.03ha of dense scrub; these habitats are not IEF.

4.5.7. Given the above, **no significant effects** on IEF habitats are predicted to arise from the Proposed Development. No targeted mitigation measures are therefore considered necessary for IEF habitats.

GREAT CRESTED NEWTS

4.5.8. GCN have been recorded in Pond 2. The 2020 surveys for GCN returned inconclusive results for Ponds 1 and 4, and Pond 3 dried up and could not be surveyed (**See Section 3.4**). On a precautionary basis, it is assumed that GCN and other common and widespread amphibian species may use Ponds 1 and 4 for breeding; Pond 3 may be suitable in some wetter years. Terrestrial habitats within the Proposed Development within 250m of Ponds 1 and 2 may be used by a small proportion of the overall population, with very occasional use of habitats within 250 – 500m of Ponds 1 – 4. Use of terrestrial habitats is likely to be limited, because much more suitable terrestrial habitat is present to the north of the Proposed Development, closer to the ponds.

4.5.9. Ponds 1 – 4 are likely to comprise a 'metapopulation', with GCN moving between them across and between years. The Proposed Development is located 245m from Pond 1 and more than 250m from any other pond (**see Figure 3.1 and Figure 3.2**). The only habitat within 250m of Pond 1 is approximately 0.05ha of hard-standing which does not provide suitable habitat for GCN. In light of the distance between the ponds and the Proposed Development, and that the majority of habitats within 250 – 500m of any pond comprise hard-standing and buildings, impacts on GCN are considered highly unlikely and no effects upon individual GCN or their habitats are predicted. As such no consideration of targeted mitigation measures is required.

4.5.10. Given the above, effects on GCN are considered **not significant**.

PEREGRINE FALCON

4.5.11. Peregrine falcon have been recorded on-site during 2020, with evidence suggesting birds roosted, and may have bred, on the main stack of the existing power station, at a height of approximately 239m. Anecdotal evidence suggests they have bred in this location, and it is assumed on a precautionary basis that the main stack may be used again for breeding in the future. The main stack is outside the Proposed Development.

4.5.12. The only conceivable impact pathway by which peregrine falcon may be affected is noise and visual disturbance during demolition activities. This could theoretically (a worst-case scenario) cause a breeding pair to abandon their nest, leading to the loss of a brood. The Demolition Noise Assessment (WSP, 2020, provided separately with this planning application) has modelled predicted noise levels at the ledge height (~239m) of the main Stack. The worst-case scenario for noise during demolition has been modelled as 67 dB LAeq. This would only occur if all demolition plant and machinery under scenario 3 in the Demolition Noise Assessment operated concurrently. This is relatively unlikely to occur, for logistical reasons.

4.5.13. Research suggests that peregrine falcon habituate well to disturbance relative to many raptor species and may tolerate stochastic noise events up to 141dB with no long term effects on breeding success or wider behavioural change. The presence of humans is also often tolerated within 50m of a nest site, provided it is below rather than above a nest site (Ruddock and Whitfield, 2007). One of the authors of this report observed a pair of peregrine falcons successfully rear a brood of three chicks in central Bristol in 2019. The pair nested on a ledge on the side of a derelict building opposite the WSP Bristol office. This was at a height of approximately 50m above ground level, with a busy adjacent road and public footway within 70m, and several construction projects within 250m.

4.5.14. Given the above, demolition activities associated with the Proposed Development are unlikely to lead to significant behavioural change in any peregrine falcons using the Site or interfere with the use of the Site for breeding by this species.

4.5.15. Given the above, effects on peregrine falcon are considered **not significant**.

SUMMARY OF INITIAL IMPACT ASSESSMENT

4.5.16. **No significant effects** on Important Ecological Features are expected to arise, including in the absence of Targeted Mitigation measures.

4.6 TARGETED MITIGATION MEASURES

4.6.1. As described in the preceding parts of **Section 4.5**, some Targeted Mitigation measures are proposed to support compliance with wildlife legislation and/or national and local planning policy. These are set out in **Table 4-4**, below.

Table 4-4 – Targeted Mitigation Measures

Measure	Relevent Ecological Feature(s)	Purpose of measure
A Precautionary Method of Working (PMoW) would be implemented during clearance of scrub and ruderal vegetation. This would be implemented under the oversight of a suitably qualified ecologist. The PMoW would include details of vegetation management and hand and destructive-searching methods, and actions to be taken if reptiles are encountered.	Non-IEF reptiles	These measures would minimise the risk of incidental mortality and injury of reptiles if present. Support compliance with Wildlife and Countryside Act (1981, as amended) Support compliance with Paragraphs 170 and 174 of NPPF. Support compliance with Policy SP18(3) of Selby District Core Strategy

Measure	Relevent Ecological Feature(s)	Purpose of measure
In the first instance, vegetation and building demolition will take place outside the nesting bird season (i.e these activities will not take place between March and August inclusive, in any calendar year). If removal of vegetation/structures suitable for breeding birds outside the nesting bird season is not possible, these features will be inspected by an ecologist prior to demolition/removal commencing, with appropriate mitigation measures put in place in the event breeding birds are present. Buildings may have suitable features removed outside the bird nesting season, where appropriate to the nature of possible nesting features present. These inspections by an ecologist will also reconfirm the suitability of buildings and other structures for bats.	Non-IEF - breeding birds Non-IEF bats (if present in future)	Support compliance with Conservation of Habitats and Species Regulations (2017, as amended) Support compliance with Wildlife and Countryside Act (1981, as amended)

4.6.2. With the implementation of the measures described in **Table 4-4**, the Proposed Development is expected to be delivered in compliance with applicable wildlife legislation and planning policy.

4.7 IMPACT ASSESSMENT AFTER TARGETED MITIGATION MEASURES

4.7.1. All ecological impacts associated with the Proposed Development were considered to be non-significant prior to the application of Targeted Mitigation. This remains the case after the application of Targeted Mitigation.

4.8 ECOLOGICAL ENHANCEMENT

4.8.1. The Proposed Development is being delivered entirely within the operational Drax Power Station Site. The Site is subject to regular disturbance as part of ongoing necessary power station activities and needs to retain operational flexibility to generate electricity for the National Grid. As such, both ecological impacts and opportunities for ecological enhancement are limited. The following measures have nevertheless been incorporated into the Proposed Development:

- Providing a suitable location can be identified, provision of five Schwegler 2F bat boxes and five Schwegler No.10 swallow nesting cups, to be installed on trees/buildings across the wider Drax Power Station Site.

5 CONCLUSIONS

5.1.1. The baseline assessment presented in this Ecological Impact Assessment has determined that the Site and immediate surroundings of the Proposed Development are of limited ecological value. Nevertheless, some Important Ecological Features have been identified within the potential Zone of Influence of demolition activities.

5.1.2. The Important Ecological Features identified included Statutory Designated Sites, on-site and off-site habitats, great crested newts and peregrine falcon. The Proposed Development is not predicted to lead to significant effects on any of these Important Ecological Features.

5.1.3. No impact pathways which could lead to Likely Significant Effects on European Sites or Ramsar Sites have been identified. The Proposed Development is therefore not considered to require an Appropriate Assessment or any further assessment under Regulation 63 of the Conservation of Habitats and Species Regulations (2017, as amended).

5.1.4. Targeted measures to support compliance with wildlife legislation, national planning policy, and local planning policy have been included within the approach to demolition. No long-term changes to power station operations would occur that would affect ecological features within and adjacent to the Site. As such, no mitigation measures are required following completion of demolition activities.

