The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Environmental Statement
9 – Biodiversity

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

Drax Power Limited

Drax Repower Project

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Table of Contents

Table of Tables

Table of Figures

9 BIODIVERSITY

9.1 Introduction

9.1.1. This Chapter reports the outcome of the assessment of the likely significant effects arising from the Proposed Scheme upon Biodiversity. This Chapter considers how the impacts arising from construction, operation and decommissioning of the Proposed Scheme could lead to significant effects upon Important Ecological Features (IEF), for example designated sites, Habitats of Principal Importance (HPI) or protected or otherwise notable species.

9.1.2. Ecological features can be affected by a wide range of impact types, for example construction dust, hydrological change, noise and vibration or operational emissions. As such, many of the potential impacts arising from the Proposed Scheme could lead to effects on ecological features.

9.1.3. The Chapter describes the following:

- The assessment methodology.
- The baseline conditions at the Site and in the relevant surrounding area.
- Any primary and tertiary mitigation adopted for the purposes of the assessment.
- A summary of the likely significant effects taking into account national legislation and national and local policy.
- The further mitigation measures required to prevent, reduce or offset any significant negative effects.
- The likely residual effects after these measures have been employed.
- Appropriate enhancement measures and requirements for post-construction monitoring.

9.1.4. This Chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to Chapters 6 (Air Quality) and 10 (Landscape and Visual Amenity). The Chapter also draws upon material presented in the Appendices 9.3 to 9.9 (ecological survey reports) and the Outline Landscape and Biodiversity Strategy (Document Reference 6.7).

9.1.5. The information presented in this document is based upon ecological assessments of the Site up until the end of April 2018. It has been prepared as per CIEEM's Guidelines for Ecological Impact Assessment in the UK and Ireland published in 2016 (Ref 9.1).

9.2 Policy, Legislation and Guidance

Policy

9.2.1. The applicable policy framework is listed below, along with a summary of the relevant provisions.

- Overarching National Planning Policy Statement for Energy (EN-1) (Ref. 9.2).
- National Planning Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2) (Ref. 9.3).
- National Planning Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref.9.4).
- National Planning Policy Statement for Electricity Networks Infrastructure (EN-5) (Ref 9.5)
- National Planning Policy Framework (Ref 9.6)

- 'Saved' policies of the Selby District Local Plan (Ref.9.7).
- Selby District Core Strategy Local Plan (Ref.9.8).

National Policy Statements

9.2.2. Section 5.3 of the overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 9.2) refers to biodiversity and states that the Applicant should clearly set out any effects of the development on internationally, nationally and locally designated sites of nature conservation importance, on protected species and habitats and other species identified as being of principal importance for the conservation of biodiversity. The Applicant should also demonstrate how the development has taken measures to conserve and enhance biodiversity.

9.2.3. The NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2) (Ref 9.3) provides the primary basis for decisions by the Secretary of State (SoS) on applications it receives for nationally significant fossil fuel electricity generating stations. EN-2 does not repeat the requirements in relation to biodiversity set out in EN-1, and is therefore of less general relevance to the ecological assessment of the Proposed Scheme. EN-2 reiterates the need, set out in EN-1, for the environmental effects of emissions to air to be assessed as part of any application.

9.2.4. The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 9.4), specifically section 2.21 refers to biodiversity, landscape and visual impacts from the construction of a pipeline. This policy statement provides additional considerations to the general principles outlined in EN-1. These considerations comprise the effect on components valuable to biodiversity typically grasslands, hedgerows/hedgebanks, trees, woodlands, waterbodies and watercourses that are located within and/or adjacent to the pipeline route. In regards to the Proposed Scheme, EN-4 relates primarily to the Pipeline Area and provides a set of assessment and mitigation measures to combat pipeline construction related impacts.

9.2.5. The NPS for Electricity Networks Infrastructure (EN-5) (Ref 9.5) provides the primary basis for decisions by the SoS on applications it receives for electricity networks infrastructure. EN-5 does not repeat the requirements in relation to biodiversity set out in EN-1, and is therefore of less general relevance to the ecological assessment of the Proposed Scheme. EN-5 provides specific advice on the risks of bird mortality arising from high voltage overhead lines (Section 2.7). As the Proposed Scheme does not include new high voltage overhead lines, EN-5 is of limited relevance to the ecological assessment.

The National Planning Policy Framework (NPPF, 2012)

9.2.6. The NPPF, 2012 (Ref 9.6) sets out the Government's planning policies for England. Although the NPPF does not contain specific policies for Nationally Significant Infrastructure Projects (NSIPs), such as the Proposed Scheme, it contains policies specific to ecology and nature conservation (most notably section 118). Moreover it sets out provisions for biodiversity, including protected sites and species for which local planning authorities (LPAs) must have regard. Planning Practice Guidance (PPG) has been published alongside the NPPF, and is regularly updated, to provide guidance on the implementation of the planning policies.

9.2.7. The natural environment elements of the PPG provide guidance on the key issues in implementing biodiversity aspects of the NPPF. This includes advice on minimising impacts

on biodiversity and delivering net gain, and on how biodiversity should be considered in planning decisions.

9.2.8. The consultation draft for the future update of the NPPF was released for public consultaion in March 2018. This includes broadly similar policies in relation to biodiversity and the natural environment as the current NPPF. Within the draft NPPF (reference 9.50) greater weight is placed on the protection and promotion of ecological networks and the wording in relation to protection of SSSI and irreplaceable habitats has been slightly altered (paragraphs 172 – 174 of Ref 9.50).

Selby District Local Plan (SDLP) 2005

9.2.9. The Selby District Local Plan (Ref 9.7) develops and underpins many of the aims and objectives of the LPA. It provides a comprehensive land-use framework for promoting, coordinating and controlling future development. Chapter 4 of the SDLP outlines local environmental policies; saved policies most relevant to biodiversity and the Proposed Scheme are listed below.

9.2.10. Policy ENV9 relates to Sites of Importance for Nature Conservation (SINC) and Local Nature Reserves (LNR). It states:

"Proposals for development which would harm a local nature reserve, a site of local importance for nature conservation or a regionally important geological/geomorphological site, will not be permitted unless there are no reasonable alternative means of meeting the development need and it can be demonstrated that there are reasons for the proposal which outweigh the need to safeguard the intrinsic local nature conservation value of the site or feature."

9.2.11. Policy ENV12 relates to rivers and stream corridors and states:

"Proposals for development likely to harm the natural features of or access to river, stream and canal corridors will not be permitted unless the importance of the development outweighs these interests, and adequate compensatory measures are provided."

9.2.12. Policy ENV14 relates to protected species and states:

"Development and other land use changes which may harm badgers and other species protected by Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981, as amended, or the EC Habitats and Species Directive will not be permitted. To avoid harm to the species the local planning authority may consider the use of conditions and planning obligations which seek to:

1) Facilitate the survival of individual members of the species;

2) Reduce disturbance to a minimum; and

3) Provide adequate alternative habitats to sustain at least the current levels of population."

9.2.13. Policies ENV7, ENV8, ENV10 of the SDLP (2005) have been replaced by Policy SP18 of the Selby District Core Strategy 2013, which is outlined below.

The Selby District Core Strategy Local Plan 2013 (CS)

9.2.14. This document is the first part of the replacement for the 2005 Selby District Local Plan. This sets out the high level strategic policies for the District for the period 2012 - 2028. The policies in the CS replace many of the SDLP policies.

9.2.15. Policy SP18 – Protecting and Enhancing the Environment

This policy takes on expired policies from the SDLP (2005) (Ref 9.8) to provide rigorous protection mechanisms for the local environment. The policy, as detailed in the Core Strategy, sets out a number of measures to promote biodiversity and enhance the natural and manmade environment. The most relevant segment of this policy in relation to the Proposed Scheme is "*Promoting effective stewardship of the District's Wildlife*", defined by the following:

"a) Safeguarding international, national and locally protected sites for nature conservation, including SINCs, from inappropriate development.

b) Ensuring developments retain, protect and enhance features of biological and geological interest and provide appropriate management of these features and that unavoidable impacts are appropriately mitigated and compensated for, on or off-site.

c) Ensuring development seeks to produce a net gain in biodiversity by designing-in wildlife and retaining the natural interest of a site where appropriate.

d) Supporting the identification, mapping, creation and restoration of habitats that contribute to habitat targets in the National and Regional biodiversity strategies and the local Biodiversity Action Plan."

9.2.16. Further detail on all relevant policy is provided in Appendix 9.1.

Legislation

9.2.17. The applicable legislative framework is summarised as follows:

European Union Directives

9.2.18. The current EU directives relevant to the Proposed Scheme are:

9.2.19. The Habitats Directive (92/43/EEC) (Ref 9.9) sets the standard for nature conservation across the EU and enables all 28 Member States to work together within the same strong legislative framework in order to protect the most vulnerable species and habitat types across their entire natural range within the EU. Measures must be taken by Member States to maintain and restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest. It is implemented within England and Wales through the Conservation of Habitats and Species Regulations 2017 which allows (amongst other measures) for the designation of Special Areas of Conservation (SAC) and identifies European Protected Species (EPS) relevant to the UK.

9.2.20. The Birds Directive (2009/147/EC) (Ref 9.10) provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. The directive places great emphasis on the protection of habitats suitable for supporting endangered and migratory species, introducing a system of Special Protection Areas (SPA) designated to protect important habitats. The Wildlife and Countryside Act 1981 and the Conservation of Habitats

and Species Regulations 2017 implement the requirements of the Birds Directive in England and Wales.

9.2.21. The Water Framework Directive (2000/60/EC) (Ref 9.11) provides a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and ground water. It introduced a comprehensive river basin management planning system to help protect and improve the ecological health of our rivers, lakes, estuaries and coastal and groundwater systems.

United Kingdom (UK) Legislation

9.2.22. The current United Kingdom (UK) legislation and local guidance of particular relevance to the Proposed Scheme are listed below, further details of which are provided in Appendix 9.1.

- The Conservation of Habitats and Species Regulations 2017 (Habitats Regulations) (Ref 9.12).
- The Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref 9.13).
- Countryside and Rights of Way (CROW) Act 2000 (Ref 9.14).
- The Natural Environment and Rural Communities (NERC) Act 2006 (Ref 9.15).
- The Protection of Badgers Act 1992 (Ref 9.16).
- The Hedgerows Regulations 1997 (Ref 9.17).
- The Wild Mammals (Protection) Act 1996 (Ref 9.18).

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

9.2.23. In the UK, the Habitats Directive was originally transposed into law by means of the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended). The Regulations came into force on 30 October 1994, and have been amended several times. Subsequently the Conservation of Habitats and Species Regulations 2010, was created which consolidates all the various amendments made to the 1994 Regulations in respect of England and Wales and is commonly known as the 'The Habitats Regulations'. The Regulations contain five Parts and four Schedules, and provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. The 2010 regulations have now been superseded by the 2017 regulations.

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

9.2.24. The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. However it does not extend to Northern Ireland, the Channel Islands or the Isle of Man. This legislation is the means by which the Bern Convention and (partially) the European Union Directives on the Conservation of Wild Birds (79/409/EEC) and Habitats Directive are implemented in the UK.

Countryside and Rights of Way Act 2000

9.2.25. The Countryside and Rights of Way Act 2000 extends the public's ability to enjoy the countryside whilst also providing safeguards for landowners and occupiers. It gives a statutory right of access to open country and registered common land; modernises the rights of way system; gives greater protection to SSSIs; provides better management arrangements for Areas of Outstanding Natural Beauty (AONBs); and strengthens wildlife enforcement legislation.

Natural Environment and Rural Communities (NERC) Act 2006

9.2.26. The Natural Environment and Rural Communities Act (NERC Act) provides that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in the exercise of their functions. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies and plans.

Protection of Badgers Act 1992

9.2.27. The Protection of Badgers Act 1992 makes it an offence to wilfully take, kill, injure or ill-treat a badger, or possess a dead badger or any part of a badger. Under the Act their setts are also protected against obstruction, destruction, or damage in any part.

9.2.28. Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing 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 takes this definition to include seasonally used setts.

9.2.29. Work that may disturb badgers or their setts is illegal without a development licence from Natural England. As a precautionary principle, a buffer distance between a badger sett and the works will be determined, based upon guidance from an appropriately experienced ecologist. This buffer distance should be based upon the size and activity levels at the sett, the topography between the sett and the works and the nature of the works.

Hedgerow Regulations 1997

9.2.30. The Hedgerows Regulations (1997) make provision for the protection of important hedgerows in England and Wales. The regulations affect hedgerows which are 20m or more in length, or connected at both ends to another hedgerow of any length.

9.2.31. They relate to hedgerows which are on, or adjoining land used for the following purposes: agriculture or forestry; the breeding or keeping of horses, ponies or donkeys; common land; village greens; Sites of Special Scientific Interest (which include all terrestrial SACs, NNRs, and SPAs) and Local Nature Reserves. They do not include hedges that are attached to, or marking the boundaries of a private house.

9.2.32. It is an offence to intentionally or recklessly remove or cause or permit another person to remove a hedgerow or intentionally or recklessly remove, or cause or permit another person to remove, a hedgerow which is the subject of a hedgerow retention notice.

The Wild Mammals (Protection) Act 1996

9.2.33. The Wild Mammals (Protection) Act 1996 makes it an offence for any person to cause mutilation and unnecessary suffering on wild mammals. The Act is solely concerned with prevention of cruelty and undue harm to mammals that are considered as not captive and/or domestic.

Guidance

9.2.34. The following guidance documents have been used during the preparation of this Chapter:

UK Government Guidance and Framework

9.2.35. A series of guidance documents and frameworks relating to biodiversity and enhancing the natural environment within the UK have been produced by DEFRA and the Government since

2010. These documents form a network of principles that urge the UK to strategically manage biodiversity and the natural environment for future generations whilst promoting sustainability. Key guidance for England relevant to the Proposed Scheme is outlined below:

- Natural Environment White Paper for England – The Natural Choice (NEWP) (Ref 9.19).
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011) (Ref 9.20).
- Natural England Standing Advice and Guidance for Development Projects (Ref 9.21).
- The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012) (Ref 9.22).
- UK Biodiversity Action Plan 1992-2012 (UK BAP) (Ref 9.23).

9.2.36. The UK Post-2010 Biodiversity Framework gave rise to country specific conservation, enhancement and management protocols. Biodiversity 2020 in combination with NEWP underpin the Biodiversity Framework in England and provides an inventory of standards for maintaining wildlife. After the UK BAP was superseded by the Biodiversity Framework, UK BAP habitats and species were replaced by habitats and species of principal importance as identified via the provisions of Section 41 of the NERC Act.

Professional Guidance and Standards

9.2.37. A range of professional guidance has been used during completion of surveys and assessments that underpin this Chapter. These are summarised below, with additional information provided in the relevant supporting reports.

- Amphibian and Reptile Groups of the United Kingdom (2010) ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. ARG UK, UK. (Ref 9.24).
- Barn Owl Trust (2012) Barn Owl Conservation Handbook, Pelagic Publishing, Exeter. (Ref 9.25).
- Chanin P (2003). Monitoring the Otter (*Lutra lutra*). Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough. (Ref 9.26).
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2013). Guidelines for Preliminary Ecological Appraisal. CIEEM, Winchester. (Ref 9.27).
- CIEEM (2015). Guidelines for Ecological Report Writing. CIEEM, Winchester. (Ref 9.28).
- CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater and Coastal. CIEEM, Winchester. (Ref 9.1).
- Collins J. (ed.) (2016) Bat Surveys for Professional Ecologists, Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London. (Ref 9.39).
- Department for Environment, Food and Rural Affairs (Defra) (2007) Hedgerow Survey Handbook: A Standard Procedure for Local Surveys in the UK, 2nd edition. Defra, London. Available at: http://www.defra.gov.uk/publications/files/pb11951-hedgerow-survey-handbook-070314.pdf. (Ref 9.30).
- Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746. Available online: britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf. (Ref 9.31).
- English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough. (Ref 9.32).

- Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice sheet 10. Froglife, Halesworth. (Ref 9.33).
- Gent, A. and Gibson, S. (2003). Herpetofauna Workers Manual. JNCC. Peterborough. (Ref 9.34).
- Gillings, S., Wilson, A.M., Conway, G.J., Vickery, J.A., Fuller, R.J., Beavan, P., Newson, S.E., Noble, D.G. & Toms, M.P. (2008) Winter Farmland Bird Survey. BTO Research Report No. 494. British Trust for Ornithology, Thetford. (Ref 9.35).
- Harris S, Cresswell P and Jefferies D (1991) (Report) Surveying Badgers. The Mammal. Society, Bristol. (Ref 9.36).
- Joint Nature Conservation Committee (JNCC) (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough. (Ref 9.37).
- Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155 (Ref 9.38)

9.3 Scoping Opinion and Consultation

Consultation

9.3.1. Table 9-1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter.

Table 9-1 - Summary of Consultation Undertaken to Date (Biodiversity)

Body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
Natural England (NE)	Scoping Consultation Response, 12 October 2017	Advice relating to EIA scoping requirements relating to the ecology and biodiversity of the Site. Natural England summarise requirements to be implemented in the ES including an assessment of significant effects of the development on features of nature conservation interest. Natural England indicated an Appropriate Assessment should be completed should a Likely Significant Effect (LSE) on a European site be identified.
Natural England	A meeting to visit the Site and review ecological matters relevant to the ES was held between the Applicant and NE on the 01 December 2017.	Key points covered in the meeting included: Broad agreement of the scope of ecological surveys between the Applicant and NE. Discussion of potential air quality impacts on designated sites, the need for these to be considered in the Proposed Scheme.

Body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
		Habitats Regulations Assessment (HRA) and initial discussions of the approach to assessing the Proposed Scheme and cumulative air quality impacts. Confirmation that NE would expect the Landscape and Visual Impact Assessment to meet the Landscape Institutes Guidelines for this topic. Discussion of the approach in relation to 'shadow' EPS licensing given the timing of ecological surveys in relation to the intended DCO submission date. NE agreed to discuss the approach internally with colleagues from the EPS licensing team.
Natural England Environment Agency	A meeting to discuss the detailed approach to assessing operational air quality impacts on designated sites was held with Natural England and The Environment Agency on the 05 March 2018	Key points discussed in this meeting included: A review of flood modelling appraisal work and potential flood mitigation measures. A review of the emissions scenarios that might arise for the Proposed Scheme and how these are being used in the air quality modelling for the Proposed Scheme. Confirmation that designated sites for assessment in the air quality modelling should include SPA, SAC and Ramsar Sites within 15 km of the Proposed Scheme stack locations and SSSIs / NNRs within 5 km of the Proposed Scheme stack locations. Discussion of the use of the most appropriate critical loads for the assessment. It was agreed that the most sensitive habitat feature will be used unless robust evidence suggests this is not appropriate.

Body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
		NE confirmed that the use of the 1% of critical load threshold for operational emissions from the Proposed Scheme remained appropriate for screening out the potential for likely significant effects. It was agreed between all parties that sensitivity testing should be used to support the in-combination assessment of air quality impacts. This would include sensitivity testing of the predicted improvements in baseline nitrogen deposition that would result from the forthcoming closure of the Eggborough coal-fired power station.
Environment Agency	Meeting held on 30 January 2018 between EA, The Applicant (including its consultants WSP). WSP issued memo on EIA data sources on the 27 March 2018	WSP confirmed that the design and construction of the Proposed Scheme would seek to minimise impacts by: • Avoiding use of jetty to avoid dredging, boat deliveries and associated impacts on fish and otter. • No change to cooling water abstraction and return volumes or temperatures. • Avoiding / minimising habitat loss where possible. EA identified that the assessment should consider cetaceans, sonic disturbance of fish (and related effects on fish passage) and that assessment of effects on designated sites will be needed. WSP has subsequently confirmed that the River Ouse (the only major watercourse within 0.5 km of the Proposed Scheme) would not be subject to significant noise impacts. The River Ouse adjacent to the Proposed Scheme does not provide suitable habitat for cetaceans.
North Yorkshire Council Ecology Service (NYCES)	Meeting held on 21 November 2017 to visit site and review key ecological matters;	Key points covered included:

Body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
	Comments on EIA scoping report received 23 October 2017 Phone conversations on the 10 and 18 September 2017 WSP issued memo on EIA data sources on the 27 March 2018	Broad agreement of the scope of ecological surveys between the Applicant and NYCES. Identification of designated sites and habitat loss in northern development parcels within the Power Station Site as key ecological considerations for the Proposed Scheme. NYCES identified that non-significant effects on ecology (and other receptors) would be considered in the NYCC Local Impact Report (LIR). NYCES agreed with WSP that the EIA would need to include an assessment of air quality impacts on designated sites. NYCES also drew WSP's attention to the ecology work completed for the previous White RoseCarbon Capture and Storage project.
Marine management Organisation (MMO)	23 October 2017 (written comments in response to Applicant's Scoping Report)	Key points made in relation to biodiversity included: Agreement with the baseline considerations in relation to designated sites (section 6.3). That the ES/HRA should give detailed consideration to the River Derwent SAC (Section 6.4). This has been included within the Applicants ES / HRA Report. That depending on the scope of works associated with the potential use of the jetty, marine-based surveys could be required. As no use of the jetty would take place under the Proposed Scheme for hich the DCO is being sought, no marine surveys have been completed.

9.4 Scope of the Assessment

9.4.1. This section explains how the scope of the assessment has developed, and re-iterates the evidence base for insignificant effects (which have therefore been scoped out of the assessment), following further iterative assessment.