5.1.5. Opportunities for ecological enhancement have also been considered and incorporated into the proposals. These include the provision of bird and bat boxes, which is considered an appropriate scale of enhancement in the context of the Proposed Development being located within an operational power station.

5.1.6. The Proposed Development is considered compatible with relevant wildlife legislation, national planning policy (including the NPPF) and local planning policy (The Selby District Core Strategy). The assessment has also been completed with due regard to the Selby Biodiversity Action Plan.

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- WSP (2018b) The Drax Power (Generating Stations) Order, Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire. Appendix 9.1: Preliminary Ecological Appraisal

Figure 1 - Site Location

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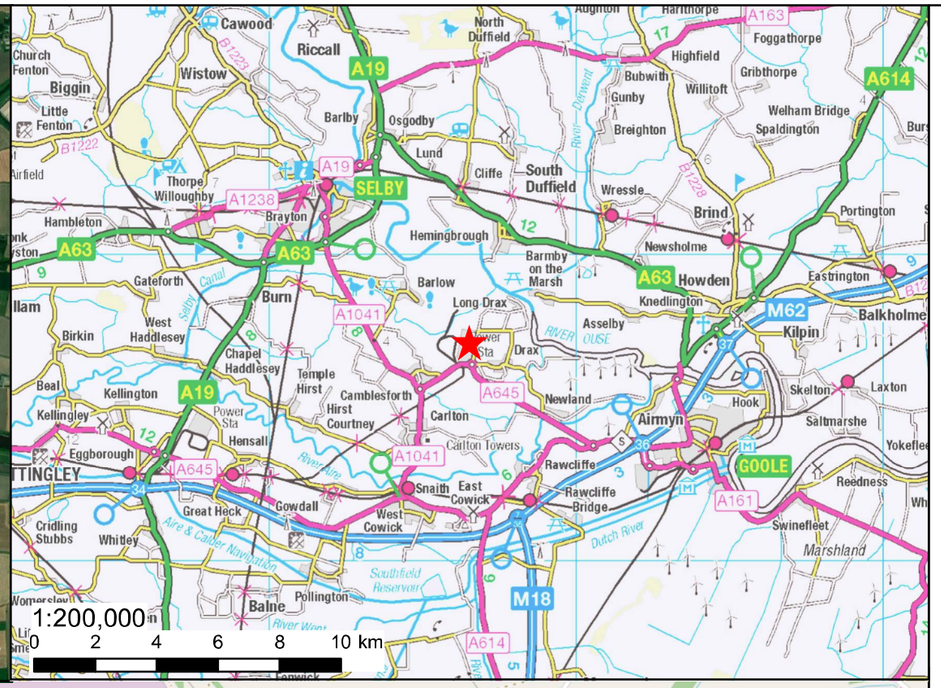

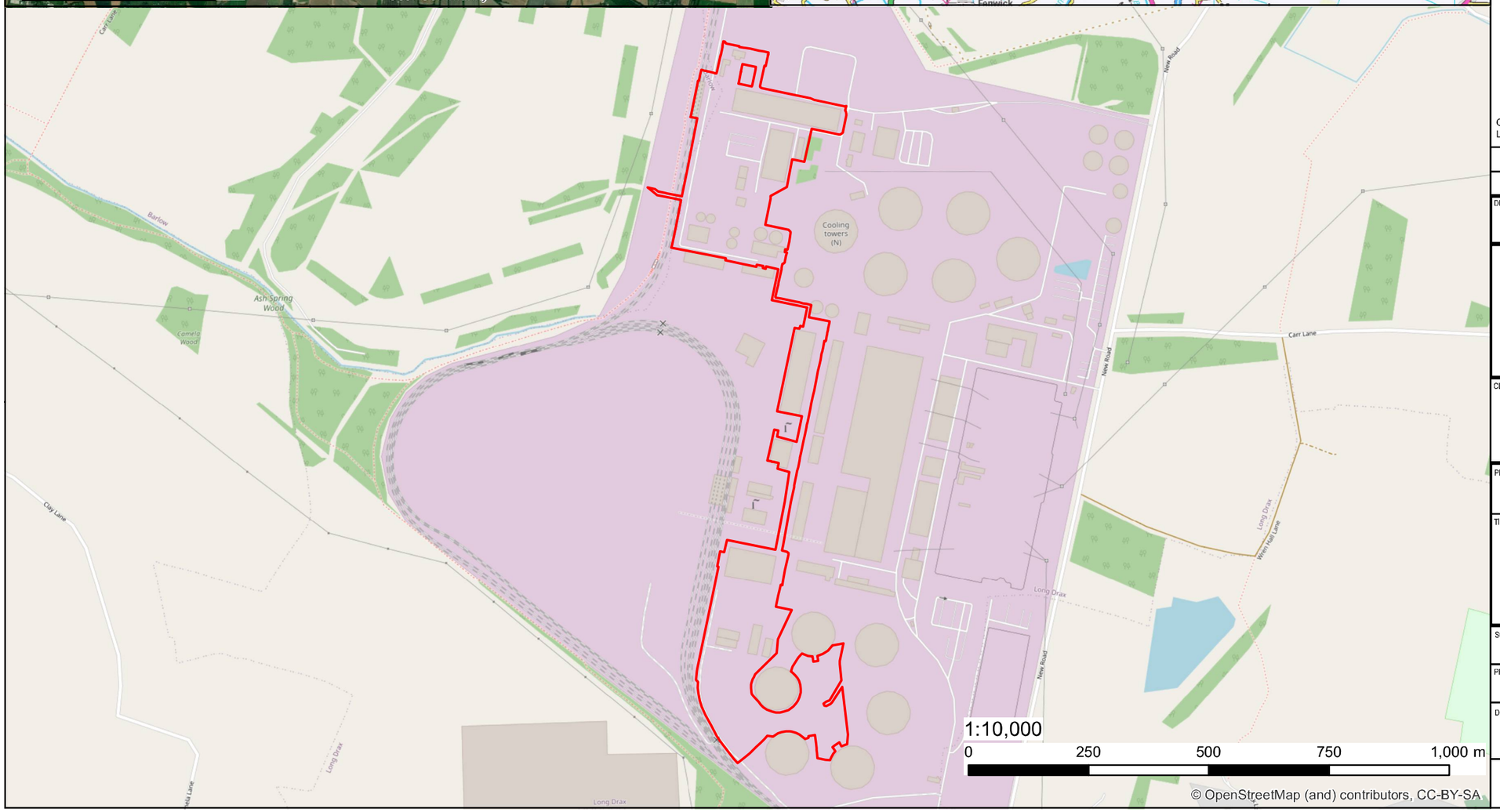

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Site Location

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Figure 2 - Site Boundary

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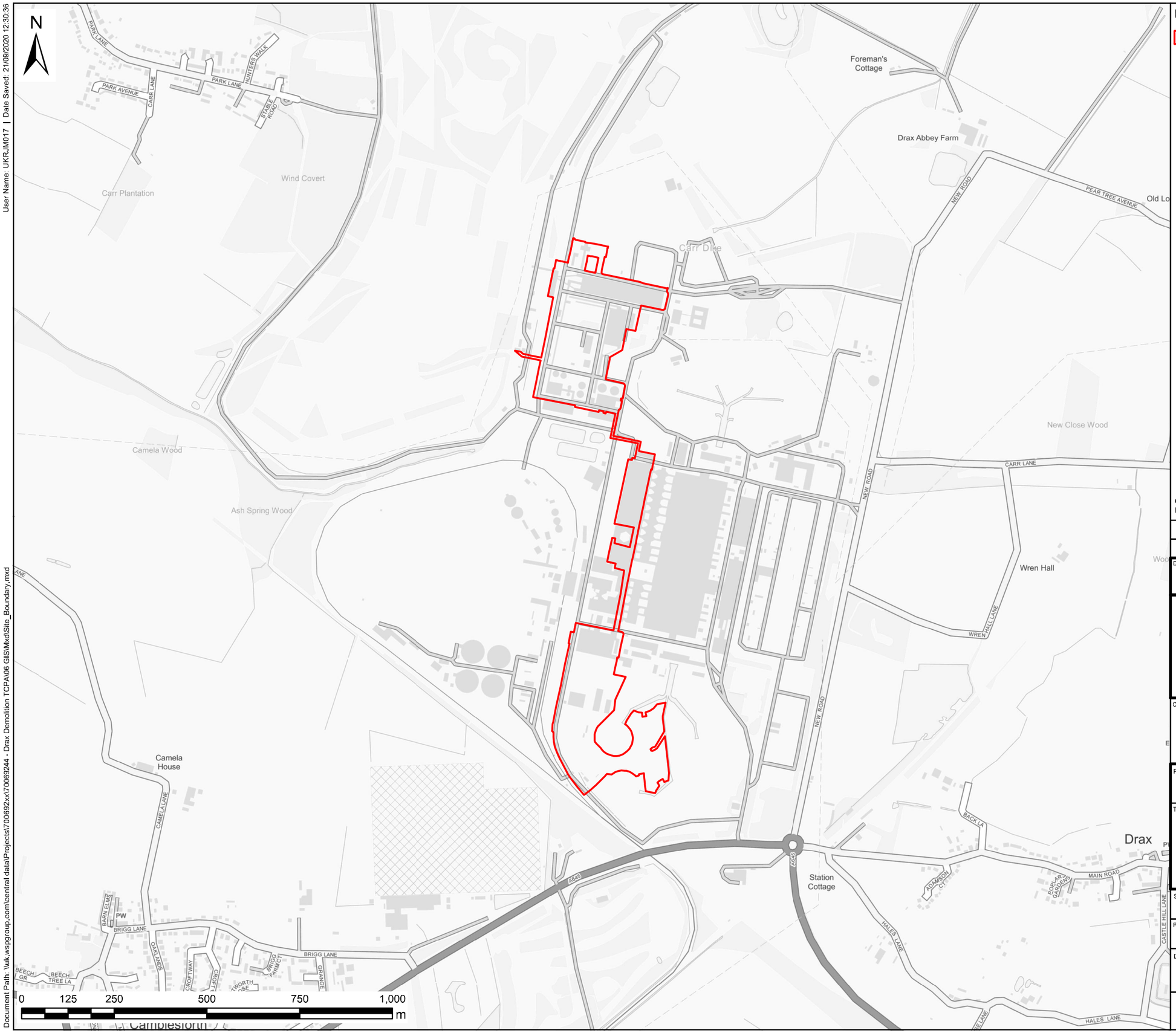

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Figure 3 - Extended Phase 1 Habitat Map

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Key

Site Boundary

Phase 1 Habitats

Standing water

Hard standing

Target Note

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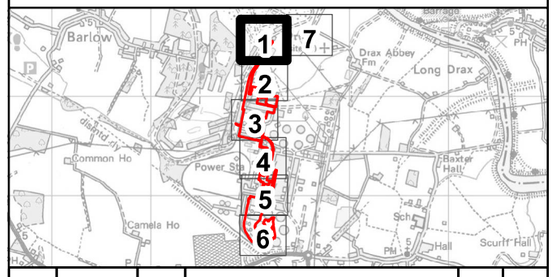

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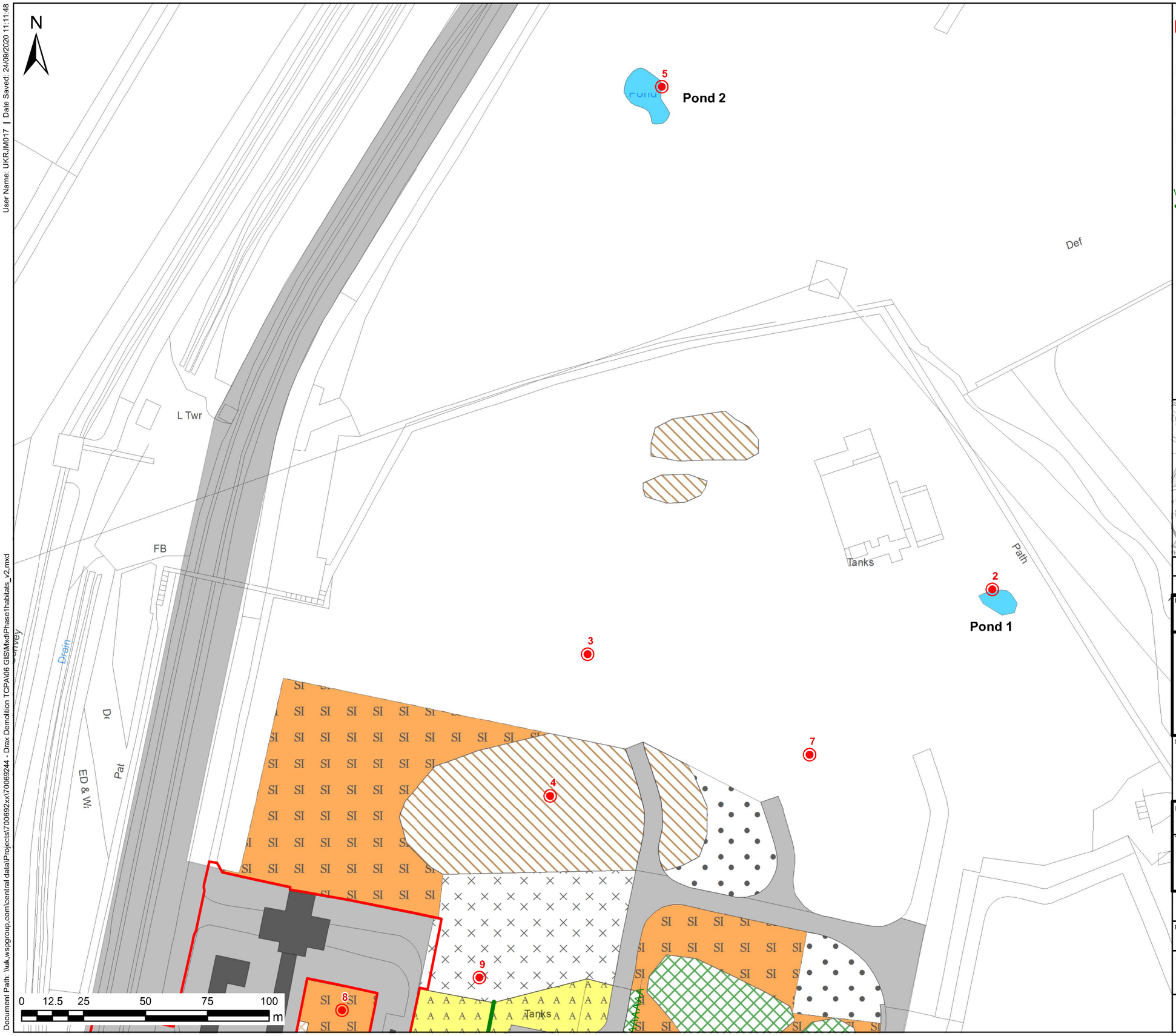