9.4.2. An EIA Scoping Report was submitted to the SoS in September 2017, as presented in **Appendix 1.1**. A Scoping Opinion was received by the Applicant from the Planning Inspectorate (on behalf of the SoS) on 23 October 2017, including formal responses from statutory consultees. The responses from the Planning Inspectorate/SoS in relation to biodiversity, and how those requirements should be addressed by the applicant, are set out below in Table 9.2.

9.4.3. The Environmental Impact Report (PEIR) was provided to relevant stakeholders in January 2018, as part of the statutory consultation. Stakeholder comments in relation to biodiversity and how the Applicant has considered those responses are set out in Table 9-2.

Table 9-2 - PEIR Response Summary Table (Biodiversity)

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
N/A	Generic	The study area/s utilised in the assessment should be agreed with the local authority, the EA and Natural England (NE) and clearly defined in the ES. The ES should avoid the use of imprecise terms such as 'in the vicinity of' (section 7.2.3).	The Applicant has held initial consultations with Natural England (NE) and the Environment Agency (EA) regarding the study area for assessing air quality impacts on ecological designated sites. The study area for the air quality impacts on ecologically designated sites was agreed with NE and EA at the consultation meeting on 5 March 2018
7.2.2	Sensitive receptors	The ES should justify the choice of human and ecological receptors selected and it is recommended that these are agreed with the local authority and NE respectively. The receptors should be identified on a plan accompanying the ES.	The Applicant can confirm that a clear justification for the selection of ecological receptors has been included in the ES, with the identified ecological receptors identified on an accompanying plan (Figures 9.1 – 9.10). The applicant can confirm that ecological receptors considered in the ES have been agreed with NE.

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
7.2.4	Deposition levels	The Scoping Report explains that impacts from nitrogen and acid deposition at ecological receptors will be assessed using background deposition levels taken from the Air Pollution Information System (APIS) website. The Inspectorate is content with this approach.	The Applicant notes PINS acceptance of the proposed approach.
7.2.1 and 7.2.4	Impacts on ecological sites resulting from nitrogen and acid deposition	The Inspectorate notes the potential for changes in emissions to air from operation of the Proposed Scheme to impact on ecological sites. The applicant is advised to also assess the effects of the Proposed Scheme cumulatively with other relevant plans and projects. The Inspectorate refers the applicant to its Advice Note seventeen (AN17) on Cumulative Effects Assessment, which provides advice in this regard. The applicant is advised to discuss and agree the approach to the ES assessment and the HRA with NE.	The Applicant can confirm that the effects of the Proposed Scheme have been considered cumulatively with those from other relevant plans and projects, with reference to the PINS Advice Note 17 (AN17) on Cumulative Effects Assessment; this is reported in Chapter 17 (Cumulative Assessment). The approach to the ecological assessment of air quality impacts was discussed and agreed in principle with NE at the consultation meeting held on 5 March 2018.
7.3.1	Sensitive receptors	The noise and vibration chapter has only identified human sensitive noise receptors. The Inspectorate expects that the assessment should appropriately cross refer to the assessment of biodiversity within the ES.	The noise and vibration and biodiversity assessments within the ES cross refer to each other where appropriate. Noise and vibration effects are considered in Chapter 7 (Noise and Vibration) and in this chapter.

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
		The applicant's attention is also drawn to the comments of MMO and the need to provide further detail of the works required in order to scope out the River Ouse and the River Derwent from the assessment.	In relation to the comments from the MMO, given the removal of the jetty from the Proposed Scheme following publication of the PEIR, no significant noise and vibration impacts on marine/freshwater receptors would arise.
7.5.2	Applicant's proposed matters to scope out: Loss or disturbance of common and widespread habitats of negligible nature conservation importance	The Scoping Report does not explain which habitats this would encompass or how this would be determined. In the absence of this information, the Inspectorate cannot agree to scope this matter out. If there are impacts to these features which could result in significant effects these should be assessed within the ES.	The approach to identifying Important Ecological Features (IEF) set out in the CIEEM EcIA guidance has been followed; where habitats are deemed not to be IEF following this approach, they have not been subject to detailed assessment. This has meant that areas of hardstanding, buildings and bare ground are not considered in detail in this assessment, as these are considered to be of negligible ecological importance in all cases.
7.5.3	Applicant's proposed matters to scope out: Temporary disturbance of common and widespread species of negligible nature conservation importance	The Scoping Report does not explain which species this would encompass or how this would be determined. In the absence of this information, the Inspectorate cannot agree to scope this matter out. If there are impacts to these features which could result in significant effects these should be assessed within the ES.	The approach to identifying IEF set out in the CIEEM EcIA guidance has been followed; where species are deemed not to be IEF following that approach, they have not been subject to detailed assessment. IEFs are identified in sections 9.6 and assessed in 9.7.
7.5.2	Construction phase air quality impacts on designated sites	Section 7.5.2 of the Scoping Report states that construction-phase works are unlikely to generate significant air quality	Following the Institute of Air Quality Management (IAQM) guidance on the assessment of construction dust, impacts on ecological receptors need

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
		impacts in excess of 2km from the application site and that that there are no statutory designated sites within 2km of the site. However, Table 4.4 identifies the River Derwent Special Area of Conservation (SAC) and Eskamhorn Meadows Site of Special Scientific Interest (SSSI) as being within 2km of the site. The Inspectorate therefore considers that construction phase air quality impacts on designated sites should be assessed in the ES.	only be considered within 50 m of dust-generating activities. The potential dust sources include areas of specific construction activities but also roads within 500 m of the Site. Outside of the study area, it is reasonable to conclude that construction impacts will be negligible. The River Derwent SAC and Eskamhorn Meadows SSSI are located more than 500 m from the Site; the Applicant therefore still considers that construction phase air quality impacts can be scoped out of the ecological assessment.
7.5.3	Operational effects for pipeline works	Section 7.5.3 of the Scoping Report notes that effects will be assessed for pipeline works during demolition and construction. No reference is made to the operational phase. However, given the nature of the project and the characteristics during the operational phase, the Inspectorate does not consider there would be likely significant effects and agrees that this does not need to be assessed within the ES.	Noted and agreed.
7.5.1	Designated Sites	With regard to statutory and non-statutory designated wildlife sites, the applicant is advised to discuss and agree which sites should be assessed with relevant stakeholders including NE, the local authority and the EA.	The applicant has held consultations with Natural England (NE) and the Environment Agency (EA) regarding the study area for assessing air quality impacts on ecological designated sites. The approach to assessing air quality impacts on designated sites was agreed with EA and

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
			NE at the consultation on 5 March 2018.
7.5.4	HRA	The Applicant proposes to carry out a HRA, considering the likely significant effects on European sites within 10km of the application site. The applicant is advised to discuss and agree the scope of the HRA assessment with NE, to ensure that all relevant European sites and potential impacts on those sites are appropriately addressed in the assessment.	The Applicant has held consultations with Natural England and the Environment Agency (EA) regarding the study area for assessing air quality impacts on ecological designated sites. The approach to the study area was agreed with EA and NE at the consultation meeting held on 5 March 2018.
7.5.4	Guidance receive	The Inspectorate notes that the CIEEM guidelines for Preliminary Ecological Appraisal referenced in this section were revised in 2012. The applicant should ensure that the most relevant and up-to date versions of all guidance are used to inform the assessment and referenced in the ES. The ES/appendices should also include details of the guidance and methodologies followed for the protected species surveys.	The Applicant notes PINS comments and can confirm that the reference to the 2008 Guidelines for Preliminary Ecological Appraisal was incorrect and that the 2012 Guidelines have been used as the reference source. The Applicant can confirm that details of the guidance and methodologies followed for protected species surveys has been included in the ES and its supporting appendices.
7.5.5	Survey work	The Inspectorate notes from section 7.5.5 of the Scoping Report the potential for ecological data deficiencies to remain at the time of submission of the DCO application, which the applicant proposes to address through measures	The Applicant notes the response from PINS and can confirm that they have agreed the approach to addressing potential data omissions arising from incomplete or partial ecological survey data with NE and NYCES. Ecological surveys have been

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
		such as design amendments and precautionary mitigation. The applicant is advised to discuss and agree the approach with NE and the local authority. The applicant is reminded of the need to ensure that the ES provides an accurate assessment of the likely significant effects of the Proposed Scheme. The applicant should make every effort to ensure that the necessary surveys are completed prior to submission.	completed prior to submission wherever possible, subject to the seasonal restrictions affecting some types of surveys. A memo was issued to NE and NYCES on 3 April 2018 confirming the data that would be used to inform the assessment in the ES. NE responded on 13 April 2018 confirming agreement to the proposed approach. The Applicant can confirm that this Chapter of the ES provides an accurate assessment of the likely significant effects of the Proposed Scheme.
N/A	N/A	The applicant's attention is drawn to the comments of North Yorkshire County Council and Selby District Council regarding the need to assess impacts to grass snakes within the ES.	Noted and this has been assessed within the ES. A reptile survey report documenting the results of the reptile survey will be submitted after the DCO submission date as an addendum. Preliminary results which indicate grass snake are absent or occur infrequently within the Proposed Scheme, are included in this chapter.
N/A	N/A	The Scoping Report has not identified the need for any marine-based surveys. The applicant's attention is drawn to the comments of the MMO and the need to consider marine-based surveys. The Inspectorate recommends that consultation is undertaken with the MMO to agree the need for any such surveys and any subsequent assessment that is required.	The Applicant notes the comments from PINS and the MMO, however marine ecological surveys are no longer required, as the jetty is not included within the Proposed Scheme.

Section	Applicant's proposed matter	Planning Inspectorate's Comments	Summary of response
N/A	N/A	The applicant's attention is drawn to paragraph 5.3.18 of NPS EN-1 and the need to demonstrate that appropriate mitigation measures have been adopted for the Proposed Scheme. Any proposed mitigation measures should be clearly described within the ES.	The Applicant notes the comments from PINS and can confirm that proposed mitigation measures are clearly set out in the ES and in the accompanying Outline Landscape and Biodiversity Strategy.
N/A	N/A	The ES should confirm whether any EPS licenses and/or mitigation licenses for other protected species would be required. If so, to provide the ExA with assurance that the necessary license(s) are likely to be obtained, the applicant should seek to obtain letters of no impediment (LoNI) from NE. These should be appended to the ES. The Applicant is referred to the Inspectorate's Advice Note eleven, Annex C in this regard.	At this time no impacts on EPS that would require issue of a licence are predicted to arise. This is due to there being no evidence that there are places of shelter for EPS within the ZoI of the Proposed Scheme.

Table 9-3 - Statutory Consultation Summary Table of the PEIR (Biodiversity)

Body/Organisation	Comments	Response
Environment Agency	EA identified that the assessment should consider cetaceans, sonic disturbance of fish (and related effects on fish passage) and that assessment of effects on designated sites will be needed.	The design and construction of the Proposed Scheme seeks to minimise impacts by: • Avoiding use of the jetty to avoid dredging, boat deliveries and impacts on fish and otter. • Not changing the use of water in the existing

Body/Organisation	Comments	Response
		Drax Power Station cooling water system. • Avoiding / minimising habitat loss where possible.
Natural England	Natural England Lead Advisor confirms Discretionary Advice Service (DAS) request has been received	The Applicant and NE now have a DAS Agreement in place, enabling NE to provide the Applicant with detailed advice.
	Advice relating to EIA scoping requirements relating to the ecology and biodiversity of the site. Natural England summarise requirements to be implemented in the ES including an assessment of significant effects of the development on features of nature conservation interest. The assessments should include a thorough investigation of significant effects on internationally and nationally designated sites, regionally and locally important sites, European and nationally protected species, and habitats and species of principal importance (including those features within the local BAP). In relation to internationally designated sites, Natural England indicate an appropriate assessment should be undertaken should a Likely Significant Effect on a site be identified. Comments also include the implementation of appropriate mitigation within the ES which makes use of habitat creation and enhancement opportunities.	Agreed.
	A meeting to visit the Site and review ecological matters relevant to the ES was held between the applicant and James Walsh of NE.	Agreed.

Body/Organisation	Comments	Response
	Key points covered in the meeting included: Broad agreement of the scope of ecological surveys between the applicant and NE; Discussion of potential air quality impacts on designated sites, the need for these to be considered in the Proposed Scheme Habitats Regulations Assessment (HRA) and initial discussions of the approach to assessing Proposed Scheme and cumulative air quality impacts; and Confirmation that NE would expect the Landscape and Visual Impact Assessment to meet the Landscape Institutes Guidelines for this topic. Discussion of the approach in relation to 'shadow' EPS licensing given the timing of ecological surveys in relation to the intended DCO submission date. NE agreed to discuss the approach internally with colleagues from the EPS licensing team.	
North Yorkshire Council Ecology Service (NYCES)	NYCES provides applicant with draft comments on EIA Scoping Report Ecology Section.	
	NYCES discussed survey programme with WSP highlighting the value of the previous ecology work commissioned for the White Rose Carbon Capture and Storage Project	WSP agreed with comments made by NYCES. A meeting between the applicant and NYCES was held on 21 November 2017 and the principles of data that would be used to inform the assessment agreed.
	Ecology comments in relation to EIA scoping report. NYCES agree with requirement for a HRA and the	Noted. A HRA report is included within this DCO submission. An ecological

Body/Organisation	Comments	Response
	inclusion of ecological assessment of air quality impacts in EIA scope.	assessment of air quality impacts is included within this Chapter.
	A meeting to visit the Site and review ecological matters relevant to the ES was held between the applicant and NYCES. Key points covered in the meeting included: Broad agreement of the scope of ecological surveys between the applicant and NYCES; Identification of designated sites and habitat loss in northern development parcels within the Power Station Site as key ecological considerations for the Proposed Scheme; and NYCES identified that non-significant effects on ecology (and other receptors) would be considered in the NYCC Local Impact Report (LIR).	Agreed.
Marine Management Organisation (MMO)	Biodiversity related comments on the Scoping Report were included in the MMO response. Key points made in relation to biodiversity included: Agreement with the baseline considerations in relation to designated sites (section 6.3); That the ES/HRA should give detailed consideration to the River Derwent SAC Section 6.4); and That depending on the scope of works associated with the potential use of the jetty, marine-based surveys could be required. The MMO highlighted that they would	The Applicant notes the responses from the MMO. It was confirmed following the submission of the PEIR, that the jetty would not form part of the Proposed Scheme.

Body/Organisation	Comments	Response
	welcome further consultation to confirm marine assessment requirements once the scope of marine works is confirmed (Section 6.6, 6.8, 6.9, 6.11, 6.12).	

Insignificant Effects

9.4.4. The following effects have been considered insignificant and have therefore not been considered within the ES:

- Temporary and permanent disturbance/loss of hard-standing and buildings during reconfiguration, construction and operation. These habitats are considered of negligible ecological importance, such that any impacts upon them from the Proposed Scheme would not trigger significant ecological effects.

Potentially Significant Effects

Construction Phase

9.4.5. The following potentially significant effects have been identified associated with the construction of the Proposed Scheme:

- Alteration or degradation of habitats within designated sites as a result of emissions to air and accidental release of hazardous materials. For example as a result of accidental construction-phase oil or fuel spills.
- Permanent or temporary removal or disturbance of habitats within and adjacent to the Proposed Scheme leading to the destruction or damage of HPI or habitats otherwise of ecological importance. This could occur where semi-natural habitats fall within the construction footprint of the Proposed Scheme and need to be removed to allow construction to take place, for example.
- Loss and/or disturbance of protected species and their habitats due to demolition, site clearance and construction activities, including construction traffic. These impacts could arise as a result of removal of habitats to facilitate construction and / or noise, vibration, visual disturbance and artificial light generated by construction activities.
- Disruption of ecological networks provided by habitats that will be lost, altered or disturbed by construction.

Operation Phase

9.4.6. The following potentially significant effects have been identified associated with the operation of the Proposed Scheme:

- Alteration or degradation of habitats within designated sites as a result of emissions to air and accidental release of hazardous materials, for example through release of combustion by-products from the gas generating stations.
- Loss and/or disturbance of protected species and their habitats due to operation of the Proposed Scheme, for example as a result of increased noise, visual and lighting impacts.

- Disruption of ecological networks supported by habitats that will be lost to the operational footprint or experience physical changes as a result of the Proposed Scheme.

9.5 Assessment Methodology and Significance Criteria

Scenarios Assessed

9.5.1. The general approach of this Chapter is to assess the Proposed Scheme scenario that is likely to lead to the greatest level of impact on ecological features. Under this scenario all stages (0 – 4) of the Proposed Scheme take place under the DCO, with both Units X and Y constructed and operated. As this scenario will result in the greatest levels of site clearance and construction activity and greatest potential extents of habitat loss, this is considered to represent a robust worst-case approach to the assessment.

9.5.2. Operational air quality impacts and effects of the Proposed Scheme on designated sites will be a key ecological consideration. This Chapter therefore draws on the findings of the air quality assessment presented in Chapter 6 (Air Quality). The air quality assessment considers the full range of operational scenarios that include both Unit X and Unit Y (Stage 2 – 3)) with and without SCR.

9.5.3. This Chapter considers only the worst-case operational scenario for air quality impacts and effects – i.e. Stage 3 with the operation of both Units X and Y in CCGT / OCGT operation with SCR. Emissions are greatest in this scenario for pollutants relevant to the biodiversity assessment. In Stage 2 there are no significant interactions between construction emissions and the operational emissions from Unit X that would create greater impacts than those considered at Stage 3.

9.5.4. More widely, the Biodiversity Chapter is based on the following assumptions;

- That as part of the electrical connection from Unit Y, habitat loss and disturbance will result from the cable route construction and implementation of new infrastructure.
- A construction period of approximately 34 months per unit followed by commissioning. It is anticipated that the two construction periods will be separated by 12 months, with the overall programme lasting approximately 83 months including commissioning of the second unit. The battery storage facility and Gas Pipeline will be constructed within the first half of this programme (Stage 1).
- That existing habitats within the Power Station Site construction footprint will be removed, or disturbed to such an extent that they are effectively removed during construction. (Stages 0 – 2).
- That due to their distance from the Site and with implementation of the Construction Environmental Management Plan (CEMP) (document reference 6.5) there will be no perceptible impacts on statutory designated sites during construction.
- That the majority of habitat loss and disturbance associated with construction of the Gas Pipeline will be temporary (with the only permanent loss associated with the Above Ground Installations (AGI) and Gas Receiving Facility (GRF)) (during Stage 1), with existing habitats reinstated following construction (during Stage 2).
- That installation of the Gas Pipeline will take place primarily between the months of April and September inclusive, avoiding the winter months.
- That woodland/plantation habitats within Development Parcel B (see Figure 9.3) will be retained throughout the Proposed Scheme, with a surrounding 15 m buffer where site

clearance and development activities do not occur; this will be secured through the Outline Landscape and Biodiversity Strategy (document reference 6.7).

- That any lighting designed for the construction and operation of the Proposed Scheme will be designed so at to minimise illumination of retained habitats at and adjacent to the Site.
- That the existing Drax Power Station cooling water system is used for the Proposed Scheme, with no changes in abstraction or return volumes or temperatures from the current and future baseline.
- That decommissioning works will be restricted to areas of the Power Station Site and the AGI and GRF, with the Gas Pipeline and National Grid AGI left *in-situ* following decommissioning together with any electrical connection equipment owned by National Grid.

Embedded Mitigation

9.5.5. This assessment has been completed assuming delivery of primary and tertiary mitigation measures as part of the Proposed Scheme. These assumed mitigation measures are set out in Table 9.4, below. Where ecological surveys are still ongoing, mitigation has been identified on a precautionary basis. Completion of further ecological surveys may provide data confirming that some mitigation measures proposed below are not needed; this will be confirmed via addenda to the ES as appropriate.

9.5.6. Primary mitigation involves modifications to the location or design of the Proposed Scheme made during the pre-application phase that are an inherent part of the Proposed Scheme. Tertiary mitigation is implemented with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects. These measures are treated as an inherent part of the Proposed Scheme.

Table 9-4 - Assumed embedded mitigation measures

Measure	Primary or Tertiary	Description
CEMP	Tertiary	The construction environmental impacts of the Proposed Scheme will be managed through implementation of a CEMP with the outline CEMP provided with the DCO Application (Document Ref. 6.5). A requirement to the draft DCO (Document Ref. 3.1) secures the approval and implementation of the CEMP. The CEMP will set out a series of measures, based on best-practice guidance relevant and appropriate to biodiversity, to control the environmental effects of construction of the Proposed Scheme. This will include measures aimed at controlling noise and light impacts, the use of fencing to demarcate the construction footprint and protect adjacent ecological features, methods for managing waste and methods for addressing pollution incidents, should they occur.

Measure	Primary or Tertiary	Description
		These measures are expected to form an important part of efforts to control construction phase impacts on habitats and protected or otherwise notable species. It is anticipated that dust and particulate matter emissions associated with activities during all stages (0 – 2) throughout the construction phase will be controlled through the implementation of the CEMP. The CEMP will be informed by the relevant IAQM guidance (Ref 9.45). During the decommissioning stage, a decommissioning environmental management plan (DEMP) will provide equivalent environmental protection to the CEMP.
Retention of the existing Drax Power Station cooling water system	Primary	The existing Drax Power Station cooling water system would continue to be used for the Proposed Scheme. This includes an intake and return from / to the River Ouse. The Proposed Scheme would use the same cooling water system, with negligible changes in abstraction and return volumes or return temperatures of water to/from the River Ouse from those in existence.
Proposed Scheme layout to minimise land take of semi-natural habitats.	Primary	The layout of the Proposed Scheme has been developed to avoid loss of semi-natural habitats wherever practicable. This includes (for example) retaining 'North Station Woodland' other woodland habitats within Development Parcel B with a buffer of 15 m as part of the DCO Application. Field boundaries such as hedgerows and lines of scattered trees within construction and laydown areas will be retained and protected where possible The alignment of the Gas Pipeline route has also been positioned to avoid areas of plantation / woodland planting.
Proposed Scheme layout minimises disturbance of suitable otter habitat	Primary	The use of the jetty for delivery of materials to Site during construction has been removed from the Proposed Scheme (this was previously included as part of the Proposed Scheme and assessed within the PEIR). Evidence of regular otter activity was recorded under the jetty during ecological surveys in 2017 and 2018. It is assumed that all deliveries to Site will be made via the road network.

Measure	Primary or Tertiary	Description
Use of technology to minimise footprint of generating station equipment	Primary	Technology including vertical Heat Recovery Steam Generators (HRSG) will be implemented in order to minimise the generating station equipment's footprint.

Extent of the Study Area

9.5.7. The study area for Biodiversity varies depending on the ecological features being assessed and the Zone of Influence (ZoI) of the different impacts predicted to arise from the Proposed Scheme.

9.5.8. The study area for air quality impacts on designated sites is identical to that presented in Chapter 6 (Air Quality), i.e. up to 15 km in all directions from the Power Station Site for internationally designated sites, 5 km for nationally designated sites and 2 km for locally designated sites and areas included on the Ancient Woodland Inventory (AWI).

9.5.9. The study area for other elements of the Biodiversity assessment (i.e. for impacts other than air quality) is as follows:

- Within the Site and up to 50 m from it for habitat loss and degradation arising from construction activities and operation of the Proposed Scheme.
- Within the Site and up to 50 m from it for disturbance of protected or otherwise notable species arising from construction activities and operation of the Proposed Scheme.
- Up to 10 km downstream of the Proposed Scheme for designated sites, habitats and species associated with watercourses.

9.5.10. The study area for disturbance arising from construction activities was set with regard to the findings of the noise and vibration assessment presented in Chapter 7 (Noise and Vibration). This included modelling of predicted noise levels at 13 ecological Noise Sensitive Receptors (NSR). The locations of the ecological NSR's were selected by an ecologist in consultation with a noise specialist. The findings of the noise modelling indicated that construction and operation of the Proposed Scheme (all stages) would not lead to significant increases in noise levels at NSR, with the exception of NSR 15,(Woodland 2, referred to as Woodcock Wood on Ordnance Survey (OS) mapping) which would be located adjacent to the Pipeline Construction Area during Stage 1.

9.5.11. As such the 50 m threshold was considered a suitable threshold distance for assessing potential disturbance impacts arising from construction and operation.

Method of Baseline Data Collation

Desk Study

9.5.12. A request for biological records was made to North and East Yorkshire Ecological Data Centre. The request included statutory and non-statutory designated sites, ancient woodland, HPI and SPI, European and nationally protected species, species protected by planning policy, and species of local conservation interest.

9.5.13. WSP's in house GIS software 'iGIS' was used to search for internationally designated sites within 15 km of the Site.

Field Surveys

9.5.14. An extended Phase 1 habitat survey was carried out over several visits between August 2017 and March 2018 using the Handbook for Phase 1 Habitat Survey by JNCC published in 2012 (Ref 9.37). During these survey visits, the habitats present were recorded and categorised in accordance with this guidance. The scope of the survey visits was extended to assess the suitability of the survey area for protected and otherwise notable species.

9.5.15. As part of the extended Phase 1 habitat survey, a Preliminary Ground Level Roost Assessment for trees (PGLRA) within the Site and an external inspection of buildings within the Existing Drax Power Station Complex was carried out as per BCT's good practice guidelines published in 2016 (Ref 9.29). Dusk emergence and dawn re-entry surveys of three buildings within the Existing Drax Power Station Complex were subsequently carried out.

9.5.16. Further details of the methodologies used and results obtained are presented in Appendix 9.3.

9.5.17. Based on biological records at the Site and assessments made from the extended Phase 1 habitat survey, further ecological surveys were recommended within the Proposed Scheme and up to 250 m from the Proposed Scheme boundary.

9.5.18. A wintering bird survey was carried out within the Power Station Site and parts of the Pipeline Area comprising five visits between November 2017 and March 2018 using the Winter Farmland Bird Survey methodology produced by S, Gillings *et al* and published by the BTO in 2008 (Ref 9.35)

9.5.19. Four great crested newt (*Triturus cristatus)* survey visits of suitable waterbodies within and up to 250 m of the Site Boundary were carried out between March and May 2018. Great crested newt surveys comprised an assessment using the Habitat Suitability Index (HSI) method outlined in Evaluating the suitability of habitat for Great Crested Newt (*Triturus cristatus*) by Oldham et al. 2000 (Ref 9.38). The HSI surveys were followed by a presence/absence survey in accordance with the Great Crested Newt Mitigation Guidelines (Ref 9.32)

9.5.20. Surveys for otter (*Lutra lutra)* and water vole (*Arvicola amphibius)* within the Power Station Site and the Pipeline Area were carried out over two visits between September 2017 and March 2018. Alongside the survey visits for otter and water vole, surveys for signs of badger (*Meles meles)* were also carried out. Findings of these assessments are presented in Appendices 9.4 and 9.9. Due to the sensitivity of badger records, survey findings are located in a separate confidential appendix and detailed results are not reported in this chapter. An assessment of impacts has been made and appropriate mitigation measures are discussed in the mitigation section, although all detail remains in the confidential appendix.

9.5.21. Five reptile surveys have been carried out in accordance with Froglife's Advice Sheet 10 (Ref 9.33) and Natural England standing advice for reptiles with a further two survey visits planned to be delivered. One hundred reptile survey refugia (consisting of corrugated iron tins and

bitumen backed carpet tiles) have been placed within areas of suitable habitat within the Power Station Site and construction laydown areas (See Figure 9.7).

9.5.22. Breeding bird surveys are currently ongoing and will be completed in July 2018. These surveys are being carried out within the Power Station Site and Pipeline Area. Surveys are being carried out following a survey approach based on the Common Bird Census (CBC) by Bibby et al., 2000 (Ref 9.39) and Breeding Bird Survey (BBS) methodologies developed by the British Trust for Ornithology (BTO) (ref 9.35).

9.5.23. Bat activity surveys to assess levels of bat activity across the Site are also being completed over the period April 2018 – October 2018. One bat activity transect survey was complete at the time of ES production. These surveys are being carried out with regard to BCT Good Practice Guidelines (Ref 9.29).

9.5.24. The full findings of the surveys described above will be issued to PINS as ES Addenda once complete, with this specified in the Mitigation Commitments Register (Doc Ref. 6.4). All surveys are expected to be complete prior to Examination of the DCO application commencing.

9.5.25. A survey transect has been designed to record accessible habitats within the construction / site clearance and laydown areas. This transect is approximately 4 km long and is walked by two surveyors using bat echolocation devices to record bat activity during each survey. In parallel, automated static detectors are to be stationed in areas of suitable habitat within the same areas as the transect surveys to record general bat activity in the area. These are left in situ for a period of five days for each survey visit. The bat activity transect and results of the first survey are displayed in Figure 9.9.

Assessment Methodology

9.5.26. The ecological impact assessment (EcIA) presented in this Chapter 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 (2016) (Ref 9.1), an assessment will be carried out that collates relevant baseline information in order to predict the effects of the Proposed Scheme on IEF.

9.5.27. 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.

9.5.28. 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 or negligible. Each significant effect is assessed based on a number of factors including the magnitude of impact (incorporating intensity, frequency and spatial range) and the susceptibility of habitats and species to developmental changes.

9.5.29. The magnitude of impact is summarised as follows:

- Major impact: where the Proposed Scheme could be expected to have a very significant impact (either positive or negative) on receptors, for example where an IEF such as a species-rich hedgerow would be removed by construction activities.

- Moderate impact: where the Proposed Scheme could be expected to have a noticeable impact (either positive or negative) on receptors but does not completely compromise their integrity or conservation status, for example where construction of the Gas Pipeline temporarily severs possible bat commuting routes.
- Minor impact: where the Proposed Scheme could be expected to result in a small, barely noticeable impact (either positive or negative) on receptors; for example occasional dust deposition onto retained woodland habitats during construction.
- Negligible: where no discernible impacts are expected to be evident as a result of the Proposed Scheme; negligible impacts are of insufficient magnitude to cause significant effects to any Ecological Feature.

9.5.30. Ecological networks are assessed based on their resilience to the effects of the Proposed Scheme and their relative importance.

9.5.31. The importance of an ecological feature is determined on a geographical scale as follows:

- International (within Europe).
- National (relating to the UK, specifically England).
- County (North Yorkshire).
- District (Selby).
- Local (Site and surrounding parishes).
- Site.
- Negligible.

9.5.32. For the purposes of this assessment, ecological features of 'Site' importance or higher are assessed as being IEF that can therefore experience significant effects. Ecological features of 'negligible' importance are not considered sufficiently important to experience significant effects, and are not assessed as being IEF.

9.5.33. The relative importance of a significant effect is determined based on the extent to which the integrity and/or conservation status of the IEF is compromised and the geographical level at which the impact occurs.

9.5.34. Additional survey information is being gathered in relation to some ecological features occurring within or close to the Site. This is because many ecological surveys can only be carried out and completed in the spring/summer. Valuations of the importance of ecological features have therefore been based on a combination of current survey data and previous ecological survey data drawn from the White Rose Carbon Capture Project (Ref 9.40) and ecological monitoring reports of the Barlow Ash Mound (Ref 9.41). This allows for a realistic worst-case judgement. This has been discussed and agreed with Natural England.

9.5.35. This has allowed a realistic worst-case assessment of the effects of the Proposed Scheme to be presented in this chapter.

9.5.36. In addition to the assessment of IEF, this assessment also considers legal protection of habitats and species, where relevant to the Proposed Scheme. Where effects on IEF are assessed as being bot significant, this ius also reported, in accordance with Regulation 5(2)(l) of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.

9.6 Baseline Conditions

Current Baseline

Designated Sites

9.6.1. All designated sites within 15 km of the Proposed Scheme have been identified via the desk study and are considered in this assessment. The designated sites identified are listed in Tables 9-5 to 9-7 below, with additional details provided in Appendix 9.2.

Table 9-5 - Internationally Designated Sites within 15 km of the Site

Site Name	Designation	Distance to Power Station Site	Distance to Pipeline Area
River Derwent	Ramsar	0.8 km to the north-east	1.1 km north-east
Lower Derwent Valley	Ramsar	5.0 km to north east	5.4 km to the north
Humber Estuary	Ramsar	6.4 km to the east	5.4 km to the east
River Derwent	SAC	0.8 km to the north-east	1.3 km north-east
Lower Derwent Valley	SAC	5.0 km to the north-east	5.4 km to the north
Humber Estuary	SAC	6.4 km to the east	3.4 km to the east
Skipwith Common	SAC	8.4 km to the north	9.1 km to the north
Thorne Moor	SAC	9.3 km to the south-east	7.4 km to the south-east
Lower Derwent Valley	SPA	5.0 km to north east	5.4 km to the north
Humber Estuary	SPA	6.4 km to the east	3.4 km to the east

Table 9-6 - Nationally Designated Sites within 5 km of the Site

Site name	Designation	Distance to Power Station Site	Distance to Pipeline Area
Barn Hill Meadows	SSSI	5.65 km east	3.4 km north-east
Breighton Meadows	SSSI	4.95 km north-east	5.4 km north-east
Eskamhorn Meadows	SSSI	2.44 km south-east	2.3 km south-west
Humber Estuary	SSSI	6.44 km east	3.4 km east
River Derwent	SSSI	0.80 km north-east	1.3 km north
Barlow Common	LNR	2.76 km west	3.5 km west
Howden Marsh	LNR	6.88 km east	4.5 km east
Sugar Mill Pond	LNR	6.1 km to the south	4.5 km to the south

9.6.2. Given the process by which they are designated, internationally designated sites are identified as being of 'international importance'. Nationally designated sites including SSSI and National Nature Reserves (NNR) are identified as being of 'national importance'. Local Nature Reserves (LNR) are valued as being of 'County' importance, as are locally designated non-statutory sites. This reflects the geographical basis of the designations, i.e. European Sites

support habitats and species that are deemed important at a European biogeographical level, whilst SSSI are designated on the basis of supporting the best examples of particular habitats, species and eco-systems at a national level.

Table 9-7 - Locally Designated Sites within 2 km of the Site

Site Name	Designation	Distance to Power Station Site	Distance to Pipeline Area
Disused Railway Embankment	Deleted SINC	0.8 km to the east	0.1 km to the north
Brockholes	SINC	1.9 km to the south-east	0.9 km to the north-east
Meadow East of Orchard Farm	SINC	1.9 km to the north-west	>2 km
Barmby-on-the-Marsh	Candidate LWS	1.7 km to the east	1.1 km to the north

9.6.3. The closest locally designated site to the Proposed Scheme is the Disused Railway Embankment SINC, located approximately 0.1 km north of the Pipeline Area. The North Yorkshire SINC Panel has however de-notified this SINC, as it is no longer considered to meet the criteria for SINC selection. This site may still be considered by local authorities when determining planning applications and in the discharge of their wider statutory functions.

Habitats

9.6.4. The majority of the Power Station Site comprises hard standing and buildings with areas of amenity grassland and introduced shrub. Scattered broadleaved trees are present throughout and there is a heavily silted pond/reed bed surrounded by scrub habitats in the north of the Site.

9.6.5. Land in the control of the Applicant lies outside of the Existing Power Station Complex – the Carbon capture reserve space. This comprises an arable field bordered by hedgerows and drainage ditches as well as an area of mixed plantation woodland. A summary of the habitats present in each development parcel is provided in Table 9-5 below, with the development parcels and habitats within them shown on Figure 9.3.

Table 9-8 - Summary of Habitats within Power Station Site and Carbon capture reserve space

Development parcel	Habitats present	Approximate area (ha)
A	Broadleaved woodland (semi-natural), Parkland/ scattered trees (mixed), Tall ruderal, Standing water (wet ditch), Cultivated/ disturbed land (arable), Intact hedge (native species- rich), Defunct hedge (species-poor). Predominantly under agricultural management.	11.4
B	Broadleaved woodland (plantation), Mixed woodland (plantation), Scrub (dense), Improved	8.41

Development parcel	Habitats present	Approximate area (ha)
	grassland, Cultivated/ disturbed land (arable), Dry ditch, Buildings and Hardstanding.	
C	Broadleaved woodland (semi-natural), Parkland/ scattered trees (broadleaved) Neutral grassland (semi-improved), Tall ruderal, Amenity grassland, Introduced shrub, Defunct hedge (species-poor), Reedbed and silted pond, Buildings and Hardstanding	7.19
D	New Road between Drax Power Station and the arable field in Development Parcel A. The habitat present is predominantly Hardstanding.	0.13
E	Broadleaved woodland (semi-natural), Scrub (dense), Neutral grassland (semi-improved).	3.45
F	Parkland/scattered trees (broad-leaved), Amenity grassland, Introduced shrub, buildings and hard-standing	15.55
H	Parkland/scattered trees (broad-leaved), Tall ruderal, Amenity grassland, Intact hedge (species-poor). Buildings and Hardstanding.	7.39

9.6.6. The Pipeline Area is predominantly formed of arable fields with bordering hedgerows and ditches. Parcels of tall ruderal, dense scrub, improved- and semi-improved grasslands are present along with mixed and broadleaved woodlands and scattered trees. The River Ouse borders the northern edge of the Pipeline Area. A summary of the habitats present in each development parcel of the Pipeline Area is provided in Table 9.9 below, with the development parcels shown on Figure 9.3

Table 9-9 - Summary of Habitats within Pipeline Area

Development parcel	Habitats present	Approximate area (ha)
J	Broadleaved woodland – plantation, Broadleaved parkland/scattered trees, Improved grassland, Defunct hedge – species poor, Dry ditch, Tall herb and fern – ruderal, Cultivated/ disturbed land (arable	124.5
K	Cultivated/ disturbed land – arable	1.52
L	Cultivated/ disturbed land – arable	0.01
I	Predominantly Arable farmland.	1.22

9.6.7. HPI have been recorded within the Site, including both the Power Station Site/Carbon capture reserve space and the Pipeline Area. These include deciduous woodland, reed bed, ponds and hedgerows. Other HPIs are present within 100 m of the Site including deciduous woodland, rivers, ponds, hedgerows, traditional orchards and mudflats. All of the above mentioned HPIs are considered to be IEF which could be subject to significant effects.

9.6.8. Given the extent and nature of these habitats within the Site, and the relative abundance of other similar habitats in the local, Selby and wider North Yorkshire areas, these habitats are considered to be IEF at up to a District geographical scale.

9.6.9. Intensively managed and /or species-poor habitats including improved grassland and arable farmland are considered important at up to a 'Site' geographical scale.

9.6.10. Areas of amenity grassland, introduced shrub, hard-standings and buildings are considered to be of 'Negligible' importance as habitats. As such they cannot be subject to significant effects and will not be subject to further assessment in this Chapter.

9.6.11. A similar array of habitats to those recorded within the Site, listed in Table 9.8 also exist adjacent to the Site (outside of the Site Boundary) and in the wider vicinity. A mosaic of woodland, scrub, grassland, arable and aquatic habitats have been recorded to the north and west as illustrated in the environmental statement for the White Rose Carbon Capture and Storage (WRCCS) project (Ref 9.40) and Ecological Monitoring Report – 2017 for Barlow Ash Mound (Ref 9.41).

9.6.12. Habitats in and adjacent to the Site are shown on Figure 9.3, including identification of areas supporting HPI.

9.6.13. The effects of impacts on habitats and protected or otherwise notable species is assessed separately under the 'Protected and Notable Species' sections of this Chapter.

Protected and Notable Species

Bats

9.6.14. Several records of bat species were returned from the desk study element of the Preliminary Ecological Appraisal (PEA).

9.6.15. Three buildings within the Power Station Site were assessed as having low suitability to support roosting bats during the extended Phase 1 habitat survey. Dusk emergence and dawn re-entry surveys were subsequently undertaken in line with best practice guidelines. No bats were recorded during these surveys and bats are therefore highly unlikely to be roosting within the Power Station Site (see Figure 9.4). Roosting bats have not therefore been identified as IEF at the Power Station Site.

9.6.16. The land within the Power Station Site is largely hard standing with infrastructure that is well lit during the night. Accordingly, the area is largely unsuitable for foraging and commuting bats. The semi-natural habitats present in Development Parcels B, C & E could provide foraging and commuting opportunities for bats through the Power Station Site and into the surrounding area.

9.6.17. Thirteen trees with Potential Roost Features (PRF) that could be used by roosting bats were identified within the original Pipeline Area at the time of production of the Preliminary Environmental Information Report (PEIR) (Ref 9.42). At this time the Pipeline Area included two route options: Option A and Option B. Option A has since been selected as the proposed option for the Gas Pipeline, with Option B no longer forming part of the Proposed Scheme. The footprint of Option A has also been reduced from the footprint at the time of production of the PEIR. All of the trees previously identified as being suitable for roosting bats were associated with Option B, with no trees of 'moderate' or higher suitability (assessed as per

BCT Good Practice Guidelines) (Ref 9.28) identified within Option A. Option A is not therefore considered to include any habitats suitable for roosting bats.

9.6.18. Five trees with 'moderate' or higher suitability for roosting bats were recorded within Development Parcel B at the time of production of the PEIR. These were all associated with a block of woodland ('North Station Wood') in the east of Development Parcel B. This part of Development Parcel B will be retained during construction and operation of the Proposed Scheme, with a 15 m buffer around the margins of the woodland. As such, any bat roosts present in these trees are unlikely to be significantly affected by the Proposed Scheme. As such, these trees will not be subject to further bat survey work.

9.6.19. It has therefore been determined that those parcels of the Site that fall within construction areas do not support, or currently have any potential to support, roosting bats.

9.6.20. Habitats within the Pipeline Area provide foraging opportunities for bats. Habitats adjacent to the Pipeline Area, in combination with the River Ouse and its tributaries, provide suitable features for commuting and foraging bats across the wider landscape. These features are typical of the local landscape and relatively common-place across Selby, North Yorkshire and the wider UK, although the Ouse is a substantial river of which there are relatively few of comparable size in Yorkshire.

9.6.21. The bat activity transect carried out in April 2018 recorded three species within and in close proximity to the survey area. These were common pipistrelle (*Pipistrellus pipistsrellus*), a *Myotis* sp. and brown long-eared bat (*Plecotus auritus*)

9.6.22. No bat roosts were recorded in trees as part of the bat surveys carried out for the WRCCS project. Likely emergences from a barn building at Drax Abbey Farm indicated this building may have supported a bat roost. However, as it was located outside of the WRCCS project site, no targeted survey was completed. A total of 20 trees were subject to emergence/re-entry surveys which were all located to the north of the current Site. Typical commuting and foraging activity was recorded within the plantation woodland and immediately North near Drax Abbey Farm. During the emergence/re-entry surveys five species of bat were recorded, these were: brown long-eared bat (*Plectous auritus*), common pipistrelle, soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*), Daubenton's (*Myotis daubentonii*) and a *Myotis* species.

9.6.23. Bat activity transects and supplementary automated static detector surveys were also carried out in support of the WRCCS Project in 2012 and 2013. These surveys were located immediately north of the Power Station Site boundary. Low levels of common pipistrelle and *Myotis sp.* activity was recorded during these transect surveys with very low activity of noctule being recorded during the automated static detector surveys. Common pipistrelle activity was recorded to the south of the transect route within the northern reaches of Development Parcel B of the Power Station Site. Bats were recorded foraging within Barlow Ash Mound west of the Proposed Scheme by AB Ecology in 2016, as documented in the Ecological Monitoring Report – 2017 (Ref 9.41). No bat roosts were recorded during the Barlow Mound survey. The authors of the report consider this was primarily due to an absence of natural roosting habitat.