Key

- Site Boundary

Phase 1 Habitats

- Bare ground
- Introduced shrub
- Buildings
- Neutral grassland - semi-improved
- Other tall herb and fern - ruderal
- Standing water
- Scrub - dense/continuous
- Cultivated/disturbed land - ephemeral/short perennial
- Cultivated/disturbed land - amenity grassland
- Hard standing
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Target Note

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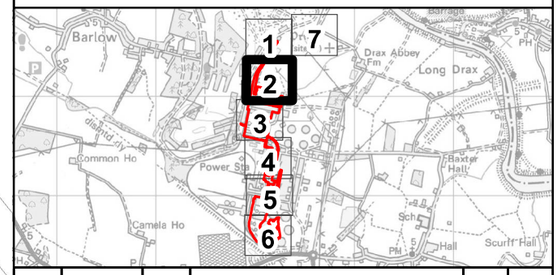

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Key

- Site Boundary

Phase 1 Habitats

- Bare ground
- Introduced shrub
- Buildings
- Neutral grassland - semi-improved
- Scrub - dense/continuous
- Broadleaved woodland - plantation
- Cultivated/disturbed land - ephemeral/short perennial
- Cultivated/disturbed land - amenity grassland
- Hard standing
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Target Note

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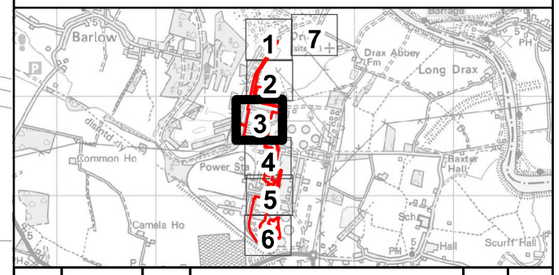

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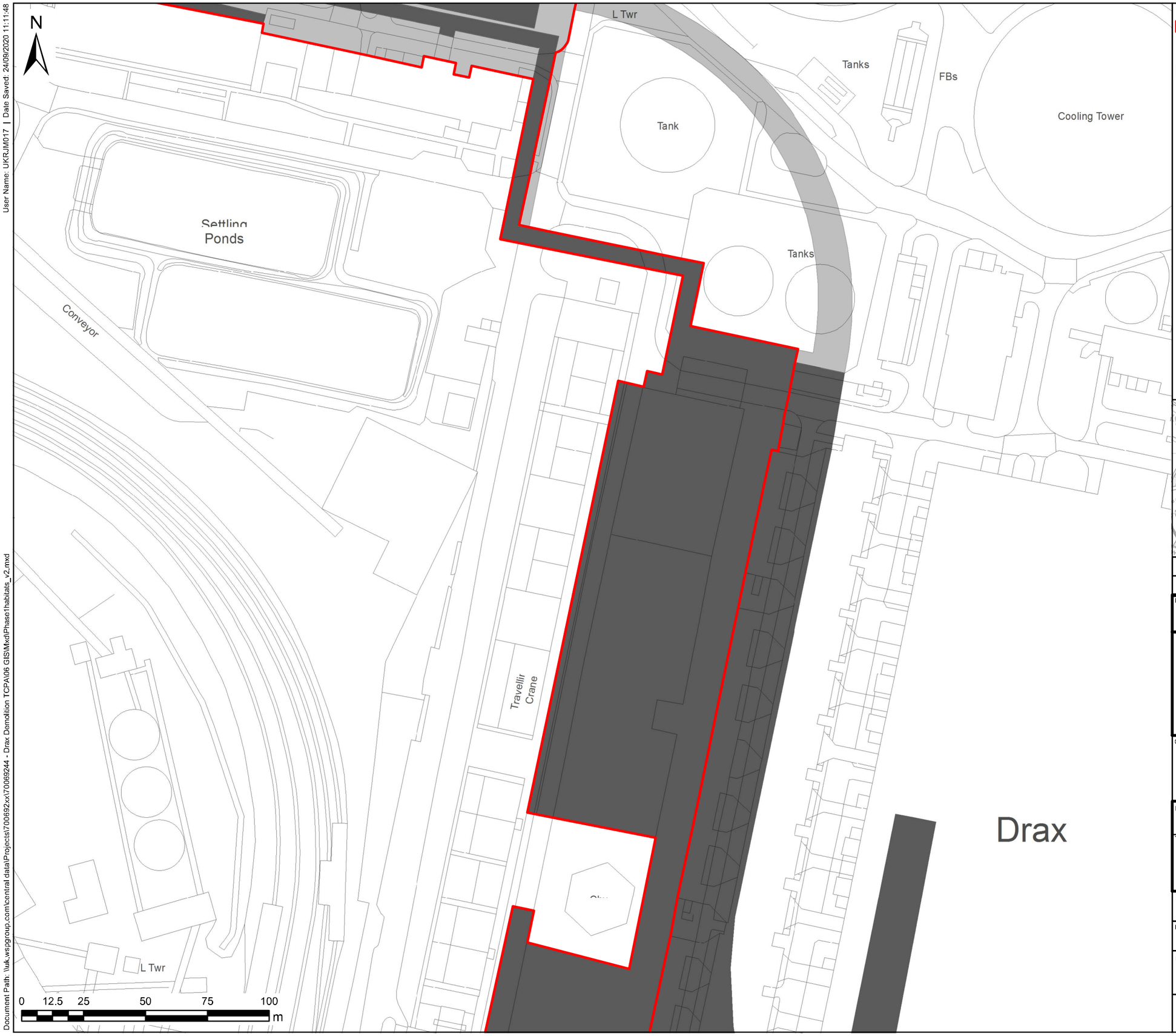

Key

Site Boundary

Phase 1 Habitats

Buildings

Hard standing

Target Note

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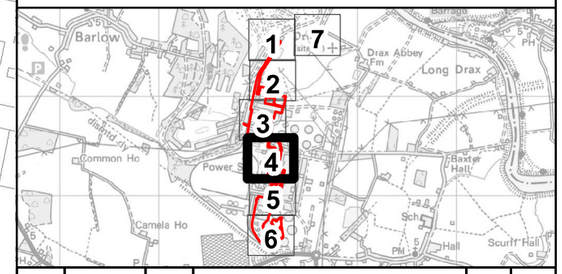

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Cooling Tower

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Key

Site Boundary

Phase 1 Habitats

Buildings

Standing water

Cultivated/disturbed land - amenity grassland

Hard standing

Target Note

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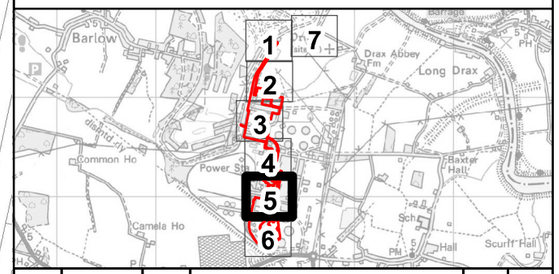

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Key

- Site Boundary

Phase 1 Habitats

- Bare ground
- Buildings
- Neutral grassland - semi-improved
- Other tall herb and fern - ruderal
- Cultivated/disturbed land - amenity grassland
- Hard standing
- Target Note

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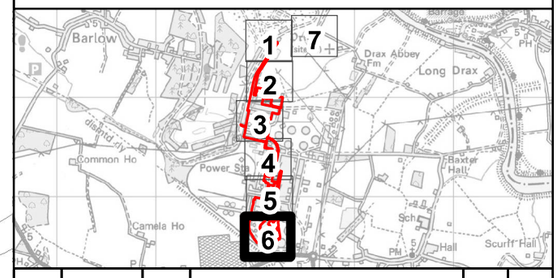