9.6.24. On the basis of the desk study and field survey information gathered to date whilst taking a precautionary approach to the valuation, bat populations (non-roosting) at the Site will be an Important Ecological Feature at up to District geographical scale.

Badger

9.6.25. Habitats suitable for supporting badger in the form of woodland, scrub and hedgerows have been recorded within the Site, including within Development Parcels B, C and E and the Pipeline Area. Furthermore, signs of badger have been recorded within the Power Station Site and the Pipeline Area, including one main sett, one annex sett and several smaller setts, latrines and footprints. Due to the sensitivity of badger records given historic persecution of the species in the UK, detailed survey results are presented in a confidential annex to this ES. This will be made available to relevant stakeholders (anticipated to be limited to the Planning Inspectorate, NYCES, and NE).

9.6.26. Badgers are common and widespread across the UK. Badger is not identified as a SPI or included on the Selby BAP. The legislation protecting them is in place largely for reasons of preventing animal cruelty rather than because they are considered a priority for conservation. As such, badgers are not considered to be an IEF, although measures to ensure compliance with the legislation protecting them are likely to be required and hence they are included in the subsequent impact assessment set out in this Chapter.

Otter

9.6.27. Numerous records of Europan otter were identified from the desk study. The River Ouse and various ditches and watercourses within and adjacent to the Site (primarily within the Pipeline Area) provide suitable habitat for otter. This species receives strict legal protection as set out in the otter survey report located in Appendix 9.9.

9.6.28. During the first otter survey visit, two old otter spraints were identified within the Pipeline Area on a wooden bridge spanning a dry ditch, approximately 0.5 km from the River Ouse. The River Ouse was surveyed where it was located directly adjacent to the Site; this confirmed it provided suitable foraging and lying up/resting habitat for otter. Some areas of bankside habitats with vegetation cover within the Pipeline Area were also identified as potentially suitable for holt creation or use as resting/laying up sites. This included areas of dense vegetation and features such as recesses beneath tree roots. Extensive evidence (footprints) of otter activity was recorded at the Drax jetty (outside the study area but within 1 km of the Site) regularly throughout 2017.

9.6.29. During the second otter survey in March 2018 four otter prints were recorded within the Pipeline Area. One old and one recent otter spraint was recorded to the west of Carr Dyke, just north of the Power Station Site. A potential otter couch was also recorded to the north west of Carr Dyke.

9.6.30. Figure 9.5 provides a summary of the location of the results of the otter survey. It is considered likely that otter are at least intermittently present within the Site, associated with the River Ouse and connecting watercourses and ditches. It is unlikely that any maternal holt sites (i.e. holts used by female otters to bring up their young) are present within 250m of the Power Station Site, due to existing levels of disturbance from agricultural activities and the limited

suitability of the habitats present. It is however possible that a maternal holt could be present along the River Ouse within 250 m of the Pipeline Area.

9.6.31. Detailed survey results are provided in the otter survey report located in Appendix 9.9.

9.6.32. Otter are identified as a qualifying feature of the River Derwent SAC and River Derwent SSSI. They are also identified as a SPI via the provisions of the NERC Act (2006). The Selby LBAP (2004) states that:

'*The majority of recorded otter activity is on the lower Derwent and the Wharfe. There is some evidence of activity on the Aire and Went, with otters possibly resident in the Lower Aire. The Ouse and the Selby canal act as the main corridors linking the other river systems*'.

9.6.33. The Rivers Ouse and Derwent are therefore likely to be of importance for local otter populations and are expected to be used by in excess of 1% of the otter populations within Selby, potentially by in excess of 1% of the North Yorkshire otter population. Given this, otters are considered an Important Ecological Feature at a County geographical scale.

Water Vole

9.6.34. Numerous records of European water vole were identified from the desk study. The closest desk study record was located 400 m from the Site, dating from May 2011. Suitable habitat recorded on site during surveys in September 2017 and March 2018 included ditches and watercourses within the Pipeline Area, where these had a suitable bank structure for burrowing and/or supported suitable vegetation to provide foraging resources.

9.6.35. Targeted water vole surveys were completed in September 2017 and late-March/early April 2018. Burrows typical of water vole were identified during both surveys. Water vole droppings were recorded during the second visit in March 2018 within the Pipeline Area to the east of Woodcock Wood adjacent to Main Road, this is displayed on Figure 9.5. Sighting of an individual water vole was also recorded in the same location. These results suggest that water voles are using the ditch / drain network in the local area.

9.6.36. Waterbodies including dykes, channels and ponds were surveyed as part of the WRCCS project in 2012 and 2013 to the north, east and west of the Power Station Site No signs of water vole were recorded during these surveys. Water vole are listed on Schedule 5 of the WCA 1981, additionally water vole is a SPI and is listed on both the Selby LBAP and Selby IDB BAP with a specific action plan to ensure the species is conserved in the local area. Given the relatively small scale of proposed construction within the Pipeline Area and suitability of ditches and drains in the wider vicinity, water vole are considered IEF at a Local geographical scale.

Birds

9.6.37. Many protected and notable bird species records were identified from the desk study. The Site also contains trees and scrub suitable for supporting a range of nesting bird species; whilst grassland and arable farmland areas have the potential to support ground-nesting species such as skylark (*Alauda arvensis)*.

9.6.38. A barn owl was recorded leaving a farm building immediately south of the Site Boundary along the Pipeline Area during the extended Phase 1 habitat survey on the 14 September 2017. A raptor pellet and barn owl feather were found along the River Ouse, immediately north of the

Pipeline Area, indicating that barn owl are likely to be foraging in farmland habitats within the Site.

9.6.39. A number of bird species listed on the Birds of Conservation Concern 4 (BoCC4) Red and Amber Lists, Section 41 of the NERC Act 2006 and species listed under Schedule 1 of the WCA were recorded during the wintering bird surveys. Bird species are listed in full in Appendix 9.7, protected and notable species recorded during the wintering bird survey are listed in Table 9-10 below and on Figure 9.6.

Table 9-10 - Protected and Notable Bird Species recorded during the Wintering Bird Survey

Bird Species	WCA Schedule 1	Species of Principal Importance	Birds of Conservation Concern 4 Red List	Birds of Conservation Concern 4 Amber List	Selby LBAP Species
Bullfinch		✓		✓	✓
Dunnock		✓		✓	
Fieldfare*	✓		✓		
Marsh tit		✓	✓		✓
Greylag goose				✓	
Mistle thrush			✓		
Mallard				✓	
Kestrel				✓	✓
Lesser black-backed gull				✓	
Peregrine falcon	✓				✓
Reed bunting		✓		✓	✓
Eurasian tree sparrow		✓	✓		
Redwing*	✓		✓		
Starling		✓	✓		✓
Snipe*				✓	✓
Song thrush		✓	✓		✓
Teal				✓	✓
Yellowhammer		✓	✓		
Woodcock*			✓		

*Birds that are typically wintering species

9.6.40. Assemblages of fieldfare (*Turdus Pilaris*) and redwing (*Turdus iliacus*) were recorded within the Laydown Area of Development Parcel A . These are key species found predominantly in farmland habitats within the wintering months. Other important species recorded during the wintering bird surveys include woodcock, tree sparrow, yellowhammer and peregrine falcon.

9.6.41. Previous breeding bird surveys have been carried out on land in close proximity to the Existing Drax Power Station Complex and the Site Boundary. Surveys as part of the WRCCS project,

of which the survey boundary overlaps with the Power Station Site were carried out in 2013. More recently, in 2017 breeding bird monitoring surveys were carried out to the north west of the Site Boundary in support of the regular monitoring needs of Barlow Ash Mound.

9.6.42. Surveys for the WRCCS recorded a total of 49 species of bird, 14 of which (listed below) are important birds either listed on the BoCC 4 Red List or are SPI: Bullfinch (*Pyrrhula pyrrhula*), barn owl (*Tyto alba*), dunnock (*Prunella modularis*), grasshopper warbler (*Locustella naevia*, herring gull (*Larus argentatus)*, lapwing (*Vanellus vanellus*), linnet (*Caredulis cannabina*), peregrine falcon (*Falco peregrinus*) , reed bunting (*Emberiza schoeniclus*), skylark (*Alauda arvensis*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), yellowhammer (*Emberiza citoronella*), and yellow wagtail (*Motacilla* flava). Breeding densities of migrant warblers, namely sedge warbler (*Acrocephalus schoenobaenus*) and common whitethroat *(Sylvia communis*) were recorded to the north of the Power Station Site.

9.6.43. Breeding bird surveys of Barlow Ash Mound recorded a total of 63 bird species using the Site and its surrounds, of which 13 were protected and notable bird species (as per the conservation status in Table 9-10 above). These species are similar to those recorded for the WRCCS project breeding bird surveys except for cuckoo (*Cuculus canorus*), marsh tit (*Poecile paluris*), mistle thrush (*Turdus viscivorus*) and spotted flycatcher (*Muscicapa striata*) which were not recorded during the WRCCS project surveys.

9.6.44. Due to the overlap in survey boundary between the WRCCS project (Ref 9.40) site boundary and the Drax Repower Site Boundary and the very close proximity of Barlow Ash Mound, some of the species listed above are also likely to be using habitats within the Power Station Site/ Carbon capture reserve space and the Pipeline Area.

9.6.45. As outlined in Appendix 9.1 all wild birds are protected from killing and injury, and their nests and eggs are protected from taking, damage and destruction whilst nests are in use. Additional protection is extended to species listed under Schedule 1 of the WCA (which includes barn owl), meaning it is also an offence to disturb these species at or near the nest, or whilst they have dependent young.

9.6.46. The River Derwent SSSI includes assemblages of breeding birds as a notifiable feature. The Humber Estuary SPA & SSSI is notified in part for its internationally and nationally important numbers of 22 species of wintering waterfowl and nine passage waders and nationally important assemblage of breeding birds. Additionally, the Humber Estuary is a designated Ramsar site for internationally important numbers of waterfowl in winter and nationally important breeding populations in summer. None of the notifiable and qualifying bird species of the designated sites mentioned above were recorded during the wintering bird surveys carried out in 2017 and 2018.

9.6.47. Whilst the River Derwent and the Humber Estuary are important for breeding birds at an international and national level, the Site itself is likely to play at most a minor role in sustaining the designated bird populations. Given this, bird populations associated with the Site are valued as being an Important Ecological Feature at of most a County geographical scale.

Reptiles

9.6.48. Records of grass snake, were identified from the desk study. The mosaic of habitats within the Pipeline Area and Development Parcels A, B, C, E and F (see Figure 9.7) include rough

grassland, scrub, woodland and waterbodies. These habitats provide potential sheltering, basking and foraging habitat for widespread reptile species such as grass snake, common lizard (*Zootoca vivipara)* and slow worm (*Anguis fragilis)*. Additional features present such as dead wood, log piles and compost heaps could be used by these species for shelter, foraging and breeding.

9.6.49. Grass snakes have been recorded within suitable habitat to the north and west of Drax Power Station. An individual grass snake was recorded during the reptile surveys carried out for the WRCCS project in 2012 and 2013 (Ref 9.40). This was located within suitable reptile habitat to the northwest of the Power Station Site/ Carbon capture reserve space. A small population of grass snakes (both adults and sub-adults) have been recorded at Barlow Ash Mound since 2011, in close proximity to watercourses. This small population was located to the west of the Site. As the status of reptile populations associated with the Site is unknown and could include a large population of grass snakes, reptile populations associated with the Site are assessed as being an ecological feature of up to District importance.

Amphibians

9.6.50. Records of great crested newt, smooth newt (*Lissotriton vulgaris)*, common toad (*Bufo bufo)* and common frog (*Rana temporaria)* were identified from the desk study. The closest desk study record for great crested newt was located 2.9 km from the Site. Previous surveys for great crested newt detailed in the WRCCS project found no evidence of the species during targeted surveys carried out in spring 2013. A small population of smooth newts was recorded at the Site.

9.6.51. During the 2017/18 surveys in support of the Proposed Scheme, 10 potential waterbodies were identified within 250 m of the Site Boundary. During an initial scoping exercise to determine each waterbody's suitability to support amphibians, two were scoped out based on being cooling-water infrastructure inside the Power Station Site, whilst one was scoped out due to its large size. The remaining seven were then subject to habitat suitability index (HSI) assessments to determine the need for presence/absence surveys. A further four of the waterbodies were deemed unsuitable for further survey at this stage, due to being unsuitable to support breeding populations of great crested newts and unlikely to support large populations of other amphibian species. Presence/likely absence surveys for the remaining three waterbodies were then commenced.

9.6.52. Previous great crested newt surveys have been carried out for the WRCCS project, HSI assessments and presence/absence surveys were carried out on 12 waterbodies to the north, southeast and west of Existing Drax Power Station Complex. Two of the waterbodies surveyed previously for the WRCCS Project have also been surveyed in 2018 for the Proposed Scheme. These are Waterbody 1 and 2 displayed on Figure 9.8. A small population of smooth newts were recorded in waterbodies to the north of the Power Station Site but no great crested newts were recorded on any survey visit during the WRCCS surveys.

9.6.53. On the basis of the survey work conducted to date (three survey visits) and the desk study information, great crested newts are likely to be absent from the Site. Given the desk study and survey information gathered, no amphibian populations of conservation importance are expected to be associated with waterbodies within 250 m of the Proposed Scheme. As such,

amphibians associated with waterbodies within 250 m of the Proposed Scheme are not considered to be an IEF and they will not be subject to detailed assessment.

Fish

9.6.54. The River Derwent SSSI includes assemblages of native fish as a notifiable feature. The citations for the River Derwent SAC and Humber Estuary SAC identify several fish species as being qualifying interest features. These are sea lamprey (*Petromyzon marinus)*, river lamprey (*Lampetra fluviatilis)*, and bullhead (*Cottus gobio)*. The Site lies upstream of the Humber Estuary and downstream of the River Derwent and will therefore be used by fish species associated with both designated sites. Lamprey are migratory, and are likely to migrate past the Site during seasonal movements to and from upstream breeding ground. The Rivers Ouse and Derwent also support a range of other fish species, including salmonids.

9.6.55. The River Ouse lies approximately 85 m north of the Site at its closest point (the Pipeline Area) and approximately 640 m from the River Derwent. The Ouse is likely to be critical in sustaining populations of these species associated with upstream and downstream designated sites.

9.6.56. River lamprey, sea lamprey and bullhead are considered an Important Ecological Feature of up to International importance, whilst salmonid populations are considered of up to National importance.

Invasive Non-Native Species

9.6.57. Stands of Indian balsam (*Impatiens glandulifera)* were present in Development Parcel C and ornamental Cotoneaster (*Cotoneaster sp*.) was recorded in a car park in Development Parcel C. These plants are invasive non-native species, listed on Schedule 9 of the WCA (1981, as amended). No invasive non-native plant species were recorded within the footprint of the Pipeline Area. They are not considered an Important Ecological Feature, but measures may be required during construction to avoid infringing the legislation intended to prevent their spread by human intervention.

Future Baseline

9.6.58. The following changes are predicted to arise between production of this assessment and the construction and subsequent operation of the Proposed Scheme:

- Atmospheric concentrations and deposition rates of nitrogen in the UK are predicted to reduce across much of the UK over future years, as a result of (for example) the ongoing conversion of much of the UK vehicle fleet to ultra-low and zero-emissions vehicles. These changes are not predicted to lead to significant short-term reductions in the levels of nitrogen deposition across designated sites during Stages 1 and 2 of the Proposed Scheme, but may lead to significant reductions in baseline deposition over the course of Stage 3 (operation only). Details are provided in Chapter 6 (Air Quality). This is considered qualitatively in both Chapter 6 (Air Quality) and this chapter.
- Climate change will result in an increased frequency of storm events and associated flooding, whilst there will be a shift towards (average) drier and warmer summers and milder and wetter winters. Climate change may therefore lead to changes in the structure and functioning of habitats within the study area, although any such changes are not expected to significantly alter the importance of the Ecological Features that make up the current baseline.

- Brexit may lead to altered land-use in agricultural parts of the Site, for example via a change in the approach to farm subsidies following the UK leaving the Common Agricultural Policy (CAP). It is not clear at this time exactly what these changes would be and hence their effect on the baseline cannot be predicted.

9.7 Assessment of Likely Significant Impacts and Effects

Internationally and Nationally Designated Sites

Stage 0 – Site Reconfiguration Works

9.7.1. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing. These works will also be located in excess of 0.5 km from any designated site. Construction phase air quality impacts such as dust pollution are predicted to be negligible and are not likely to give rise to significant effects as per Chapter 6 (Air Quality) due to the distance of designated sites from construction Laydown Areas areas. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on designated sites or supporting habitats for their associated species are expected. As such, no significant effects on internationally and nationally designated sites are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.2. The construction of Unit X and associated site clearance and construction works in the Pipeline Area will be located in excess of 0.5 km from any statutory designated site. Construction phase air quality impacts such as dust pollution are predicted to be negligible and are not likely to give rise to significant effects as per Chapter 6 (Air Quality) due to the distance of designated sites from construction areas. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on internationally and nationally designated sites are expected. As such, no significant effects on internationally and nationally designated sites are predicted to arise.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.3. The construction of Unit Y and associated site clearance and construction works will be located in excess of 0.5 km from any internationally or nationally designated site. Construction phase air quality impacts such as dust pollution are predicted to be negligible and are not likely to give rise to significant effects as per Chapter 6 (air quality) due to the distance of designated sites from construction areas. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on internationally and nationally designated sites are expected.

9.7.4. During the operation of Unit X oxides of nitrogen (NO_x) and ammonia (NH_3) will be emitted. These emissions will increase concentrations of NO_x and NH_3 over designated sites. These emissions are also predicted to contribute to increased deposition of nitrogen onto designated sites. These impacts could contribute to increased nutrient nitrogen levels and acidification of designated sites' habitats, resulting in changes to the structure and composition of the habitats. Should significant increases in nutrient levels or acidification occur, this could lead

to reductions in populations of plant species that occur in the designated sites habitats and increases in less desirable plant species. Any such changes could then potentially affect populations of animal species associated with the designated sites. This is explored in further detail in relation to European Designated Sites in the Habitats Regulations Assessment report (Document Reference 6.6) submitted with the DCO Application.

9.7.5. Chapter 6 (Air Quality) sets out in detail the methodology followed for air quality modelling for the Proposed Scheme. Full details of the results of air quality modelling are also set out in Chapter 6 (Air Quality).

9.7.6. As set out above and in Chapter 6 (Air Quality), the Proposed Scheme operating without Selective Catalytic Reduction (SCR) is predicted to lead to negligible air quality impacts on internationally and nationally designated sites. The air quality modelling has assessed the worst-case scenario of the Proposed Scheme (operation of Unit X and Unit Y). The impacts during Stage 2 would be approximately half of those arising at Stage 3, due to one rather than two units operating. During Stage 2 the maximum operational impacts without the use of SCR (Scenario A1 in Tables 6.19 – 6.23 of Chapter 6 (Air Quality) would be approximately 0.3% of critical load for nitrogen deposition (Lower Derwent SAC & Thorne Moor SAC) and 0.25% of the critical load for acidification (Thorne Moor SAC). With SCR the impacts would be approximately 0.55% of the critical level for annual mean NH_3 (River Derwent SAC), 0.4% of critical load for nitrogen deposition (Lower Derwent SAC and Thorne Moor SAC) and 0.3% of critical load for acidification (Thorne Moor SAC).

9.7.7. There are no overall exceedances of critical levels for annual or daily mean NOx at any designated site. There are no exceedences of annual mean NH3 except over Thorne Moor SAC, Skipwith Common SAC and Skipwith and Hatfield Moors. The Proposed Scheme only generates NH_3 under the 'with SCR' scenario. With SCR, the Proposed Scheme contributes to a substantial existing exceedance over these designated sites (239% of the critical level for Thorne Moor and 242% of the critical level for Skipwith Common).

The majority of designated sites experience background nitrogen deposition rates which exceed the relevant critical loads. The only statutory designated site which experiences background nitrogen deposition below the critical load range is Eskamhorn Meadows SSSI. This designated site experiences background nitrogen deposition of approximately 90% of critical load. The contribution of the Proposed Scheme would be a relatively small proportion of the total deposition, contributing up to 0.35% of background deposition (at the point of greatest impact over the Lower Derwent SAC). The risk of exceedance of critical loads and the level of exceedance of the critical loads is a function of the rates of background deposition rather than a result of the operation of the Proposed Scheme.

9.7.8. The air quality impacts of the Proposed Scheme at Stage 2 are minimal and would not lead to any perceptible changes in the condition of European Sites and nationally designated sites. Any effects would therefore be negligible and no significant effects are predicted to arise.

Stage 3 – Operation of Units X and Y

9.7.9. During Stage 3 the maximum operational impacts without the use of SCR (Scenario A1 in Tables 6.19 – 6.23 of Chapter 6 (Air Quality)) would be approximately 0.6% of critical load for nitrogen deposition (Lower Derwent SAC & Thorne Moor SAC) and 0.5% of the critical load

for acidification (Thorne Moor SAC). With SCR the impacts would be approximately 1.1% of the critical level for annual mean NH_3 (River Derwent SAC), 0.8% of critical load for nitrogen deposition (Lower Derwent SAC and Thorne Moor SAC) and 0.6% of critical load for acidification (Thorne Moor SAC).

9.7.10. There are no overall exceedances of critical levels for annual or daily mean NOx at any designated site. There are no exceedences of annual mean NH_3 except over Thorne Moor SAC, Skipwith Common SAC and Skipwith and Hatfield Moors SPA. The Proposed Scheme only generates NH_3 under the 'with SCR' scenario. With SCR, the Proposed Scheme contributes to a substantial pre-existing exceedance (239% of the critical level for Thorne Moor and 242% of the critical level for Skipwith Common).

9.7.11. The majority of designated sites experience background nitrogen deposition rates which exceed the relevant critical loads. The only statutory designated site which experiences background nitrogen deposition below the critical load range is Eskamhorn Meadows SSSI. This designated site experiences background nitrogen deposition of approximately 90% of critical load. The Proposed Scheme would contribute a maximum of 0.2% of the nitrogen critical load for Eskamhorn Meadows, leaving the total nitrogen deposition rate around 90% of critical load.

9.7.12. The contribution of the Proposed Scheme would be a relatively small proportion of the total deposition for all designated sites, contributing a maximum of 0.75% of background deposition (at the point of greatest impact over the Lower Derwent SAC and decreasing with increasing distance from the Proposed Scheme). The risk of exceedance of critical loads and the level of exceedance of the critical loads is a function of the rates of background deposition rather than a result of the operation of the Proposed Scheme.

9.7.13. Given the increasing uptake of ultra-low and zero emission vehicles experienced between 2011 and 2016 as per the Department for Transport (April 2017). Vehicle Licensing Statistics: Annual 2016 (Ref 9.49) and government policy to ban new sales of petrol and diesel cars and vans by 2040, the predicted reductions in future baseline nitrogen deposition are likely to be conservative; there is a possibility that reductions in emissions from the UK vehicle fleet will contribute to a greater reduction in baseline nitrogen deposition levels than would occur under the conservative assumptions used in the air quality modelling. This would lead to further reductions in the baseline levels of nitrogen deposition across designated sites within the study area.

9.7.14. With the use of SCR, the Proposed Scheme could contribute in excess of 1% (modelled as 1.1%) for annual mean NH_3 to the River Derwent SAC. There is no exceedance of annual mean NH_3 for the River Derwent SAC. All other air quality impacts are below 1% of the critical load or critical level. Given the minimal magnitude of the predicted impacts, effects on internationally and nationally designated sites are predicted to be negligible and not significant.

Stage 4 - Decommissioning

9.7.15. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely much reduced

in duration) than construction in Stage 1. As such, any associated site clearance and construction works will be located in excess of 0.5 km from any internationally or nationally designated site. With embedded mitigation measures including a decommissioning environmental management plan (DEMP) (the approval and implementation of which is secured by a requirement in Schedule 2 of the draft DCO (Document Ref. 3.1)) in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on internationally and nationally designated sites are expected.

9.7.16. As such, no significant effects on internationally and nationally designated sites are predicted to arise.

Locally Designated Sites

Stage 0 – Site Reconfiguration Works

9.7.17. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing. These works will also be located approximately 1 km from the nearest locally designated site (Disused Railway Embankment deleted SINC). With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents, no perceptible impacts on locally designated sites are expected. As such, no significant effects on locally designated sites are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.18. The construction of Unit X, Gas Pipeline and associated site clearance and construction works will be located approximately 0.1 km from the nearest locally designated site (Disused Railway Embankment deleted SINC). With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on locally designated sites are expected. As such, no significant effects on locally designated sites are predicted to arise.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.19. The construction of Unit Y and associated site clearance and construction works will be located approximately 1 km from the closest locally designated site (Disused Railway Embankment Deleted SINC). With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance during construction and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on locally designated sites are expected. As such, no significant effects on locally designated sites are predicted to arise due to the construction of Unit Y.

9.7.20. As set out above and in Chapter 6 (Air Quality), operation of the Proposed Scheme is predicted to lead to air quality impacts on locally designated sites. The air quality modelling presented in Chapter 6 considers the worst case scenario for the Proposed Scheme in terms of impacts, i.e. operation of both Units X and Y. The air quality impacts with one Unit operating would be approximately half the impact of both Units operating. For the worst affected site, this would equate to a maximum process contribution (with SCR) equivalent toapproximately 0.1% of the critical level for NH_3 (Brockholes SINC and Orchard Farm SINC), 0.25% of the

critical load for nitrogen deposition (Brockholes SINC and Orchard Farm SINC) and <0.1% of the critical load for acidification (Orchard Farm SINC).

9.7.21. The air quality impacts of the Proposed Scheme at Stage 2 are minimal and would not lead to any perceptible changes in the condition of locally designated sites. Any effects would therefore be negligible and no significant effects are predicted to arise.

Stage 3 – Operation of Units X and Y

9.7.22. During Stage 3 the maximum operational impacts without the use of SCR (Scenario A1 in Tables 6.19 – 6.23 of the ES Air Quality Chapter) would be approximately 0.4% of critical load for nitrogen deposition (Brockholes SINC) and 0.5% of the critical load for acidification (Brockholes SINC and Orchard Farm SINC). With SCR the impacts would be approximately 0.2% of the critical level for annual mean NH_3 (Brockholes SINC and Orchard Farm SINC), 0.5% of critical load for nitrogen deposition (Brockholes SINC and Orchard Farm SINC) and 0.1% of critical load for acidification (Orchard Farm SINC).

9.7.23. The air quality impacts of the Proposed Scheme at Stage 2 are minimal and would not lead to any perceptible changes in the condition of locally designated sites. Any effects would therefore be negligible and no significant effects are predicted to arise.

Stage 4 - Decommissioning

9.7.24. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely much reduced in duration) than construction (Stage 1). The Gas Pipeline and National Grid operated AGI will be left *in-situ* meaning no decommissioning works will be required across the majority of the Pipeline Area.

9.7.25. As such, any associated site clearance and construction works will be located approximately 1 km from the closest locally designated site. With embedded mitigation measures including a DEMP in place to control noise, vibration and visual disturbance during decommissioning and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on locally designated sites are expected.

9.7.26. As such, no significant effects on locally designated sites are predicted to arise.

Habitats

Stage 0 – Site Reconfiguration Works

9.7.27. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing, with only small areas of semi-natural habitats present, specifically Development Parcel H (Figure 9.3). The approximate extent of habitats within the footprint of the Site Reconfiguration Works is provided in Table 9-11 below; it is expected that these habitats would effectively be permanently lost during the Site Reconfiguration Works.

Table 9-11 - Stage 0 – Permanent Development Parcel Habitat Losses from Site Reconfiguration Works

Development Parcel	Habitats present	Predicted extent of habitat loss (ha unless otherwise specified)
H	Broadleaved Parkland/scattered trees	0.08
	Amenity grassland	2.85
	Hard standing	1.78
	Tall herb and fern – ruderal	0.3
	Standing water	0.07
	Intact hedge – species-poor	48.51 (linear m)
	Bare ground	0.01

9.7.28. Other habitats including broadleaved parkland/scattered trees and intact hedgerow – species poor, are present adjacent to the Site Reconfiguration Works area. These could be subject to impacts arising from adjacent construction activities within the Site Reconfiguration Works area.

9.7.29. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on adjacent habitats are expected.

9.7.30. The habitats present within the Site Reconfiguration Works area do not include any HPI, or habitats that are listed on the Selby LBAP. Given the nature and extent of these areas in the context of the habitats present across the wider Site, their loss represents a minor, permanent and irreversible impact, leading to an effect that is significant at a 'Site' geographical scale.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.31. The construction of Unit X, Gas Pipeline including the Gas Receiving Facility (GRF) and AGI and associated site clearance and construction works will result in the removal of a proportion of the habitats within Development Parcels A to L.

9.7.32. The approximate extent of habitats within the construction footprint of Unit X and the Gas Pipeline is provided in Tables 9-12 and 9-13 below; it is expected that these habitats would be lost or subject to a substantial level of disturbance during the construction of Unit X and associated works. Some habitat loss will be permanent, where it is associated with the built footprint of new infrastructure and lasting for at least the duration of the operation period. Other habitat loss will be temporary in nature albeit relatively long term. This includes clearance and subsequent use of laydown and parking areas, which will be subject to clearance and use between approximately 2020 and 2027.

9.7.33. Where temporary losses are reported in subsequent tables these refer to areas of habitat that are expected to be reinstated to semi-natural habitats post-construction. Areas of permanent habitat loss are not included in the temporary habitat loss tables. Equally, areas of temporary habitat loss are not reported in the permanent habitat loss tables.

Table 9-12 - Stage 1 – Temporary Development Parcel Habitat Losses from Construction of Unit X (excluding construction within the Pipeline Area)

Habitat type	Predicted Extent of habitat loss (ha)	Relevant Development Parcels	Status – HPI / Selby LBAP habitat
Broadleaved woodland – semi natural	0.24	A	HPI, Selby LBAP
Broadleaved parkland / scattered trees	0.33	C, F	Selby LBAP
Poor semi-improved grassland	0.22	C	
improved Grassland	0.08	A	
Intact Hedge – species poor	177.70 (linear m)	B, C, E, F	HPI
Intact hedge – Native, species rich	52.69 (linear m)	A	HPI, Selby LBAP
Defunct hedge – species poor	581.57 (linear m)	A, C, D	HPI
Marshy grassland	0.06	F	
Dry ditch	708.96 (linear m)	A, D	Selby LBAP
Tall herb and fern - ruderal	0.23	A, C	
Introduced Shrub	0.27	C, F	
Cultivated/disturbed land – Amenity	0.79	C, F	
Cultivated/disturbed land - Arable	8.7	A, D	HPI

Table 9-13 - Stage 1 – Permanent Development Parcel Habitat Losses from Construction of Unit X (excluding construction within the Pipeline Area)

Habitat type	Predicted Extent of habitat loss (ha unless otherwise specified)	Relevant Development Parcels	Status– HPI / Selby LBAP habitat
Broadleaved parkland / scattered trees	2.02	C, E, F	Selby LBAP
Poor semi-improved grassland	2.17	B, C, E	
Marshy grassland	0.19	F	
Scrub – dense/continuous	0.28	C, E	
Running water	163.27 (linear m)	C, E	HPI
Standing water	0.18	C	HPI
Intact Hedge – species poor	267.	B, C, E,	HPI
Buildings	3.17	F	

Habitat type	Predicted Extent of habitat loss (ha unless otherwise specified)	Relevant Development Parcels	Status– HPI / Selby LBAP habitat
Defunct hedge – species poor	110.37 (linear m)	C	HPI
Introduced Shrub	0.08	F	
Cultivated/disturbed land – Amenity	0.27	C, E, F	
Hard standing	6.67	C, E, F	
Bare ground	0.02	C	

9.7.34. A similar range of habitats are present outside but within 50 m of the Site, adjacent to the laydown area required for construction of Unit X. These could be subject to impacts arising from adjacent construction activities, for example dust deposition or increased silt run-off.

9.7.35. With embedded mitigation measures including the CEMP in place to control the risk of pollution incidents and other hydrological impacts, and to manage the risk of plant and personnel straying outside the construction footprint, no perceptible impacts on adjacent retained habitats are expected and associated effects are expected to be negligible.

9.7.36. The habitats present within the construction footprint (construction and laydown areas) for Unit X include several that are HPI and/or are listed on the LBAP. Given the nature and extent of these areas in the context of the habitats present across the wider Site and surrounding areas, their loss and disturbance during construction represents a major, partially reversible impact, leading to an effect significant at a 'Local' geographical scale.

9.7.37. Installation of the Gas Pipeline will result in the temporary removal of habitats within the Pipeline Area. There will also be some small-scale permanent habitat loss associated with construction of the AGI and GRF. The approximate extent of habitat loss within the Pipeline Area (both temporary and permanent) is provided in Table 9-14 below. Habitats within the Pipeline Area will be reinstated within a maximum of twelve calendar months of installation of the Gas Pipeline, during Stage 1.

9.7.38. Given the nature and extent of these areas in the context of the habitats present across the wider Site, their loss and deterioration during construction of Unit X represents a minor, partially reversible impact, leading to an effect significant at a 'Local' geographical scale.

Table 9-14 - Stage 1 – Temporary and Permanent Habitat Losses from Construction of Gas Pipeline and AGI/GRF

Habitat type	Predicted Extent of loss (ha)	Type of Habitat Loss	Status– HPI / Selby LBAP habitat
Broadleaved parkland/ scattered trees	0.008	Temporary	Selby LBAP
Broadleaved – woodland plantation	0.09	Temporary	

Habitat type	Predicted Extent of loss (ha)	Type of Habitat Loss	Status– HPI / Selby LBAP habitat
Defunct hedgerow – species poor	190.19 (linear m)	Temporary	HPI,
Improved grassland	0.08	Temporary	
Dry ditch	289.32 (linear m)	Temporary	Selby LBAP
Tall herb and fern – ruderal	0.07	Temporary	
Cultivated/disturbed land – arable	22.27	Temporary	HPI, Selby LBAP
Cultivated/disturbed land – arable*	2.73	Permanent	HPI, Selby LBAP
Standing water	0.02	Temporary	
Hard standing	0.06	Temporary	

*Indicates permanent habitat loss for construction of AGI and GRF

9.7.39. Given the nature and extent of these areas in the context of the habitats present across the wider Site, their loss and deterioration during construction of the gas pipeline represents a minor, short-term and largely reversible impact, leading to an effect significant at a 'Site' geographical scale.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.40. The construction of Unit Y and associated activities will take place largely within areas that will already have been cleared or subject to significant disturbance during the construction of Unit X. However, due to Unit Y's more northerly location, some habitats not impacted during the construction of Unit X would be impacted as a result of the construction of Unit Y. The approximate extent of habitats within the construction footprint of Unit Y is provided in Table 9-15 below; it is expected that these habitats would be lost or subject to a substantial level of disturbance during the construction of Unit Y and associated works.

Table 9-15 - Stage 2 – Temporary Development Parcel Habitat Losses from Construction of Unit Y

Habitat type	Predicted Extent of habitat loss (ha)	Relevant Development Parcels	Status– HPI / Selby LBAP habitat
Broadleaved woodland – plantation	0.07	B, C	Selby LBAP
Broadleaved parkland / scattered trees	0.2	B, C	Selby LBAP
Poor semi-improved grassland	0.97	B, C	
Improved grassland	1.38	B	
Scrub – dense/continuous	0.1	B, C	
Intact hedge – species poor	226.25 (m)	B	HPI,
Marshy grassland	1.13	F	

Habitat type	Predicted Extent of habitat loss (ha)	Relevant Development Parcels	Status– HPI / Selby LBAP habitat
Introduced shrub	0.12	C	
Cultivated/disturbed land – amenity	0.13	B, C	
Hard standing	1.86	B, C, F	
Bare ground	0.05	C	

Table 9-16 - Stage 2 – Permanent Development Parcel Habitat Losses from Construction of Unit Y

Habitat type	Predicted Extent of habitat loss (ha)	Relevant Development Parcels	Status
Broadleaved parkland / scattered trees	0.16	F	Selby LBAP
Marshy grassland	0.12	F	
Introduced shrub	0.13	F	
Cultivated/disturbed land - amenity	0.45	F	
Bare ground	0.23	F	
Hard standing	3.06	F	

9.7.41. As per policy SP18 c of the 2005 Selby District Local Plan, a biodiversity net gain assessment has been carried out and a report has been produced detailing the results (Appendix 9.10). This assessment considers all habitat loss (temporary and permanent) resulting from the Proposed Scheme, and predicts the losses and gains of biodiversity taking into account proposed reinstatement, enhancement and compensation areas. Mitigation and compensation measures are discussed in the mitigation section of this chapter.

9.7.42. A similar range of habitats are present outside of the Site, adjacent to the Unit Y construction and Laydown Areas These could be subject to impacts arising from adjacent construction activities, for example dust deposition or increased silt run-off.

9.7.43. Embedded mitigation measures including the CEMP would be in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts. As such, no perceptible impacts on adjacent retained habitats are expected and associated effects are expected to be negligible.

9.7.44. Operational drainage will pass through existing drainage systems at the Drax Power Station or new drainage systems constructed for the AGI and GRF. These include, or would include, suitable pollution prevention systems. As such, operational drainage from the Proposed Scheme would lead to negligible effects on any receiving habitats, such as the Dickon Field Drain, River Ouse, and other surface water connections to the operational drainage system. Additional information on operational drainage is provided in section 12.6 of the ES Water Resources, Quality and Hydrology chapter.

9.7.45. Given the nature and extent of habitats in the Power Station Site in the context of the habitats present across the wider Site, their loss and deterioration during construction represents a minor, largely reversible impact, leading to an effect significant at a 'Local' geographical scale.

Stage 3 – Operation of Units X and Y

9.7.46. Following completion of construction and during operation of Units X and Y, habitats within Laydown Areas will be reinstated. Proposals for reinstatement of these areas have been included within the DCO Application in the Outline Landscape and Biodiversity Strategy. A proportion of the habitats that were removed during Stages 0 – 2 will be reinstated, as detailed in the Outline Landscape and Biodiversity Strategy. Additional areas of habitat creation or enhancement have also been identified in the Outline Landscape and Biodiversity Strategy. Details are provided in the strategy, with a summary of the proposed measures set out in the mitigation section of this Chapter.

9.7.47. Operational drainage will pass through existing drainage systems at the Drax Power Station or new drainage systems constructed for the AGI and GRF. These include, or would include, suitable pollution prevention systems. As such, operational drainage from the Proposed Scheme would lead to negligible effects on any receiving habitats, such as the Dickon Field Drain, River Ouse, and other surface water connections to the operational drainage system. Additional information on operational drainage is provided in section 12.6 of the ES Water Resources, Quality and Hydrology chapter.

9.7.48. Effects during Stage 3 are predicted to be neutral, given the lack of impacts. Potential positive effects arising from implementation of the Landscape and Biodiversity Strategy are considered in the mitigation section of this chapter.

Decommissioning

9.7.49. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction in Stage 1.

9.7.50. It is possible that the decommissioning works could require the temporary clearance of some habitats within the Site. At this point in time it is unclear exactly which areas could be affected and hence which habitat types. As there will be some permanent loss of more ecologically important habitats within Development Parcels C, D, E and F to facilitate construction of Units X and Y and associated infrastructure, it is likely that the decommissioning works will affect areas that support less ecologically important habitats than the pre-construction situation.

9.7.51. As such, it is predicted that any loss and disturbance of habitats arising during decommissioning will lead to an impact that is minor in magnitude, short-term and reversible, with the effect significant at up to a 'District' geographical scale.

Foraging and Commuting Bats (District Importance)

Stage 0 – Site Reconfiguration Works

9.7.52. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing, with only small areas of semi-natural habitats present, many of which are lit by night. The approximate extent of habitats within the footprint of the Site Reconfiguration Works is

provided in Table 9-11; it is expected that these habitats would be effectively lost during the Site Reconfiguration Works, although they would be replaced by a mix of similar land uses, dominated by buildings and hard standing, but with increased levels of activity.

9.7.53. As set out above the existing habitats within the Site Reconfiguration Works areas are largely dominated by hard-standing and buildings with some existing lighting, habitats which are of low quality for foraging and commuting bats and with extents of more suitable alternative habitat present within the local area which would be used by local bat populations and retained. The Site Reconfiguration Works are therefore not expected to lead to perceptible impacts on local bat populations.

9.7.54. As such, no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.55. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. The approximate extent of habitats within the construction footprint of Unit X is provided in Tables 9-12 to 9-14 above; it is expected that these habitats would be lost or subject to a substantial level of disturbance during the construction of Unit X and associated works.

9.7.56. Some habitat loss will be permanent, associated with the built footprint of new infrastructure and lasting for at least the duration of the operational period. Other habitat loss will be temporary in nature albeit relatively long term. This includes clearance and subsequent use of Laydown Areas, which will be subject to clearance and use between approximately 2020 and 2027.

9.7.57. Removal of areas of woodland, scattered trees, scrub, hedgerow and wetland habitats would reduce the availability of foraging habitats within the local landscape. This habitat removal may also sever commuting routes used by bats to commute between their roosting sites and other habitats in the wider landscape. The habitats that will be removed are widely represented in the wider local landscape, with suitable foraging and commuting habitat widespread within 5km of the Site and an extensive mosaic of woodland associated with Barlow Mound and the Skylark Nature Centre to the west. No key commuting routes are expected to be removed as there are existing gaps between affected vegetation as a result of existing roads, areas of hard-standing and lighting within the Power Station Site.

9.7.58. Other habitats, including plantation woodland, scattered trees, hedgerow and introduced shrub, are present adjacent to the Unit X construction works area. These could be subject to impacts arising from adjacent construction activities, for example noise or vibration disturbance.

9.7.59. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on adjacent retained habitats are expected and associated effects on their use by bats are expected to be negligible.

9.7.60. Obtrusive lighting from the construction phase could deter bats from using areas of habitat that have previously been unlit. The construction and laydown areas comprise suitable commuting and foraging habitat for bats. Lighting during the construction phase would be designed as per Institution of Lighting Professionals – Professional Lighting Guide (PLG 04)

Guidance on undertaking lighting environmental impact assessments (Ref 9.48). Construction would also be carried out primarily during daylight hours (during the main bat activity period), with working hours restricted to 0700 – 1800 under most circumstances. A requirement in Schedule 2 of the draft DCO (Document Ref. 3.1) requires the approval and implementation of a construction lighting strategy.

9.7.61. The combination of impacts on habitats for the construction of Unit X is predicted to lead to a moderate, partially reversible impact, which is considered to be significant at a 'Local' geographical scale.