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SCALE @ A3:	CHECKED:		APPROVED:
1,500 @ A3	PD		CT
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70069244	PD	RM	03/09/2020

DRAWING No: Figure 3.6

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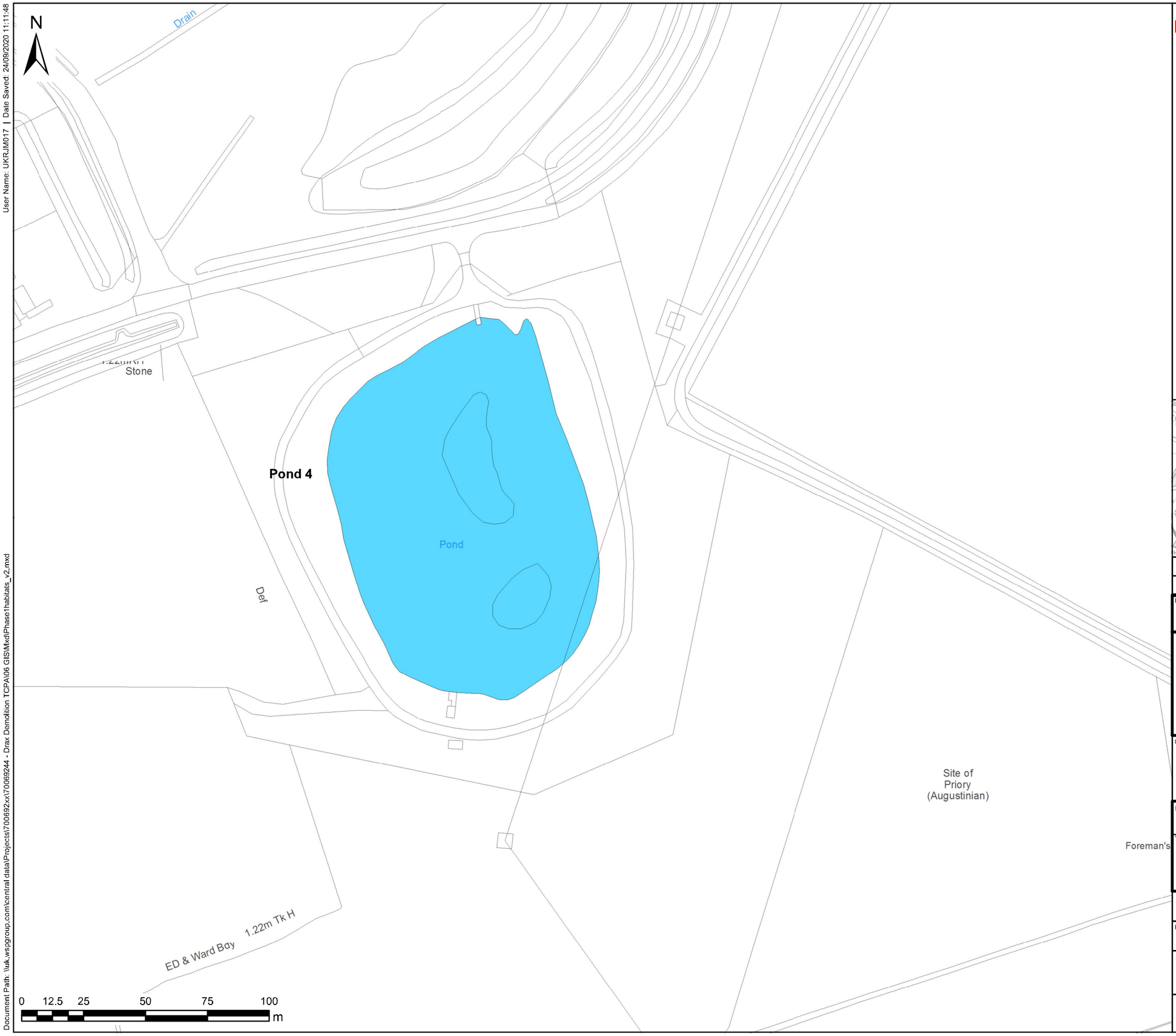

Key

- Site Boundary

Phase 1 Habitats

- Standing water
- Target Note

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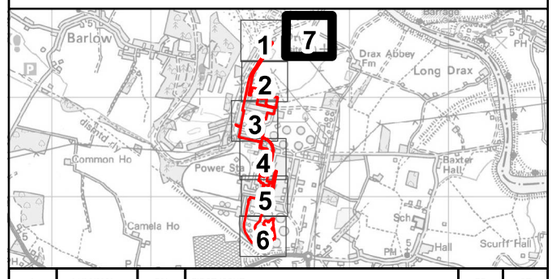

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Three White Rose Office Park, Millshaw Park Lane, Leeds, LS11 0DL, UK
Tel: +44 113 395 6200 Fax: +44 113 395 6201
wsp.com

CLIENT:

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Page 7 of 7

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Appendix A

RELEVANT LEGISLATION AND PLANNING POLICY

Public

LEGISLATION AND POLICY CONTEXT

This report has been compiled with reference to relevant wildlife legislation, planning policy and the UK Biodiversity Framework. An overview and context of relevant legislation is provided, with the relevant protection each species groups or species receives summarised in Table 1.

The Wildlife and Countryside Act 1981, (as amended) (WCA)

Protected birds, animals and plants are listed under Schedules 1, 5, 8 and 9 respectively of the WCA, a description of these Schedules and their meaning is provided below.

Under the WCA (England and Wales) all birds, their nests and eggs (with exception of species listed under Schedule 2) are protected by the WCA. It is an offence to:

- Intentionally kill, injure, or take any wild bird,
- Take or destroy an egg of any wild bird.
- Damage or destroy the nest of any wild bird (whilst being built, or in use). Under the WCA the clearance of vegetation within the survey area boundary, or immediately adjacent to the survey area during the bird nesting season could result in an offence occurring by the disruption or destruction of nest sites. The bird breeding season can be taken to occur between March - August inclusive, although is subject to variations based on species, geographical and seasonal factors.

Schedule 1

Birds listed under Schedule 1 of the WCA[7] are afforded additional protection with regard to intentional or reckless disturbance whilst nest-building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Schedule 5

Species listed in Schedule 5 can either be fully protected or be partially protected under Section 9, which makes it unlawful to intentionally:

- Part 1: kill, injure or take;
- Part 2: possess or control (live or dead animal, part or derivative);
- Part 4 (a): damage or destruct any structure used for shelter or protection;
- Part 4 (b): disturb them in a place of shelter or protection;
- Part 4 (c): obstruct access to place of shelter or protection;
- Part 5 (a): sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative);
- Part 5 (b): advertise for buying or selling.

Schedule 8

The Act makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants.

Schedule 9

Invasive species listed under Schedule 9 are prohibited from release into the wild and the Act prohibits planting or “causing to grow” in the wild of any plant species listed in Schedule 9. It should be noted that certain bird species listed on Schedule 1 of the WCA are also listed on Schedule 9 to prevent release of non-native and captive individuals, this includes barn owl, red kite, goshawk and corncrake.

[7] To view the current list of Schedule 1 listed birds visit: http://www.legislation.gov.uk/ukpga/1981/69/schedule/1

Countryside Rights of Way Act 2000 (CRoW Act)

The CRoW Act has amended the WCA in England and Wales strengthening the protection afforded to Sites of Special Scientific Interest (SSSI) and the legal protection for threatened species. It adds the word 'reckless' to the wording of the offences listed under Section 9(4) of the WCA. This alteration makes it an offence to recklessly commit an offence, where previously an offence had to be intentional to result in a breach of legislation.