9.7.62. Installation of the Gas Pipeline will result in the temporary removal of habitats within the Pipeline Area. There will also be some small-scale permanent habitat loss associated with construction of the AGI and GRF, although these losses will be confined to arable habitats that will be of limited importance to local bat populations. Trenchless construction techniques are expected to be used for watercourse, tree-line and hedgerow crossings. As such, these features, which may provide flight lines for local bat populations, would not be severed. In the event that trenchless construction techniques were not possible, the level of vegetation clearance required would be assessed and temporary measures for retaining connectivity explored (see mitigation section). The approximate extent of habitats within the Pipeline Construction Area (both temporary and permanent) is provided in Table 9-14 above. Habitats within the Pipeline Area would be reinstated.

9.7.63. Given the short duration of the Gas Pipeline construction period (maximum of 12 months), associated temporary loss and severance of bat habitats represents a minor, short-term and largely reversible impact, leading to an effect significant at up to a 'Site' geographical scale.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.64. The construction of Unit Y and associated activities will take place largely within areas that will already have been cleared or subject to significant disturbance during the construction of Unit X. However, due to Unit Y's more northerly proposed location, certain habitats not impacted during the construction of Unit X (see Table 9-15) will be temporarily impacted as a result of the construction of Unit Y. Habitats relevant to commuting and foraging bats include scattered trees, scrub and hedgerow, as displayed on Figure 9.3.

9.7.65. Other habitats, including plantation woodland and hedgerow are located adjacent to the Unit Y construction and Laydown Areas. These could be subject to impacts arising from adjacent construction activities for example dust deposition or increased silt run-off.

9.7.66. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on adjacent retained habitats are expected and associated effects on their use by bats are expected to be negligible.

9.7.67. Due to additional removal of habitats during construction of Unit Y, the predicted extent and duration of habitat loss and associated habitat disturbance as per the construction layout drawings therefore represents a moderate, partially reversible impact, which is considered to be significant at a 'Local' geographical scale.

Stage 3 – Operation of Units X and Y

9.7.68. Following completion of construction and during operation of Units X and Y, habitats within Laydown Areas will already have been reinstated (it is assumed that planting within construction Laydown Areas would be reinstated at the end of Stage 2 as per the Outline Landscape and Biodiversity Strategy and accompanying landscape and biodiversity mitigation plans (Document Ref. 6.7). As this would be delivered as Secondary mitigation and is not considered embedded mitigation, this will be considered further in the Mitigation section of this chapter.

9.7.69. Artificial lighting associated with operation of the Proposed Scheme could deter light-sensitive species of bats from using adjacent habitats. An operational lighting strategy is secured by a requirement to the draft DCO (Document Ref. 3.1); this would include measures to prevent lightspill onto retained and newly created habitats suitable for foraging and commuting bats.

9.7.70. Effects in the absence of secondary mitigation are therefore predicted to be neutral.

Stage 4 - Decommissioning

9.7.71. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction (Stage 1).

9.7.72. It is possible that the decommissioning works could require the temporary clearance of some habitats within the Site. At this point in time it is unclear exactly which areas could be affected and hence which habitat types. As there will already have been some permanent loss of more ecologically important habitats within Development Parcels C, D, E and F to facilitate construction of Units X and Y and associated infrastructure, it is likely that the decommissioning works will affect areas that support less ecologically important habitats than the pre-construction situation.

9.7.73. As such, it is predicted that any loss and disturbance of habitats utilised by foraging and commuting bats arising during decommissioning will lead to an impact that is minor in magnitude, short-term and reversible, with the effect significant at up to a 'District' geographical scale.

Badger

9.7.74. Details of the assessment in relation to badgers are presented in a confidential appendix (Appendix 9.4) due to the sensitivity of records of this species. This confidential annex has been provided to PINS, as part of the DCO Application; it is expected that it will be distributed to Natural England, North Yorkshire Council Ecology Service, and other statutory and non-statutory consultees as PINS deems appropriate.

9.7.75. In summary, in the absence of mitigation the Proposed Scheme has the potential to lead to the infringement of the legislation protecting badgers and their setts (Protection of Badgers Act (1992)). Badger populations associated with the Site are not deemed to be an Important Ecological Feature; hence no significant effects are predicted. Mitigation measures will however be required to ensure legal compliance, and are referenced in the mitigation section below and described in detail in the Confidential Badger Annex.

Otters (District Importance)

Stage 0 – Site Reconfiguration Works

9.7.76. The Site Reconfiguration Works will take place largely within the curtilage of the Power Station site, in areas that do not contain suitable habitat for otters.

9.7.77. As such, the Site Reconfiguration Works are not expected to lead to any perceptible impacts on local otter populations and no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.78. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. No evidence of otters has been recorded within these areas during survey work at the Power Station Site and no aquatic habitat suitable for otters is present. The loss and disturbance of habitats in these areas during Stage 1 is not therefore expected to lead to any perceptible impacts on the local otter population.

9.7.79. Water draining from the Power Station Site could also enter watercourses via the local ditch network and other drainage pathways (further details are provided in Chapter 12 (Water Resources, Quality and Hydrology)). This could provide an impact pathway affecting the local otter population, for example via the transport of water-borne pollution following a pollution incident or increased silt run-off.

9.7.80. However, with embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents and other hydrological impacts, no perceptible effects on adjacent retained habitats are expected and associated effects on their use by otters are expected to be negligible.

9.7.81. Installation of the Gas Pipeline will result in the temporary removal of habitats within the Pipeline Area. Installation of the AGI and GRF will result in permanent loss of habitats within this area. The Gas Pipeline will cross several field drains and ditches that drain into the River Ouse. Evidence of otter has been recorded along two of the ditches within the Pipeline Area, with one of these (The Dickon Field Drain) located adjacent to the construction footprint for the proposed Gas Pipeline and AGI (see Figure 9.5).

9.7.82. Construction of the Gas Pipeline, AGI and GRF is expected to be completed within a maximum twelve month period, with construction of the pipeline itself expected to take approximately four months. During this time, watercourses and ditches, including those with confirmed evidence of otters could be severed and / or subject to noise and visual disturbance from construction activities. The current engineering design for the Gas Pipeline (see Chapter 3 (Site and Project Description)) identifies that trenchless techniques will be used for the watercourse crossings along the Gas Pipeline where practicable. This will allow a five metre buffer zone to be established either side of each watercourse, within which no open-cut excavations would take place. This would avoid direct physical disturbance or damage of watercourses and associated vegetation along the Gas Pipeline. Construction activities will also be completed largely during daylight working hours (0700 – 1800), whilst otters are most active around dusk/dawn and at night. In the event that trenchless techniques could not be used, targeted mitigation measures to maintain connectivity would be considered (see mitigation section).

9.7.83. Any artificial lighting used during construction could also dissuade otters from using the Dickon Field Drain and other watercourses / ditches in the Pipeline Area, if not appropriately specified. With the use of the CEMP to control the layout and use of construction-phase lighting (as approved and implemented in line with a requirement in Schedule 2 to the draft DCO (Document Ref. 3.1)), this is not expected to materially affect the use of watercourses and ditches in the Pipeline Area.

9.7.84. The combination of these impacts could impair the ability of otters to move through the local landscape. The construction of the AGI will also result in the permanent loss of part of an arable field adjacent to the Dickon Field Drain, although physical modifications to the Dickon Field Drain would be limited to drainage works associated with new drainage infrastructure at the AGI.

9.7.85. There is abundant alternative habitat for otters present along the River Ouse and associated watercourses both upstream and downstream of the Site. Otters have large home ranges as identified in Ecology of the European Otter (Chanin, 2003) (Ref 9.26) with individual otters commonly having home ranges covering 25 – 50 km of river channel. As such, the largely temporary works associated with the Gas Pipeline are not expected to significantly impair the ability of otters to move within and between habitats in their home ranges, or to affect a significant proportion of any otter territory.

9.7.86. The channel of the River Ouse, the major watercourse in the study area, is not expected to be subject to any perceptible physical impacts during the works. The River Ouse channel and bankside habitats will also be shielded from noise, vibration and any potential lighting disturbance during construction, as there is an existing flood defence bund along its southern bank adjacent to the Pipeline Area. The Channel of the River Ouse is located approximately 85 m from the Site at its closest point.

9.7.87. Water draining from the Pipeline Construction Area could also enter watercourses via the local ditch network and other drainage pathways. This could provide an impact pathway affecting the local otter population, for example via the transport of water-borne pollution following a pollution incident or increased silt run-off. With embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on downstream habitats used by otter are expected and associated effects on otters are predicted to be negligible.

9.7.88. None of the works will result in the loss or disturbance of breeding sites or known places of shelter used by otters; as such no EPS licence is expected to be required for the species. Given the abundant habitat present in the locality and further afield from the Site, viability of otter populations using the River Ouse catchment and Site would not be materially affected. There may be some minor disturbance of ability of otters to use minor watercourses within the Site, but these do not provide important foraging resources or connectivity with other suitable habitat.

9.7.89. Given the above, the effects on the conservation status of otter populations associated with the Site are predicted to be minor, short-term and largely reversible, with the effect significant at up to a ‘Local’ geographical scale.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.90. The construction of Unit Y and associated activities will take place largely within areas that will already have been cleared or subject to significant disturbance during the construction of Unit X and that do not support habitats suitable for use by otter. Ongoing construction works are not therefore expected to lead to loss or disturbance of habitats used by the local otter population and will lead to negligible effects on otter populations.

9.7.91. Habitats that could be used by otter, including the River Ouse and the local ditch network are present approximately 0.10 km from the construction Laydown Areas. Water draining from the Power Station Site could enter watercourses via the local ditch network and other drainage pathways. This could provide an impact pathway affecting the local otter population, for example via the transport of water-borne pollution following a pollution incident or increased silt run-off.

9.7.92. Any artificial lighting used during construction could also dissuade otters from using the Dickon Field Drain and other watercourses / ditches in the Pipeline Area, if not appropriately specified. With the use of the CEMP to control the layout and use of construction-phase lighting (as approved and implemented in line with a requirement in Schedule 2 to the draft DCO (Document Ref. 3.1)), this is not expected to materially affect the use of watercourses and ditches in the Pipeline Area.

9.7.93. With embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents and other hydrological impacts, no perceptible effects on adjacent retained habitats are expected and associated effects on their use by otters are expected to be negligible.

9.7.94. Habitats along the Pipeline Area (with the exception of the AGI and GRF footprint) will be reinstated following Stage 1. As such, there is not predicted to be any long-term loss or disturbance of suitable otter habitat associated with the Gas Pipeline.

9.7.95. The AGI requires permanent switched lighting, to permit safe night-time visits by personnel, for example if unplanned maintenance is required. Any such lighting is likely to be needed only intermittently, but could dissuade otters from using the Dickon Field Drain adjacent to the AGI when operational. A requirement in Schedule 2 of the draft DCO (Document Ref. 3.1) secures the approval and implementation of the lighting strategy in relation to operation of the Proposed Scheme, which would include measures to avoid significant increase in lighting of suitable habitat for otters.

9.7.96. Any such impacts are predicted to be sufficiently intermittent and of such low magnitude that the effect on the otter population associated with the Site will be negligible.

Stage 3 – Operation of Units X and Y

9.7.97. Operation of the Power Station Site will take place within areas that do not support suitable habitat for otters, with the nearest suitable habitat approximately 300 m to the north. It is assumed that the operational drainage design will include standard good-practice measures such as the use of sustainable drainage systems (SuDS) and oil interceptors to manage the risk of polluting off-site watercourses used by otters.

9.7.98. The AGI requires permanent switched lighting, to permit safe night-time visits by personnel, for example if unplanned maintenance is required. Any such lighting is likely to be needed

only intermittently, but could dissuade otters from using the Dickon Field Drain adjacent to the AGI when operational.

9.7.99. The impacts associated with Stage 3 are predicted to be sufficiently intermittent and of such low magnitude that effects on the otter population associated with the Site would be negligible.

Decommissioning

9.7.100. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction in Stage 1.

9.7.101. The decommissioning works at the Power Station Site are not expected to lead to any perceptible impacts on suitable otter habitat. Decommissioning works for the Gas Pipeline will leave it in situ, resulting in no further impacts to otter habitats. Decommissioning of the Drax operated AGI could lead to temporary noise, visual and lighting disturbance of any otters using the Dickon Field Drain.

9.7.102. Given the above, effects on the conservation status of otter populations associated with the Site are predicted to be minor, short-term and largely reversible, and significant at up to a 'Site' geographical scale.

Water vole (Local Importance)

Stage 0 – Site Reconfiguration Works

9.7.103. The Site Reconfiguration Works will take place largely within the curtilage of the Power Station site, in areas that do not contain suitable habitat for water vole.

9.7.104. As such, the Site Reconfiguration Works are not expected to lead to any perceptible impacts on local otter populations and no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.105. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. No evidence of water vole has been recorded within these areas during survey work at the Site and no aquatic habitat suitable for water vole is present. The loss and disturbance of habitats in these areas during Stage 1 is not therefore expected to lead to any perceptible impacts on the local water vole population.

9.7.106. Water draining from the Power Station Site could also enter watercourses via the local ditch network and other drainage pathways (further details are provided in Chapter 12 (Water Resources, Quality and Hydrology). This could provide an impact pathway affecting the water vole population for example via the transport of water-borne pollution following a pollution incident or increased silt run-off.

9.7.107. However, with embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents and other hydrological impacts, no perceptible effects on adjacent retained habitats are expected and associated effects on their use by otters are expected to be negligible.

9.7.108. Installation of the Gas Pipeline will result in the temporary removal of habitats within the Pipeline Area including permanent removal of arable land as a result of the construction of the

AGI and GRF. The Gas Pipeline will cross several field drains and ditches that drain into the River Ouse. Evidence of water vole has been recorded within one ditch within the Pipeline Area. This ditch is located to the east of Woodcock Wood, alongside Main Road (see Figure 9.5).

9.7.109. Construction of the Gas Pipeline, GRF and AGI is expected to be completed within a twelve month period. During this time, watercourses and ditches, including those with confirmed presence of water vole could be severed and / or subject to noise and visual disturbance from construction activities. The current engineering design for the Gas Pipeline (see Chapter 3) identifies that trenchless techniques will be used where practicable for the watercourse crossings along the Pipeline Construction Area. This would allow a five metre buffer zone to be established either side of each watercourse, within which no open-cut excavations would take place. This would avoid direct physical disturbance or damage of watercourses and associated vegetation along the Gas Pipeline. Construction activities would also be completed largely during daylight working hours (0700 – 1800). Although water voles are active during the day, greatest activity levels tend to occur around dusk/dawn. In the event that trenchless techniques could not be used at any watercourse supporting water vole, additional mitigation measures would be considered to address this (see mitigation section).

9.7.110. Any artificial lighting used during construction could also dissuade water vole from using the Dickon Field Drain and other watercourses / ditches in the Pipeline Area, if not appropriately specified. With the use of the lighting control measures proposed within the CEMP to control the layout and use of construction-phase lighting, this is not expected to materially affect the use of watercourses and ditches in the Pipeline Area.

9.7.111. The combination of these impacts could deter water voles from moving through the local ditch network. The construction of the AGIs will also result in the permanent loss of part of an arable field adjacent to the Dickon Field Drain, a ditch which has some suitability for water vole, although physical modifications to the Dickon Field Drain would be limited to drainage works associated with new drainage infrastructure at the AGI.

9.7.112. Water draining from the Pipeline Area could also enter watercourses via the local ditch network and other drainage pathways. This could provide an impact pathway affecting the local water vole population, for example via the transport of water-borne pollution following a pollution incident or increased silt run-off. With embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents and other hydrological impacts, no perceptible impacts on downstream habitats used by water vole are expected and associated effects on water vole are predicted to be negligible.

9.7.113. None of the works will result in the loss or disturbance of known places of shelter used by water vole (assuming the use of trenchless techniques for installation of the gas pipeline); as such no water vole displacement licences would be required. There may be some minor disturbance of water vole through noise and vibration to resting places within certain ditches, specifically the ditch alongside Main Road. This disturbance will be minimal with the embedded mitigation measures that would be included within the CEMP. In the event that trenchless techniques could not be used to cross the watercourse supporting water vole, targeted mitigation measures would be considered (see mitigation section).

9.7.114. Given the above, the effects on the conservation status of water vole populations associated with the Site are predicted to be minor, short-term and reversible, with the effect significant at up to a 'Local' geographical scale.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.115. The construction of Unit Y and associated activities will take place largely within areas that will already have been cleared or subject to significant disturbance during the construction of Unit X and that do not support habitats suitable for use by water vole. Ongoing construction works are not therefore expected to lead to loss or disturbance of habitats used by the local water vole population and will lead to negligible effects on otter populations. There would be no construction works in the Pipeline Area, the only location where water vole have been recorded within the Proposed Scheme. Operation of Unit X will take place within areas that do not support suitable habitat for water vole, with the nearest suitable habitat at least 0.1 km to the north. The operational drainage design will include standard good-practice measures such as the use of sustainable drainage systems (SuDS) and oil interceptors which will prevent significant pollution incidents during the operational phase.

9.7.116. Water draining from the Power Station Site could enter watercourses via the local ditch network and other drainage pathways. This could provide an impact pathway affecting water voles in the wider vicinity, for example via the transport of water-borne pollution following a pollution incident or increased silt run-off.

9.7.117. With embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents and other hydrological impacts, no perceptible effects on adjacent retained habitats are expected and associated effects on their use by water vole are expected to be negligible.

9.7.118. Habitats within the Pipeline Area (with the exception of the AGI footprint) will be reinstated following Stage 1. As such, there is not predicted to be any long-term loss or disturbance of suitable water vole habitat associated with the operation of the Gas Pipeline.

9.7.119. The AGI requires permanent switched lighting, to permit safe night-time visits by personnel, for example if unplanned maintenance is required. Any such lighting is likely to be needed only intermittently, but could deter water vole from using the Dickon Field Drain to the south of the AGI. A requirement in Schedule 2 of the draft DCO (Document Ref. 3.1) secures the approval and implementation of a lighting strategy in relation to operation of the Proposed Scheme.

9.7.120. Impacts during Stages 2 are predicted to be sufficiently intermittent and of such low magnitude that the effect on water voles associated with the Site will be negligible.

Stage 3 – Operation of Units X and Y

9.7.121. Operation of the Power Station Site will take place within areas that do not support suitable habitat for water vole, with the nearest suitable habitat at least 0.1 km to the north. The operational drainage design will include standard good-practice measures such as the use of sustainable drainage systems (SuDS) and oil interceptors to manage the risk of polluting off-site watercourses used by water vole

9.7.122. The AGI requires permanent switched lighting to permit safe night-time visits by personnel, for example if unplanned maintenance is required. Any such lighting is likely to be needed only intermittently, but could act as a deterrent to water voles that may be using Dickon Field Drain.

An operational lighting strategy is secured by a requirement to the draft DCO (Document Ref. 3.1).

9.7.123. The impacts associated with Stage 3 are predicted to be sufficiently intermittent and of such low magnitude that effects on water vole associated with the Site will be negligible.

Stage 4 - Decommissioning

9.7.124. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction in Stage 1.

9.7.125. The decommissioning works at the Power Station Site are not expected to lead to any perceptible impacts on the ditch and drainage network including other suitable habitat for water vole. Decommissioning works for the Gas Pipeline and National Grid operated AGI will leave them in situ, resulting in no further impacts to water vole or their habitat. Decommissioning of the Drax operated AGI could lead to temporary noise, visual and lighting disturbance of any water vole using the Dickon Field Drain, although it should again be noted that no evidence of water vole has been recorded in this location during surveys to date.

9.7.126. Given the above, effects on the conservation status of water vole and populations associated with the Site are predicted to be minor, short-term and largely reversible, and significant at up to a 'Site' geographical scale.

Breeding and Wintering Birds (County Importance)

Stage 0 – Site Reconfiguration Works

9.7.127. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing, with only small areas of semi-natural habitat present. The approximate extents of habitats within the footprint of the Site Reconfiguration Works are provided in Table 9-11 above; it is expected that these habitats would be effectively lost during the Site Reconfiguration Works, although they would be replaced by a mix of similar land uses, dominated by buildings and hard standing, but with increased levels of activity relative to the Current and Future Baseline.

9.7.128. As set out above the existing habitats within the Site Reconfiguration Works areas are largely dominated by hard-standing and buildings with some existing lighting, habitats which are suitable for low numbers of common and widespread species. The Site Reconfiguration Works are therefore not expected to impact bird populations of ecological importance.

9.7.129. As such, no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Pipeline

9.7.130. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. The approximate extent of habitats within the construction footprint of Unit X is provided in Table 9-12 and Table 9.13; it is expected that these habitats would be lost or subject to a substantial level of disturbance during the construction of Unit X and associated works. Protected and notable bird species recorded during wintering bird surveys within Unit X's construction and site clearance areas are listed in Table 9.6.

9.7.131. Some habitat loss will be permanent, associated with the built footprint of new infrastructure and lasting for at least the duration of the operation period. Other habitat loss will be temporary in nature albeit relatively long term. This includes clearance and subsequent use of laydown and parking areas, which will be subject to clearance and use between approximately 2020 and 2027.

9.7.132. Removal and disturbance of habitats will reduce the availability of habitat used by a range of bird species including some species of conservation concern. The habitats that will be removed are widely represented in the wider local landscape, with similar habitat types widespread within 5 km of the Site.

9.7.133. The predicted extent and duration of habitat loss and associated habitat disturbance therefore represents a moderate magnitude, partially irreversible impact, which is considered to be significant at up to a 'District' geographical scale.