Natural Environment and Rural Communities (NERC) Act 2006

Species and Habitats of Principal Importance in England and Wales are listed under Section 41 and Section 42 respectively of the NERC Act. The Section 41 and 42 lists detail species that are of principal importance for the conservation of biodiversity in England and Wales, and should be used to guide decision-makers such as local and regional authorities when implementing their duty to have regard for the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006.

The Protection of Badgers Act (1992)

It is an offence to wilfully take, kill, injure, possess or ill-treat a badger. Under the Act their setts are protected against intentional or reckless interference. Sett interference includes damaging or destroying a sett, obstructing access to any part of the sett, or disturbance of a badger whilst it is occupying a sett. The Act defines a badger sett as 'any structure or place, which displays signs indicating the current use by a badger' and Natural England (NE) takes this definition to include seasonally used setts that are not occupied but that show sign of recent use by badgers (Natural England, 2009[8]).

If impacts to badgers or their setts are unavoidable then authorised sett disturbance requires a licence.

The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012)

This Framework lists the UK's most threatened species and habitats and sets out targets and objectives for their management and recovery. The UK Biodiversity Action Plan (BAP) process is delivered nationally, regionally and locally and should be used as a guide for decision-makers to have regards for the targets set by the framework and the goals they aim to achieve. The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework, however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant (UK Post-2010 Biodiversity Framework, 2012[9]).

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017, and extend to England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters). In Scotland, the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the Conservation (Natural Habitats &c.) Regulations 1994. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland.

All species listed under Annex IV of the Habitats Directive require strict protection and are known as European Protected Species (EPS). Under Regulation 42 of the Habitats Regulations it is unlawful to:

- Deliberately kill, capture or disturb;
- Deliberately take or destroy the eggs of; and
- Damage or destroy the breeding site/resting place of any species protected under this legislation.

If the Ecologist determines that impacts to an EPS are unavoidable then the works may need to be carried out under a site specific mitigation licence from Natural England (NE) or Natural Resources Wales (NRW). Low Impact Class licences are also available in both England and Wales for bats and great crested newts. This enables Registered Low Impact Consultants to undertake certain low impact activities reducing the EPS application paperwork and process length.

Certain EPS are also listed under Annex II of the Habitats Directive and are afforded protection by the establishment of core areas of habitat known as Special Areas of Conservation. This means these species are a relevant consideration in a Habitats Regulations Assessment (HRA).

[8] Natural England, June 2009, Protection of Badgers Act 1992 (as amended), Guidance on 'Current Use' in the definition of a Badger Sett WMLG17, Natural England, Peterborough.

[9] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), July 2012, UK Post-2010 Biodiversity Framework, Available from: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf [Accessed May 2020].

The Birds Directive seeks to maintain populations of all wild bird species across their natural range (Article 2). All bird species listed under Annex I[10] of the Birds Directive are rare or vulnerable and afforded protection by the classification of Special Protection Areas (SPAs), these are also designated under all regularly occurring migratory species, with regard to the protection of wetlands of international importance (Article 4). This means these bird species and communities are a relevant consideration in HRA.

[10] To view birds listed under Annex I visit: [redacted] [accessed: 06/04/2017]

TABLE A:1: KEY SPECIES AND NATIONAL WILDLIFE LEGISLATION, POLICY AND BIODIVERSITY FRAMEWORK APPLICABLE IN ENGLAND

Species	Legislation, Planning Policy and UK Biodiversity Framework							
	Wildlife and Countryside Act 1981 (as amended), (WCA)				The Conservation of /Habitats and Species Regulations 2010 (as amended) (Habitats Regulations) - Regulation 41	Natural Environment and Rural Communities (NERC) Act 2006 / The Environment (Wales) Act (2016)	The Protection of Badgers Act 1992	The UK Post-2010 Biodiversity Framework 2011-2020 (JNCC and DEFRA, 2012)
	Schedule1	Schedule 5	Schedule 8	Schedule 9	European Protected Species (Annex IV of the EC Habitats Directive),			
Badger							✓	
Bats		✓ [11](part)			✓[12]	✓[13]		✓[14]
Hazel Dormouse		✓ 5(part)			✓	✓		✓
Otter		✓ 5(part)			✓	✓		✓
Water vole		✓[15](full)				✓		✓
Birds	ü			✓[16]		✓[17]		✓[18]

[11] These species are partially protected under section 9(4)(b), (4)(c) and (5).

[12] Only Barbastelle (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), greater horseshoe bat (*Rhinolophus ferrumequinum*) and lesser horseshoe bat (*Rhinolophus hipposideros*) are listed on Annex II of the Habitats Directive.

[13] Greater horseshoe bat, lesser horseshoe bat, Bechstein's bat, noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*) and barbastelle are listed as Species of Principal Importance in England with the addition of common pipistrelle (*Pipistrellus pipistrellus*) in Wales listed under

Section 7 of the Environment (Wales) Act (2016) http://www.legislation.gov.uk/ukpga/2006/16/contents.

[14] Barbastelle bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe bat, lesser horseshoe bat are listed as UK BAP species of bat.

[15] Class Licences are available to Registered Consultants to intentionally disturb, damage or destroy water vole burrows or to displace water voles from their burrows in relation to a development proposal where the licensed action provides a conservation benefit for water voles. Certain displacement operations may be carried out under a Class licence by a registered person in England, however in Wales all displacement operations must be carried out under a site specific licence.

[16] To view plants and animals listed on Schedule 9 Part 1 visit http://www.legislation.gov.uk/ukpga/1981/69/schedule/9 [accessed 6 April 2017]

[17] There are 49 species of birds listed as Species of Principal Importance in England in Section 41 of the NERC Act 2006 and 51 species in Wales under Section 7 of the Environment (Wales) Act (2016) http://www.legislation.gov.uk/ukpga/2006/16/contents.

[18] To view the current list of UK BAP priority birds visit: http://jncc.defra.gov.uk/page-5163 [Accessed May 2020].

TABLE A:1: KEY SPECIES AND NATIONAL WILDLIFE LEGISLATION, POLICY AND BIODIVERSITY FRAMEWORK APPLICABLE IN ENGLAND								
Reptiles		✓[19](part)		✓[9]	✓[20]	✓[21]		✓[22]
Amphibians		✓[23](part)		✓[24]	✓[25,26]	✓[27]		
Plants			✓[28]	✓[9]	✓[29,30]	✓[31]		✓[32]

[19] The four common reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*) are offered partial protection under section 9(5). The rarer UK reptile species (Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*)) are partially protected under section 9(4)(b) and (c) and (5).

[20] Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*) are the only reptiles to be designated as European Protected Species.

[21] All 6 reptile species are listed as Species of Principal Importance in England under Section 41 of the NERC Act 2006 http://www.legislation.gov.uk/ukpga/2006/16/contents.

[22] To view the current list of UK BAP priority herptile species visit: http://jncc.defra.gov.uk/page-5166 [Accessed May 2020].

[23] The four common reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*) are offered partial protection under section 9(5). The rarer UK reptile species (Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*)) are partially protected under section 9(4)(b) and (c) and (5).

[24] Common frog (*Rana temporaria*), Common toad (*Bufo bufo*), Smooth newt (*Lissotriton vulgaris*) and Palmate newt (*Lissotriton helveticus*) are offered partial protection under section 9(5). Great crested newt (*Triturus cristatus*) and Natterjack toad (*Epidalea calamita*) are offered partial protection under section 9(4)(b) and (c) and (5). Pool frog (*Pelophylax lessonae*) is offered partial protection under section 9(4)(b) and (c)(1) only and with respect to England only.