9.7.134. Other habitats, including plantation woodland, scrub, hedgerow and improved and semi-improved grasslands are present adjacent to the Unit X construction and Laywdown Areas, these habitats are displayed Figure 9.3. These could be subject to impacts arising from adjacent construction activities, for example dust deposition and disturbance from noise, visual interference and artificial lighting.

9.7.135. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts, impacts on the use of adjacent retained habitats by breeding and wintering birds from the construction of Unit X are expected to be limited. Associated effects on the use of these areas by breeding birds are predicted to be of minor magnitude, medium-term and fully reversible, considered to be significant at a 'Site' geographic scale.

9.7.136. Installation of the Gas Pipeline will result in the temporary removal of habitats within the Pipeline Area. There will also be some small-scale permanent habitat loss associated with construction of the AGI and GRF. The approximate extent of habitats lost within the Pipeline Area (both temporary and permanent) is provided in Table 9.11. Habitats within the PipelineArea (with the exception of the AGI and GRF) will be reinstated within a maximum of twelve calendar months of installation of the gas pipeline; reinstatement proposals are set out in Chapter 3 and the Outline Landscape and Biodiversity Mitigation Strategy

9.7.137. Permanent habitat losses associated within the AGI and GRF will be limited in extent and confined to intensively managed arable farmland habitats.

9.7.138. Given the short duration of the Gas Pipeline construction period, associated temporary loss and disturbance of bird habitats are predicted to lead to a minor, short-term and largely reversible effect, significant at up to a 'Site' geographical scale.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.139. The operation of Unit X and construction of Unit Y and associated activities would take place largely within areas that would already have been cleared or subject to significant disturbance during the construction of Unit X. However, due to Unit Y's more northerly proposed location, some additional habitats not impacted during the construction of Unit X will be impacted as a result of the construction of Unit Y These habitats are located in Development Parcels B and

parts of C. Habitats suitable for breeding and wintering birds include woodland, scrub and hedgerow

9.7.140. As such, the predicted extent and duration of habitat loss and associated habitat disturbance therefore represents a moderate, partially reversible effect, which is considered to be significant at a 'District' geographical scale.

9.7.141. Other habitats, including plantation woodland, hedgerow and ditches are present adjacent to the Unit Y construction and Laydown Areas. These could be subject to impacts arising from adjacent construction activities, for example dust deposition and disturbance from noise, visual interference and artificial lighting.

9.7.142. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts, impacts on the use of adjacent retained habitats by breeding and wintering birds are expected to be limited. Associated effects on the use of these areas by breeding and wintering birds are predicted to be of minor magnitude, medium-term and fully reversible, considered to be significant at a 'Site' geographic scale.

9.7.143. Habitats along the Gas Pipeline will be reinstated following Stage 1. As such, there is not predicted to be any substantial long-term loss or disturbance of breeding and wintering bird habitats associated with the Gas Pipeline.

9.7.144. The AGI and GRF require permanent switched lighting, to permit safe night-time visits by personnel, for example if unplanned maintenance is required. Any such lighting is likely to be needed only intermittently, but could act as a deterrent to breeding and wintering birds using adjacent habitats. Artificial lighting of areas within the existing Drax Power Station complex could also dissuade birds from using adjacent habitats. An operational lighting strategy is secured by a requirement to the draft DCO (Document Ref. 3.1) to address this.

9.7.145. Any such impacts are predicted to be sufficiently intermittent and of such low magnitude that effects on breeding and wintering birds will be negligible.

Stage 3 – Operation of Units X and Y

9.7.146. Following completion of construction and during operation of Units X and Y, habitats within Laydown Areas and parking areas associated with the construction of Units X and Y will be reinstated. Proposals for reinstatement of these areas (and other habitat creation and enhancement measures) have been included within the Outline Landscape and Biodiversity Strategy. This is considered secondary mitigation and is assessed in the Mitigation Section of this chapter.

9.7.147. The reinstatement proposals will replace a proportion of the habitats lost during Stages 0 – 2 of the Proposed Scheme. The majority of replacement habitats will be agricultural land. Effects are therefore predicted to be positive, of minor magnitude, reversible and significant at a 'District' geographical scale.

Stage 4 - Decommissioning

9.7.148. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is

assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction in Stage 1.

9.7.149. It is possible that the decommissioning works could require the temporary clearance of some habitats within the Site. At this point in time it is unclear exactly which areas could be affected and hence which habitat types. As there will already have been some permanent loss of more ecologically important habitats within Development Parcels C, D, E and F to facilitate construction of Units X and Y and associated infrastructure, it is likely that the decommissioning works will affect areas that support less ecologically important habitats than the pre-construction situation.

9.7.150. As such, it is predicted that any loss and disturbance of habitats used by breeding and wintering birds arising during decommissioning will lead to an effect that is minor in magnitude, short-term and reversible, and significant at up to a 'District' geographical scale.

Reptiles (District Importance)

Stage 0 – Site Reconfiguration Works

9.7.151. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing, with only small areas of semi-natural habitat present. These habitats are not suitable to sustain populations of native UK reptiles, and it is therefore highly unlikely that any reptiles will be present. Based on the above, no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.152. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. The approximate extent of habitats lost within the construction footprint of Unit X is provided in Table 9-12 to 9.13; it is expected that these habitats would be lost or subject to a substantial level of disturbance during the construction of Unit X and associated works.

9.7.153. Some habitat loss will be permanent, associated with the built footprint of new infrastructure and lasting for at least the duration of the operation period. Other habitat loss will be temporary in nature albeit relatively long term. This includes clearance and subsequent use of laydown and parking areas, which will be subject to clearance and use between approximately 2020 and 2027. Much of the most suitable reptile habitat would be permanently removed to facilitate construction of Unit X (and subsequently Unit Y).

9.7.154. A proportion of the habitats affected, particularly the mosaic of habitats associated with Development Parcels B, C and E, provide suitable conditions for reptiles. In addition to habitat loss, any reptiles present would also be at risk of injury or being killed during site clearance operations.

9.7.155. Removal and disturbance of habitats will reduce the availability of suitable reptile habitat within the local landscape. The habitats that will be removed are widely represented in the wider local landscape, with similar habitat types widespread albeit localised within 5 km of the Site. Populations of grass snakes are also known to occur at Barlow Mound and the Skylark Nature Reserve.

9.7.156. The predicted extent and duration of habitat loss, associated habitat disturbance and the risk of killing or injuring any reptiles present therefore represents a moderate magnitude, partially reversible impact, which is considered to be significant at up to a 'District' geographical scale.

9.7.157. Other habitats, including plantation woodland, hedgerow, scrub and grasslands are present adjacent to the Unit X construction and Laydown Areas. These could be subject to impacts arising from adjacent construction activities, for example dust deposition and disturbance from vibration.

9.7.158. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance, impacts on the use of adjacent retained habitats by reptiles are expected to be limited for the Construction of Unit X. Associated effects on the use of these areas by reptiles are predicted to be negligible and hence not significant.

9.7.159. Installation of the Gas Pipeline will result in the temporary removal of habitats within the Pipeline Area. There will also be some small-scale permanent habitat loss associated with construction of the AGI and GRF. The approximate extent of habitats lost within the Pipeline Area (both temporary and permanent) is provided in Table 9-14 above. Habitats within the Pipeline Construction Area will be reinstated within a maximum of twelve calendar months of installation of the Gas Pipeline; reinstatement proposals are set out in the Outline Landscape and Biodiversity Strategy and are described and assessed fully in the mitigation section of this chapter.

9.7.160. Permanent habitat losses associated within the AGI and GRF will be limited in extent and confined to intensively managed arable farmland habitats. These habitats are not suitable for reptiles.

9.7.161. The majority of habitats within the Pipeline Area are unsuitable for use by reptiles, comprising intensively managed farmland. As such, at most low numbers of individual reptiles are likely to be present, and the habitat will not play a significant role in sustaining any local reptile populations. Although mitigation measures will be required to minimise the risk of breaching the legislation that protects widespread UK reptile species from injury or being killed (WCA, 1981, as amended), any impacts on reptile populations are predicted to be of minimal magnitude and hence not significant.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.162. The operation of Unit X and construction of Unit Y and associated activities will take place largely within areas that will already have been cleared or subject to significant disturbance during the construction of Unit X.

9.7.163. Due to Unit Y's more northerly proposed location, some habitats not impacted during the construction of Unit X will be impacted as a result of the construction of Unit Y. These habitats are located in Development Parcel A and parts of C. Habitats suitable for reptiles include woodland margins, grassland, scrub and hedgerows.

9.7.164. This habitat loss and associated habitat disturbance is predicted to lead to a moderate, partially reversible impact, which is considered to be significant at a 'Local' geographical scale.

9.7.165. Other habitats, including woodland margins, ditches, amenity grassland and introduced shrub are present adjacent to the Unit Y construction and Laydown Areas These could be subject to

impacts arising from adjacent construction activities, for example dust deposition and disturbance from noise, visual interference and vibration.

9.7.166. With embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance, impacts on the use of adjacent retained habitats by reptiles are expected to be limited. Associated effects on the use of these areas by reptiles are predicted to be of minor magnitude, medium-term and fully reversible, considered to be significant at a 'Site' geographic scale.

Stage 3 – Operation of Units X and Y

9.7.167. Following completion of construction and during operation of Units X and Y, habitats within laydown and parking areas associated with Units X and Y will be reinstated. Proposals for reinstatement of these areas have been included within the DCO Application in the Outline Landscape and Biodiversity Strategy. As this is considered secondary mitigation, this will be considered in the mitigation section of this chapter.

9.7.168. Effects at Stage 3 in the absence of targeted ssecondary mitigation measures are therefore predicted to be neutral.

Decommissioning

9.7.169. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction.

9.7.170. It is possible that the decommissioning works could require the temporary clearance of some habitats within the Site. At this point in time it is unclear exactly which areas could be affected and hence which habitat types. As there will already have been some permanent loss of more ecologically important habitats within Development Parcels C, D, E and F to facilitate construction of Units X and Y and associated infrastructure, it is likely that the decommissioning works will affect areas that support less ecologically important habitats than the pre-construction situation.

9.7.171. As such, any loss and disturbance of potential reptile habitats during decommissioning will lead to an adverse impact that is minor in magnitude, short-term and reversible, with the effect significant at up to a 'Local' geographical scale.

Fish

Stage 0 – Site Reconfiguration Works

9.7.172. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing, with only small areas of semi-natural habitat present and the only waterbodies associated with existing cooling water infrastructure.

9.7.173. With the implementation of the CEMP to manage the risk of pollution incidents, no significant hydrological changes to the River Ouse or the Humber Estuary further downstream are predicted. As a result, no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.174. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. No waterbodies suitable to support fish species of conservation concern will be removed during Stage 1.

9.7.175. The River Ouse could be subject to impacts arising from construction activities associated with both the Power Station Site and the Pipeline Area, including increased silt run-off or pollution incidents specifically from construction works of the AGI. Should this occur, the water quality in the River Ouse could be affected, which could in turn effect the health of fish populations associated with the river and the hydrologically connected River Derwent (upstream) and Humber Estuary (downstream). However, It is unlikely that the construction works will impact the quality of the River Derwent as it is located 1 km from the proposed works, and any potential pollutants are likely to be sufficiently diluted and trapped before they reach the River Derwent. In addition, due to the opposing flows of both rivers, the River Ouse is unlikely to flow into the River Derwent, with the Barmby Tidal Barrage limiting upstream flows from the Ouse into the Derwent at high tides.

9.7.176. With embedded mitigation measures including the CEMP in place to manage the risk of pollution incidents, changes in water quality during Stage 1 are expected to be negligible and hence no significant effects are expected to arise.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.177. The River Ouse could be subject to impacts arising from construction activities associated with the construction of Unit Y, including increased silt run-off or pollution incidents. Should this occur, the water quality in the River Ouse could be affected, which could in turn affect the health of fish populations associated with the river and the hydrologically connected River Derwent (upstream) and Humber Estuary (downstream).

9.7.178. There will be no changes in the volume or temperature of water being abstracted or returned from the River Ouse for use in cooling water infrastructure at the Site. As such there will be change relative to the current or future baseline situation.

9.7.179. Surface water runoff generated from the new impermeable areas located within the Existing Drax Power Station Complex and surface water runoff generated in the area of the Gas Receiving Facility will be discharged to the existing drainage system serving the Drax Power Station. Surface water runoff generated in the area of the Above Ground Installation and the associated access road will be routed through an appropriate oil separator before discharging to the nearby Dickon Field Drain. With these embedded in measures in place, no perceptible changes in water quality from operational discharges are expected to arise.

9.7.180. With embedded mitigation measures in place as described above, changes in water quality during Stage 2 are expected to be negligible and hence no significant effects are expected to arise.

Stage 3 – Operation of Units X and Y

9.7.181. There will be no changes in the volume or temperature of water being abstracted or returned from the River Ouse for use in cooling water infrastructure at the Site. As such there will be change relative to the current or future baseline situation and no significant effects are predicted to arise.

Stage 4 - Decommissioning

9.7.182. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. In line with the wider ES, it is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration) than construction.

9.7.183. The River Ouse could be subject to similar impacts during decommissioning as during construction in Stage 1, including increased silt run-off or pollution incidents. Should this occur, the water quality in the River Ouse could be affected, which could in turn affect the health of fish populations associated with the river and the hydrologically connected River Derwent (upstream) and Humber Estuary (downstream).

9.7.184. With embedded mitigation measures including a DEMP in place to manage the risk of pollution incidents, changes in water quality during decommissioning are expected to be negligible and hence no significant effects are expected to arise.

Invasive Non-Native Species

Stage 0 – Site Reconfiguration Works

9.7.185. The Site Reconfiguration Works will take place within a relatively limited part of the Power Station Site, and are confined largely to areas of existing buildings and hard-standing, with only small areas of semi-natural habitat present and no non-native plant species recorded.

9.7.186. Given the likely absence of invasive non-native plant species from these areas, no significant effects are predicted to arise.

Stage 1 – Construction of Unit X and Gas Pipeline

9.7.187. The construction of Unit X and associated site clearance and construction works will result in the removal of a proportion of the habitats within the Power Station Site. Non-native invasive plant species were recorded in Development Parcel C.

9.7.188. Construction activities in and adjacent to Development Parcel C could potentially result in the spread of Indian balsam and Cotoneaster into areas they do not currently occupy. This could be via movement of spoil as part of earthworks operations, or via plant and personnel if clothing and equipment is not suitably cleaned following work in areas supporting invasive non-native plant species.

9.7.189. It is unlikely that construction activities would spread invasive non-native species at higher geographical levels, i.e. it is unlikely the works would introduce these species into Districts or counties where they do not already occur. They could however be spread into new areas at a local scale. As such, the accidental spreading of these species as part of the works could lead to a moderate magnitude, reversible impact, which is considered to be significant at up to a 'Local' geographical scale.

Stage 2 – Operation of Unit X and Construction of Unit Y

9.7.190. Construction activities during Stage 2 would take place primarily across areas that will already have been cleared during Stage 1. It is therefore unlikely that these areas will support invasive non-native species when Stage 2 construction activities takes place and hence that the Stage 2 construction works could lead to their spread in the wild. Similarly, the operation of Unit X is unlikely to cause the spread of these species due to construction works within Stage 1 already

taking place within the same area, when any invasive species would no longer be expected to be present following site clearance activities.

9.7.191. As such no significant effects are expected to arise during Stage 2.

Stage 3 – Operation of Units X and Y

9.7.192. No invasive non-native species are expected to be present within the operational area of Units X and Y during their Operation.

9.7.193. As such it would not be possible for them to be spread in the wild by the Stage 3 works and no significant effects are predicted to arise.

Decommissioning

9.7.194. Detailed proposals for decommissioning works are not available, with these works not expected to take place until approximately 2045 at the earliest. It is assumed that decommissioning works will be no greater in extent (and likely reduced in extent and duration as the Gas Pipeline will remain in situ) than construction in Stage 1.

9.7.195. With embedded mitigation measures including a DEMP in place to manage the risk of spreading invasive non-native species into areas outside of the Site, pollution levels through stages 0 – 3 and decommissioning are expected to be negligible and hence no significant effects are expected to arise.

9.8 Mitigation and Enhancement Measures

9.8.1. The section above identifies the predicted impacts and effects of the Proposed Scheme on IEF, taking into account the embedded primary and tertiary mitigation measures (see Table 9-4). This Section sets out the avoidance, mitigation and compensation measures that would be implemented to address remaining significant effects on IEF as assessed above; i.e. secondary mitigation measures.

9.8.2. Secondary mitigation measures would be targeted towards addressing specific identified effects. They include measures such as habitat creation and enhancement, measures designed to mitigate potential disturbance effects on protected species and proposals for post-construction ecological monitoring surveys. Secondary mitigation measures are also referred to in the Outline Landscape and Biodiversity Strategy (Doc. Ref 6.7). It is anticipated that all secondary mitigation measures would be secured pursuant to a detailed Landscape and Biodiversity Strategy, to be approved by NYCC and SDC prior to commencement of relevant numbered works. The approval and implementation of this will be secured by a requirement in Schedule 2 of the draft DCO (Document Ref. 3.1)

Internationally and Nationally Designated Sites

9.8.3. No significant effects to internationally or nationally designated sites are predicted following the implementation of embedded mitigation measures. As such, no targeted secondary mitigation measures are proposed, with residual effects as per the pre-mitigation findings.

Locally designated sites

No significant effects on locally designated sites are predicted to arise during any Stage of the Proposed Scheme. Therefore, no targeted mitigation measures are proposed and residual effects remain as per the pre-mitigation assessment.

Habitats

Mitigation

9.8.4. As set out in the impact assessment section above, construction of the Proposed Scheme during Stages 1 and 2 will lead to temporary and permanent habitat loss. Some temporary habitat loss will be short term (primarily construction across the majority of the Pipeline Area), with existing habitats reinstated once construction works are complete. Some habitat loss is longer term or permanent and / or involves habitats that are difficult to reinstate in the short term.

9.8.5. Areas have therefore been proposed for the provision of compensatory habitat (referred to as 'Habitat Compensation Areas'). Indicative landscaping and habitat creation proposals for these areas are provided in the Outline Landscape and Biodiversity Strategy (Document Reference 6.7). Proposals for the Habitat Compensation Areas have been drawn up with regard to the impacts on HPI and habitats listed on the Selby BAP that will occur principally during Stages 1 and 2 of the Proposed Scheme.

9.8.6. The location and proposals for Habitat Compensation Areas and enhancement measures have also been informed by use of the biodiversity offsetting DEFRA metric. The DEFRA metric assigns relative values to habitats depending on a range of factors such as distinctiveness and scarcity. The metric then combines these factors with the area of each habitat impacted, to provide a score for the number of Biodiversity Units lost. The results of the DEFRA metric calculations are provided in Appendix 9.10.

9.8.7. All new landscape / habitat creation would be subject to a long term (25 year) management and maintenance plan (forming part of the Landscape and Biodiversity Strategy. The management plan would prescribe the maintenance regimes for all different landscape / habitats considering the aims, objectives and functions of each area of planting / habitat. The management plan would also set out proposals for monitoring the condition of landscape and habitat creation areas, to assess how these develop post-construction.

Residual Effects

9.8.8. With implementation of the landscape and habitat proposals, the impacts of habitat loss are predicted to reduce to be adverse, minor in magnitude, and of Local scale in the short to medium term, with a minor positive residual effect, significant at a Local scale in the longer term.

Foraging and Commuting Bats

Mitigation

The proposals for reinstatement, enhancement and compensatory habitat as set out in the Outline Landscape and Biodiversity Strategy, would provide replacement habitat for foraging and commuting bats. Landscape and habitat proposals are shown on Figures 6.7.1 – 6.7.9 in the Outline Landscape and Biodiversity Strategy (Document Reference 6.7). Provision of the habitats set out in the Draft Landscape and Biodiversity Strategy would provide additional treelines, hedgerow, scrub, pond and other suitable habitats for foraging and commuting bats. This would also reinstate and strengthen potential bat commuting routes through the local landscape.

9.8.9. No effects on bat roosts are predicted to arise, as none have been recorded within the Survey Area. As such no EPS derogation licences for bats are expected to be needed during delivery of the Proposed Scheme.

Post-construction monitoring

9.8.10. Monitoring surveys are proposed, to confirm the findings of the impact assessment for bats and to assess the efficacy of mitigation measures.

9.8.11. Monitoring surveys would comprise the following:

- Walkover survey of landscape and habitat creation areas under Drax ownership to assess suitability for foraging and commuting bats (completed between May and September in years 1, 3, 5 and 10 following completion of Stage 2).
- Bat activity transect surveys of landscape and habitat creation areas between May and September in years 1, 3, 5 and 10 following completion of Stage 2.

Enhancement

9.8.12. In order to provide enhancements for the local bat population, provision of artificial roosting sites is recommended. These should take the form of up to 50 bat boxes, installed on semi-mature and mature trees within retained parts of the Site. Any bat boxes installed should be placed in areas where they will not be subject to artificial lighting or excessive levels of noise or vibration. Recommended locations and types of boxes will be reported in the detailed design stage of the Landscape and Biodiversity Strategy, and following completion of targeted bat activity surveys between May and September 2018.

Residual Effects

9.8.13. With implementation of the landscape and habitat proposals there will be no net loss in the area of suitable habitat for foraging and commuting bats in the longer term. There will be a short to medium term net loss of habitat during construction and whilst planting matures. With implementation of the landscape and habitat proposals, the impacts of habitat loss are predicted to reduce to be minor and of Local scale in the short to medium term, with a minor and positive effect, significant at a Local level, in the longer term.