[25] Great crested newt, Natterjack toad and Pool frog are the only amphibians to be designated European Protected Species.

[26] Great crested newt is the only amphibian listed on Annex II of the Habitats Directive.

[27] Great crested newt, Natterjack toad and Common toad are listed as Species of Principal Importance in England in Section 41 of the NERC Act 2006. http://www.legislation.gov.uk/ukpga/2006/16/contents.

[28] To view the current list of Schedule 8 listed plants visit: http://www.legislation.gov.uk/ukpga/1981/69/schedule/8 [Accessed May 2020].

[29] There are nine plant species designated as European Protected Species. To view the current list visit: http://www.legislation.gov.uk/uksi/2010/490/schedule/5/made [Accessed May 2020].

[30] To view the current list of plant species on Annex II of the Habitats Directive visit: http://jncc.defra.gov.uk/page-1523 [Accessed May 2020].

[31] 152 vascular plants are currently listed as Species of Principal Importance in England under Section 41 of the NERC Act 2006. To view the current list of UK BAP priority plants visit: http://jncc.defra.gov.uk/page-5171 and http://jncc.defra.gov.uk/page-5168 [Accessed May 2020].

[32] To view the current list of UK BAP priority plants visit: http://jncc.defra.gov.uk/page-5171 and http://jncc.defra.gov.uk/page-5168 [Accessed May 2020].

Appendix B

SUMMARY OF ECOLOGICAL DESK STUDY DATA

Public

Table B-1 - Protected and notable species (excluding birds) for which records have been identified within 2km

Species common name	Species Latin name	Nearest Record	Legal / Conservation Status
Common Toad	*Bufo bufo*	1.2km WNW	BAP-2007, Bern-A3, England NERC S.41, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b
Smooth Newt	*Lissotriton vulgaris*	1.1km WNW	Bern-A3, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b
Common Frog	*Rana temporaria*	0.7km NNW	Bern-A3, HabDir-A5, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b
Grass Snake	*Natrix helvetica*	0.7km SW	BAP-2007, Bern-A3, England NERC S.41, WAC
European Water Vole	*Arvicola amphibius*	1.2km N	BAP-2007, England NERC S.41, Selby LBAP Priority species, WCA-Sch5_sect9.1(kill/injuring), WCA-Sch5_sect9.1(taking), WCA-Sch5_sect9.2, WCA-Sch5_sect9.4a, WCA-Sch5_sect9.4b, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b, WCA-Sch5Sect9.4c
Brown Hare	*Lepus europaeus*	0.8km ESE	BAP-2007, England NERC S.41, Selby LBAP Priority species
Unidentified Bat	*Myotis sp.*	1km W	CMS_A2, HabReg-Sch2, WCA-Sch5_sect9.4b, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b, WCA-Sch5Sect9.4c
Noctule	*Nyctalus noctula*	0.8km NNW	BAP-2007, Bern-A2, CMS_A2, CMS_EUROBATS-A1, England NERC S.41, HabDir-A4, HabReg-Sch2, Selby LBAP Priority species, WCA-Sch5_sect9.4b, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b, WCA-Sch5Sect9.4c
Common Pipistrelle	*Pipistrellus pipistrellus*	0.7km WNW	Bern-A2, Bern-A3, CMS_A2, CMS_EUROBATS-A1, HabDir-A4, HabReg-Sch2, Selby LBAP Priority species, WCA-Sch5_sect9.4b
Soprano Pipistrelle	*Pipistrellus pygmaeus*	0.9km WNW	BAP-2007, Bern-A2, Bern-A3, CMS_A2, CMS_EUROBATS-A1, England NERC S.41, HabDir-A4, HabReg-Sch2, Selby LBAP Priority species, WCA-Sch5_sect9.4b, WCA-Sch5_sect9.5a, WCA-Sch5_sect9.5b, WCA-Sch5Sect9.4c

Table B-2 - Protected and notable bird species for which records have been identified within 2km

Species common name	Species Latin name	Nearest Record	Legal / Conservation Status
Skylark	*Aluada arvensis*	1.2km NNW	Bird-Red, BirdsDir-A2.2, England NERC S.41, Selby LBAP Priority species
Cuckoo	*Cuculus canorus*	1.2km NNW	BAP-2007, Bird-Red, England NERC S.41
Teal	*Anas crecca*	1.4km NW	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AEWA-A2, ECCITES-C
Mallard	*Anas platyrhynchos*	1.4km NNE	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AEWA-A2
Gadwall	*Anas strepera*	1.2km NNW	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AE
Greylag Goose	*Anser anser*	1.2km NNW	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AEWA-A2, WCA-Sch1_part2
Meadow Pipit	*Anthus pratensis*	1.2km NNW	Bern-A2, Bird-Amber
Tufted Duck	*Aythya fuligula*	1.4km NW	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AEWA-A2
Lesser Redpoll	*Carduelis cabaret*	1.4km NW	BAP-2007, Bird-Red, England NERC S.41
Linnet	*Carduelis cannabina*	1.2km NNW	Bern-A2, Bird-Red, Selby LBAP Priority species
Marsh Harrier	*Circus aeruginosus*	1.4km NW	Bird-Amber, BirdsDir-A1, CMS_A2, ECCITES-A, WCA-Sch1_part1
House Martin	*Delichon urbicum*	1.2km NNW	Bern-A2, Bird-Amber

Species common name	Species Latin name	Nearest Record	Legal / Conservation Status
Yellowhammer	*Emberiza citrinella*	1.2km NNW	BAP-2007, Bern-A2, Bird-Red, England NERC S.41, Selby LBAP Priority species
Reed Bunting	*Emberiza schoeniclus*	1.2km NNW	BAP-2007, Bern-A2, Bird-Amber, England NERC S.41
Kestrel	*Falco tinnunculus*	1.2km NNW	Bern-A2, Bird-Amber, CMS_A2, ECCITES-A
Snipe	*Gallinago gallinago*	1.4km NW	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AEWA-A2, Selby LBAP Priority species
Black-headed Gull	*Chroicocephalus ridibundus*	1.4km NW	Bird-Amber, BirdsDir-A2.2, CMS_AEWA-A2
Tree Sparrow	*Passer montanus*	1.4km NW	BAP-2007, Bird-Red, England NERC S.41, Selby LBAP Priority species
Grey Partridge	*Perdix perdix*	1.4km NW	BAP-2007, Bird-Red, BirdsDir-A2.1, England NERC S.41, Selby LBAP Priority species
Dunnock	*Prunella modularis*	1.2km NNW	Bern-A2, Bird-Amber
Woodcock	*Scolopax rusticola*	1.4km NW	Bird-Amber, BirdsDir-A2.1, CMS_A2, CMS_AEWA-A2
Starling	*Sturnus vulgaris*	1.2km NNW	Bird-Red, BirdsDir-A2.2, Selby LBAP Priority species
Redwing	*Turdus iliacus*	1.4km NW	Bird-Red, BirdsDir-A2.2, WCA-Sch1_part1
Song Thrush	*Turdus philomelos*	1.2km NNW	Bird-Red, BirdsDir-A2.2

Species common name	Species Latin name	Nearest Record	Legal / Conservation Status
Fieldfare	*Turdus pilaris*	1.4km NW	Bird-Red, BirdsDir-A2.2, WCA-Sch1_part1
Mistle Thrush	*Turdus viscivorus*	1.2km NNW	Bird-Amber, BirdsDir-A2.2
Barn Owl	*Tyto alba*	1.2km NNW	Bern-A2, Bird-Amber, ECCITES-A, Selby LBAP Priority species, WCA-Sch1_part1

Table B-3 - Protected and notable plants for which records have been identified within 2km in the past 10 years

Species common name	Species Latin name	Nearest Record	Legal / Conservation Status
Field Garlic	*Allium oleraceum*	2km SE	RedList_GB_post2001-VU
Quaking-grass	*Briza media*	1.3km NW	RedList_GB_post2001-VU
Crosswort	*Cruciata laevipes*	1.7km ENE	RedList_GB_post2001-NT
Giant Hogweed	*Heracleum mantegazzianum*	1.3km NW	WCA – Sch9
Bluebell	*Hyacinthoides non-scripta*	1.2km NNW	WCA - Sch8
Himalayan Balsam	*Impatiens glandulifera*	0.8km W	WCA – Sch9
Field Scabious	*Knautia arvensis*	1.1km NNW	RedList_ENG_post2001-NT
Yellow Vetchling	*Lathyrus aphaca*	1.8km NW	NS-excludes; RedList_ENG_post2001-VU; RedList_GB_post2001-VU
Rhododendron	*Rhododendron ponticum*	1.7km NW	WCA – Sch9
Ragged Robin	*Silene flos-cuculi*	1.7km NNW	RedList_ENG_post2001-NT

Appendix C

PLANT SPECIES RECORDED

Public

Plant Species Recorded

Taxon	Vernacular	DAFOR
Semi-improved Grassland TN1 & 3		
Holcus lanatus	Yorkshire-fog	F
Epilobium hirsutum	Great Willowherb	ID
Typha latifolia	Bulrush	ID
Picris echioides	Bristly Oxtongue	O
Plantago major	Greater Plantain	O
Rumex obtusifolius	Broad-leaved Dock	O
Myosotis arvensis	Field Forget-Me-Not	O
Agrostis stolonifera	Creeping Bent	R
Anagallis arvensis	Scarlet Pimpernel	R
Trifolium campestre	Hop Trefoil	R
Cirsium vulgare	Spear Thistle	R
Dipsacus fullonum	Wild Teasel	R
Impatiens glandulifera	Himalayan Balsam	R
Juncus effusus	Soft-rush	R
Ranunculus sceleratus	Celery-leaved Buttercup	R
Rumex crispus	Curled Dock	R
Scrophularia nodosa	Common Figwort	R
Jacobaea vulgaris	Ragwort	R
Trifolium repens	White Clover	R
Tussilago farfara	Colt's-foot	R
Urtica dioica	Common Nettle	R
Vicia cracca	Tufted Vetch	R
Vicia sativa	Common Vetch	R
Semi-improved grassland TN8		
Leucanthemum vulgare	Oxeye Daisy	A
Holcus lanatus	Yorkshire-fog	F
Centaurea nigra	Common Knapweed	F
Juncus effusus	Soft-rush	Lf
Rumex obtusifolius	Broad-leaved Dock	O

Taxon	Vernacular	DAFOR
Myosotis arvensis var. sylvestris	Field Forget-Me-Not	O
Vicia cracca	Tufted Vetch	O
Achillea millefolium	Yarrow	O
Ajuga reptans	Bugle	O
Alopecurus pratensis	Meadow Foxtail	O
Chamerion angustifolium	Rosebay Willowherb	O
Jacobaea vulgaris	Common Ragwort	O
Plantago lanceolata	Ribwort Plantain	O
Primula vulgaris	Primrose	O
Ranunculus acris	Meadow Buttercup	O
Stellaria graminea	Lesser Stitchwort	O
Plantago major	Greater Plantain	R
Cirsium vulgare	Spear Thistle	R
Rumex crispus	Curled Dock	R
Scrophularia nodosa	Common Figwort	R
Alnus glutinosa	Alder	R
Anacamptis morio	Green-winged Orchid	R
Bellis perennis	Daisy	R
Centaurium erythraea	Common Centaury	R
Juncus inflexus	Hard Rush	R
Lotus corniculatus	Common Bird's-foot-trefoil	R
Ranunculus repens	Creeping Buttercup	R
Silene dioica	Red Campion	R
Veronica chamaedrys	Germander Speedwell	R
Dactylorhiza fuchsii var. rhodochila	Common Spotted Orchid	R
Tall Ruderal Vegetation TN4		
Cirsium vulgare	Spear Thistle	D
Galium aparine	Cleavers	D
Holcus lanatus	Yorkshire-fog	F
Urtica dioica	Common Nettle	F
Impatiens glandulifera	Himalayan Balsam	lF

Taxon	Vernacular	DAFOR
Myosotis arvensis var. sylvestris	Field Forget-Me-Not	R
Stellaria graminea	Lesser Stitchwort	R
Buddleja davidii	Butterfly-bush	R
Rubus fructicosa		R
Senecio vulgaris	Groundsel	R

Appendix D

TARGET NOTES

Public

Target Note (TN)	Description
TN1	An area within the Biomass Storage Area with bare ground, semi-improved grassland and scrub. See Appendix E: Photo E-1 and E-2.
TN2	Pond 3. Newly created pond formed by following removal of biomass. See Appendix E: Photo E-8.
TN3	Semi-improved grassland with a short sward. See **Appendix E: Photo E-2.**
TN4	Tall ruderal vegetation dominated by spear thistle and cleavers. The vegetation has established around the unused bales of biomass material which also offer potential hibernacula for reptiles and amphibians. The bales are shown in **Appendix E: Photo E-5**.
TN5	Off site Pond 2. A small pond within the old peat storage area. HSI Score of excellent for great crested newt and shown in **Appendix E: Photo E-6**.
TN6	Off site Pond 3 A small pond within the old peat storage area. Surrounded by swamp vegetation and access not possible on health and safety grounds. HSI Score of excellent for great crested newt and shown **in Appendix E: Photo E-7**.
TN7	Bare ground within the Biomass Storage Area. See **Appendix E: Photo E-13**.
TN8	Semi-improved grassland, presumably a proprietary seed mix, with abundant oxeye daisy and frequent black knapweed. See **Appendix E: Photo E-3**.
TN9	Short ephemeral vegetation, mainly pioneering vegetation on bare ground or hardstanding.
TN10	Species-rich intact hedgerow dominated by hawthorn but with at least 5 woody species. **Appendix E: Photo E-9**.
TN11	Semi-improved grassland and areas of tall ruderal vegetation. Species composition similar to TN3 but with occasional oxeye daisy. **Appendix E: Photo E-4**.

Appendix E

PHOTOGRAPHS

Public

Photographs

Photo E-1 - Continuous Scrub in Biomass Storage Area

Photo E-2 - Semi-improved grassland in Biomass Storage Area TN3

Photo E-3 - Semi-improved grassland around buildings TN8

Photo E-4 - Semi-improved grassland round cooling towers TN11

Photo E-5 - Tall ruderal vegetation around bales in Biomass Storage Area TN4

Photo E-6 - Pond 1 TN5

Photo E-7 - Pond 2 TN6

Photo E-8 - Pond 3 TN2

Photo E-9 - Intact species-rich hedgerow TN10

Photo E-10 - Typical "production" buildings within the Site

Photo E-11 - Typical brick building within the Site

Photo E-12 - Steel-framed and steel-clad buildings within the Site

Photo E-13 - Bare ground within the Biomass Storage Area TN7

Photo E-14 – B1 With bat roost potential

Photo E-15 - Bat roost feature on B1

Photo E-16 – B2 With bat roost potential

Photo E-17 – Bat roost feature on B2

Photo E-18 – B3 With bat roost potential

Three White Rose Office Park
Millshaw Park Lane
Leeds
LS11 0DL

[redacted]

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