9.8.14. No effects on bat roosts are predicted to arise, due to the lack of evidence of these within the Study Area. As such no EPS derogation licences for bats are expected to be needed during delivery of the Proposed Scheme.

Badger

9.8.15. Due to the sensitive nature of information relating to the location of badger setts, mitigation proposals for this species are reported in confidential Appendix 9.4. This appendix has been provided to PINS as part of the DCO submission; it is expected it will be provided to Natural England, North Yorkshire Council Ecology Service and other stakeholders by PINS, as appropriate. The Proposed Scheme would result in the loss or disturbance of at least one sett.

9.8.16. Badgers would need to be excluded from setts in order to allow site clearance and construction within 30 m of the sett to commence. Provided no options to retain the sett(s) can be identified at the detailed design stage, In order to close the sett(s) without contravening the Protection of Badgers Act (1992), a licence would be obtained from Natural England. Further details are provided in the confidential appendix referenced above.

9.8.17. In addition to the mitigation measures set out in the confidential appendix described above, a pre-construction badger survey would be carried out at least three months in advance of site clearance in areas of potential badger habitat commencing. A further survey would be completed within one week prior to site clearance commencing. These surveys would reconfirm levels of badger activity in advance of site clearance commencing. This would allow identification of any additional mitigation required, in the event levels of activity had increased or locations had changed.

9.8.18. Surveys would be particularly focussed on checking the status of existing setts and establishing whether any new setts were present within the Proposed Scheme construction footprint and up to 50 m from it, in case any additional setts would require closure under licence.

Residual Effects

9.8.19. With the implementation of the embedded and targeted mitigation measures, residual effects are predicted to be neutral, with no contravention of the legislation protecting badgers or their setts.

Otter

9.8.20. It is possible that otter use of habitats within the Pipeline Construction Area could change between the publication of this ES and site clearance of the Pipeline Construction Area commencing. Pre-construction checks would therefore be carried out at least three months in advance of site clearance of the Pipeline Construction Area commencing and then again within one week prior to site clearance of the installation of the Gas Pipeline.

9.8.21. These surveys would cover watercourses / ditches within the Gas Pipeline Construction Area and up to 250 m from it. They would be used to search for evidence of otter activity, particularly any evidence of new holts or above-ground resting sites that may have become established since the publication of the ES.

9.8.22. No effects on places of shelter used by otter are predicted to arise, due to the lack of evidence of these within the ZoI of the Proposed Scheme. No significant disturbance of otters is expected to arise as a result of construction or operation of the Proposed Scheme. As such no EPS derogation licences for otter are expected to be needed. Should pre-construction surveys indicate that otters are using an active above-ground resting site or holt could be subject to significant disturbance, or if it was necessary to damage or destroy a holt or above-ground resting site, a licence would be sought from NE.

9.8.23. In the event that trenchless techniques could not be used during installation of the gas pipeline across one or more watercourses, measures would be instigated to avoid obstructing potential commuting routes for the species. The exact nature of any such mitigation would be dependent on the construction techniques proposed for each watercourse. Any such mitigation would be likely to comprise a combination of fencing and management of the construction footprint either side of affected watercourses, to maintain usable routes for otter throughout the construction period.

Post-construction monitoring

9.8.24. Monitoring surveys are proposed, to confirm the findings of the impact assessment for otters and to assess the efficacy of mitigation measures.

9.8.25. Monitoring surveys would comprise the following:

- Walkover survey of watercourses and waterbodies within the Proposed Scheme footprint to assess their suitability for otters has not been decreased as a result of the Proposed Scheme (completed between in years 1 and 3 following completion of Stage 2).
- Targeted otter surveys completed in years 1 and 3 following completion of Stage 2, including watercourses and waterbodies within and up to 250 m from the Proposed Scheme where practicable.

Residual Effects

9.8.26. Residual effects on otters would remain adverse, minor in magnitude and significant at a 'Site' geographical level in the short term. Following completion of construction and decommissioning, effects would reduce in the medium to long term to be negligible or neutral, and hence not significant.

Water vole

9.8.27. It is possible that water vole use of habitats within the Pipeline Construction Area could change between the publication of this ES and site clearance of the Pipeline Construction Area commencing. Pre-construction checks would therefore be carried out at least three months in advance of site clearance of the Pipeline Construction Area commencing and then again within one week prior to site clearance of the installation of the Gas Pipeline.

9.8.28. These surveys would cover watercourses / ditches within the Gas Pipeline Construction Area and up to 250 m from it (carried out in parallel with update otter surveys). They would be used to search for evidence of water vole activity, particularly any evidence of presence in watercourses that may have become established since the publication of the ES.

9.8.29. No significant effects on places of shelter used by water vole are predicted to arise, assuming the use of trenchless construction techniques for installation of the gas pipeline. No significant disturbance of water voles is expected to arise as a result of construction or operation of the Proposed Scheme. As such no WCA derogation licences for water vole are expected to be needed.

9.8.30. In the event that trenchless techniques could not be used during installation of the gas pipeline, measures would be instigated to minimise impacts on water voles. The exact nature of any such mitigation would be dependent on the construction techniques proposed for each watercourse. Any such mitigation would be likely to comprise a combination of minimising the working footprint and manipulating riparian habitats within the construction footprint to displace any water voles present prior to construction commencing.

9.8.31. Any displacement of water voles would need to be carried out under licence to NE. It is anticipated that, if a licence was needed, that the works would be carried out under the WML-CL31 class licence. This licence covers all of England, and can be used (in accordance with it's terms and conditions) to displace water voles from up to 50 m of watercourse. Displacement can be achieved by cutting of bankside vegetation and subsequent destructive searching of any water vole burrows present. Should it be necessary to complete works under licence, these would be implemented by an appropriately qualified ecologist, registered to use the WML-CL31 licence. If it was necessary for work to be carried out under the WML-

CL31 licence, this would be captured in the Landscape and Biodiversity Strategy for the Proposed Scheme.

Post-construction monitoring

9.8.32. Monitoring surveys are proposed, to confirm the findings of the impact assessment for water voles and to assess the efficacy of mitigation measures.

9.8.33. Monitoring surveys would comprise the following:

- Walkover survey of watercourses and waterbodies within the Proposed Scheme footprint to assess their suitability for water voles has not been decreased as a result of the Proposed Scheme (completed between in years 1 and 3 following completion of Stage 2).
- Targeted water vole surveys completed in years 1 and 3 following completion of Stage 2, including watercourses and waterbodies within and up to 50 m from the Proposed Scheme where practicable.

Residual Effects

9.8.34. Residual effects on water voles would remain adverse, minor in magnitude and significant at a 'Site' geographical level in the short term. Following completion of construction and decommissioning, effects would reduce in the medium to long term to be negligible or neutral, and hence not significant.

Breeding and Wintering Birds

Mitigation

9.8.35. If carried out during the breeding season, vegetation and site clearance could cause the destruction or damage of active nests and any eggs or live young present. In order to minimise the risk of this occurring, vegetation and site clearance would take place between September and February inclusive, i.e. outside the main bird breeding season, wherever practicable. Should it be necessary to remove habitats suitable for breeding birds during the nesting season, these would be subject to a pre-clearance check by an ecologist.

9.8.36. In the event any active nests were found, clearance works would be halted within a minimum distance of 5 m from the nest. This buffer distance would be varied on the advice of the ecologist, dependent on the nature of affected habitats and the species of bird involved. Clearance works would not recommence until any young had fledged and left the nest, with a re-inspection by an ecologist to confirm the absence of active nests.

The measures described above would minimise the risk of damaging or destroying active nests and associated eggs and young. This would also minimise the risk of contravening the legislative protection of nesting birds under the WCA, 1981 (as amended).

9.8.37. The proposals for reinstatement, enhancement and compensatory habitat as set out in the Outline Landscape and Biodiversity Strategy (Document Reference 6.7) 6.1, would provide replacement habitat for breeding and wintering birds. Landscape and habitat proposals are shown on Figures 7.6.1 – 7.6.9 in the outline Landscape and Biodiversity Strategy (Document Reference 6.7). Provision of the habitats set out in the outline Landscape and Biodiversity Strategy would provide new trees, hedgerows, scrub and farmland habitats. Measures particularly relevant to breeding and wintering birds would include:

- Enhanced management of field margins around Development Parcel A, B and C to provide improved foraging and breeding habitat for farmland birds;
- The provision of areas of scrub, woodland, carr, reedbed and species-rich grassland planting; and
- Inter-planting and infill planting of existing hedgerows and treelines to provide denser vegetation more suitable for tree and shrub-breeding species.

Post-construction monitoring

9.8.38. Monitoring surveys are proposed, to confirm the findings of the impact assessment for breeding and wintering birds and to assess the efficacy of mitigation measures.

9.8.39. Monitoring surveys would comprise the following:

- Walkover survey of landscape and habitat creation areas to assess suitability of these for breeding and wintering birds (completed in years 1, 3, 5 and 10 following completion of Stage 2).
- Targeted breeding bird surveys of landscape and habitat creation areas between April and June in years 1, 3, 5 and 10 following completion of Stage 2.
- Targeted wintering bird surveys of landscape and habitat creation areas between September and March in the winter of years 1, 3, 5 and 10 following completion of Stage 2.

Residual effects

9.8.40. With implementation of the landscape and habitat proposals there will be no net loss in the area of suitable habitat for breeding and wintering birds in the longer term. There would however be a short to medium term net loss of habitat during construction and whilst mitigation planting matures. With implementation of the landscape and habitat proposals, impacts are predicted to be adverse, minor and significant at up to a District scale in the short to medium term, with a positive, minor residual effect, significant at a Local level in the longer term once planting becomes semi-mature.

Enhancement

9.8.41. In order to provide enhancements for breeding birds, provision of artificial roosting sites is recommended. These should take the form of up to 50 bird boxes, installed on semi-mature and mature trees within retained parts of the Site. Any bird boxes installed should be placed in areas where they will not be subject to artificial lighting or excessive levels of noise or vibration from the Proposed Scheme. Bird boxes should include a variety of designs, to account for the differing nesting requirements of the range of bird species recorded at and adjacent to the Site. Bird box quantities and designs would be confirmed and finalised during the detailed design stage of the Outline Landscape and Biodiversity Strategy and once breeding bird surveys in spring/early summer 2018 for the Proposed Scheme have been completed.

Reptiles

9.8.42. Reptiles (populations of grass snakes) are known to occur in the local area, with evidence from the WRCCS Project suggesting they could occur within part of the Power Station Site. Any populations using habitats that would be lost or disturbed during construction would experience a reduction in available habitat during construction and operation. Vegetation and

site clearance operations could also result in the killing or injury of any individual reptiles present.

9.8.43. In order to avoid the incidental killing or injury of reptiles during vegetation and site clearance a translocation and sensitive clearance strategy would be followed. This would include measures to minimise the risk of reptiles being killed or injured during vegetation and site clearance.

9.8.44. Given the previous records from the local area, it is possible that reptiles would need to be actively removed from Development Parcels B, C and E during Stages 1 and 2 of the Proposed Scheme. Depending on the results of ongoing reptile surveys it is likely this would involve the use of artificial refuges and reptile-fencing to capture and remove reptiles from these areas. Any reptiles found would be relocated to the proposed reptile receptor area in Additional Area 3 at Barlow Mound (see Figure 6.7.9 in Document 6.7).

9.8.45. Low numbers of reptiles could be present within parcels of suitable habitats across other areas of the Proposed Scheme. Vegetation clearance in these areas would be carried out under a precautionary clearance strategy, to minimise the risk of individual reptiles being killed or injured.

9.8.46. The proposals for reinstatement, enhancement and compensatory habitat as set out in the Outline Landscape and Biodiversity Strategy, would provide replacement habitat for local reptile populations. Landscape and habitat proposals are shown on Figures 6.7.1 – 6.7.9 in the outline Landscape and Biodiversity Strategy (Document Reference 6.7). Measures particularly relevant to reptiles include:

- Enhanced management of grassland habitats in Additional Area 3: Skylark Nature Reserve, to be used as the receptor area for any reptiles caught during the translocation exercise described above.
- Creation of a waterbody, artificial hibernation sites and basking areas within Additional Area 3 at Barlow Mound.
- The provision of areas of scrub, woodland, carr, reedbed, species-rich grassland planting, a new waterbody and artificial basking and hibernation sites in Additional Area 1.
- Areas of grassland, woodland/scrub edge and hedgerow planting in other Compensation Areas.

9.8.47. With implementation of the landscape and habitat proposals as per the Outline Landscape and Biodiversity Strategy there will be no net loss in the area of suitable habitat for reptiles, with the majority of replacement reptile habitat put in place by completion of Stage 1 or sooner. The proposed translocation and sensitive vegetation clearance strategy would also minimise the risk of killing or injuring individual reptiles. This would support compliance with the provisions of the Wildlife and Countryside Act (1981, as amended) that protect the widespread UK reptile species.

Post-construction monitoring

9.8.48. Monitoring surveys are proposed, to confirm the findings of the impact assessment for reptiles and to assess the efficacy of mitigation measures.

9.8.49. Monitoring surveys would comprise the following:

- Walkover surveys of landscape and habitat creation areas to assess suitability of these for reptiles (completed in years 1, 3, 5 and 10 following completion of Stage 2).
- Targeted reptile surveys of landscape and habitat creation areas between April and September in years 1, 3, 5 and 10 following completion of Stage 2.

Residual Effects

9.8.50. With embedded mitigation measures and implementation of the targeted mitigation measures described above, effects on reptiles are predicted to be neutral in the short term, then becoming positive, significant at a Local geographical scale, and of minor magnitude in the medium to long term.

Enhancement

9.8.51. The landscape and habitat proposals documented in the Outline Landscape and Biodiversity Strategy would allow for a potential increase in the extent of suitable reptile habitat. Provision of new/reinstated areas of species-rich grassland, carr, woodland and scrub edge planting and waterbodies would provide new habitat, including foraging opportunities for grass snakes, which are known to occur locally. The landscape and habitat proposals would result in a net increase in the number of waterbodies present within the Site and the Additional Areas.

Invasive Non-Native Species

9.8.52. To address the risk of spreading invasive non-native plant species (Indian balsam and Cotoneaster species) an invasive species strategy would be produced as part of the Landscape and Biodiversity Strategy. This would set out specific construction-phase controls that would avoid or minimise the risk of spreading these species during site and vegetation clearance within Development Parcel C (where invasive species were previously recorded).

9.8.53. A pre-construction ecological walkover survey would be completed in the active growing season (approximately April to August inclusive) prior to vegetation and site clearance commencing in any part of the Site. This would reassess the status of ecological features present, including a search for evident invasive non-native plant species. This would minimise the risk of any new stands of invasive plant species remaining undetected, which could then be spread by vegetation and site clearance activities.

Residual Effects

9.8.54. With embedded mitigation measures to control the spread of invasive non-native species there will be no residual effects, with no contraventions of the legislation relating to non-native invasive plant species expected to occur.

9.9 Limitations and Assumptions

9.9.1. In order to deliver protected species survey work within appropriate seasonal timeframes, some protected species survey work is still ongoing. This includes activity surveys for bats, breeding bird surveys and reptile surveys. Other ecological surveys have already been completed.

9.9.2. The data collected from the remaining surveys will be presented in a series of technical reports provided as addenda to the ES. This is specified in the Mitigation Commitments Register (Doc Ref 6.4). As set out in the methodology, a precautionary approach has been taken to determining the baseline for species where surveys are still under way. Combined with the previous survey data from the White Roses CCS Scheme and the Barlow Mound

Ecological Monitoring, this has allowed a robust assessment of the likely baseline for these species groups to be made in the ES.

9.10 Summary

9.10.1. This assessment has been made as per CIEEM's EcIA guidelines (Ref 9.1). and addresses the impacts and effects associated with Stages 0 – 4, Site reconfiguration, construction, operation and decommissioning on biodiversity. The assessment has been informed through a combination of desk and field based studies and surveys to inform the baseline conditions of the survey area and the wider environment. From these surveys, IEFs have been identified and assigned a geographic value in consideration of their abundance and location. Mitigation measures have been proposed, where necessary, to minimise the scale and duration of the impacts identified.

9.10.2. The assessment has been carried out with regard to best practice guidance whilst adhering to appropriate policy and legislation. In combination with the Air Quality chapter, a Habitats Regulations Assessment (HRA) Report has been prepared. The HRA Report has analysed and assessed the impacts of operational emissions to air (and other potential impacts) on statutory designated sites, and concluded there would be no adverse effects adverse effects on the integrity of internationally designated sites. An Outline Landscape and Biodiversity Strategy (document reference 6.7) provides landscape and habitat proposals which include habitat creation, reinstatement and enhancement measures (as per DCO work plans), with initial proposals for management and maintenance. Embedded mitigation measures including the CEMP, will also avoid, minimise and mitigate a number of potential impacts as an integral part of the Proposed Scheme.

9.10.3. Habitats, foraging and commuting bats and breeding and wintering birds all experience a short term negative significant residual effect in the short to medium term. In the longer term, these effects are predicted to become neutral or positive as habitat creation, reinstatement and compensation areas mature. On completion of Stage 3, habitats, foraging and commuting bats, breeding and wintering birds and reptiles all experience a minor positive residual effect.

The biodiversity net gain assessment has used the DEFRA offsetting metric to determine that a net gain in biodiversity units would be delivered by the current proposals for the Proposed Scheme, with a minor net loss for linear-based (hedgerow) habitats).In order to reverse a net loss, further enhancements will be considered in the detailed design stage of the Landscape and Biodiversity Strategy post DCO submission.

Table 9-17 - Summary of Effects Table for Biodiversity

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Stage 1 – Construction of Unit X				
Disturbance from construction and site clearance	Habitats	Significant at a Local geographical scale Major / - / P / D / N/A	Areas retained and reinstated and compensation areas proposed to include new planting as per outline Landscape and Biodiversity Strategy to generate a net gain in biodiversity offsetting.	Significant at a Local geographical scale, Minor / - / P / D/ N/A
Disturbance from construction and site clearance	Foraging and Commuting Bats	Construction of Unit X: significant at Local geographical scale, Moderate / - / I / N/A Construction of Pipeline: Significant at Site geographical scale, Minor / - / T / I / ST	Embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts. Habitat reinstatement, creation and enhancement via the Landscape and Biodiversity Strategy	Significant at a Local scale, Minor / - / P / D / N/A
Disturbance from pipeline construction	Otter	Significant at Local geographical scale, Minor / - / T / I / ST	ded mitigation measures including the CEMP and lighting strategy in place to noise, vibration and visual disturbance manage the risk of pollution incidents and ydrological limpacts.	No significant effects
Disturbance from pipeline construction	Water Vole	Minor / - / T / I / ST	Embedded mitigation measures including the CEMP in place to control	No significant effects

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
			noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts.	
Disturbance from construction and site clearance	Breeding and Wintering Birds	Construction of Unit X: Significant at up to District Geographical Scale, Moderate / - / P / I / LT Construction of Pipeline: Significant at up to Site geographical scale, Minor / - / T / I / ST	Embedded mitigation measures to prevent direct mortality to breeding and wintering birds. Areas retained and reinstated where possible and compensation areas proposed to include new planting as per outline Landscape and Biodiversity Strategy to generate a net gain in biodiversity offsetting.	Significant at up to a District scale, Minor / - / P / I / N/A
Disturbance from construction and site clearance	Reptile	Significant at up to District geographical scale, Moderate / - / P / D / N/A	Mitigation measures to prevent direct mortality to reptiles via the Landscape and Biodiversity Strategy. Areas retained where possible and compensation areas proposed to include new planting as per outline Landscape and Biodiversity Strategy to generate a net gain in biodiversity offsetting.	No significant effects
Disturbance from construction and site clearance	Invasive Non-native Species	Significant at up to Local geographical scale,	Measures to control the spread of non-native invasive plant species set out in	No significant effects

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
		Moderate / - / P / I / N/A	the Landscape and Biodiversity Strategy.	
Stage 2 – Operation of Unit X and Construction of Unit Y				
Disturbance from construction and site clearance	Habitats	Significant at a Local geographical scale: Minor / - / T / D / N/A	Areas subject to temporary removal will be reinstated and enhanced as per outline Landscape and Biodiversity Strategy. Enhancement will serve to ensure a net gain in biodiversity offsetting is achieved.	Significant at a Local geographical scale, Minor / - / P / D/ N/A
Disturbance from construction and site clearance	Foraging and Commuting Bats	Significant at Local geographical scale, Moderate / - / P / I / N/A	Areas subject to temporary removal will be reinstated and enhanced as per outline Landscape and Biodiversity Strategy. Enhancement will serve to ensure a net gain in biodiversity offsetting is achieved. Embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts	Significant at a Local scale, Minor / - / P / D / N/A
Disturbance from construction and site clearance	Breeding and Wintering Birds	Significant at District geographical scale Moderate / - / P / I / N/A	Areas subject to temporary removal will be reinstated and enhanced as per outline Landscape and Biodiversity Strategy. Enhancement will serve to ensure a net gain in biodiversity offsetting is achieved.	Significant at up to a District scale, Minor / - / P / I / N/A

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
			Embedded mitigation measures including the CEMP in place to control noise, vibration and visual disturbance and to manage the risk of pollution incidents and other hydrological impacts	
Disturbance from construction and site clearance	Reptile	Significant at a Local geographical scale, Moderate / - / P / D / N/A	Areas retained where possible and compensation areas proposed to include new planting as per outline Landscape and Biodiversity Strategy to generate a net gain in biodiversity offsetting.	No significant effects
Stage 3 – Operation of Units X and Y				
Reinstatement of habitats previously lost during stages 0 - 2	Habitats	N/A	Habitats to be reinstated following stage 2 as per approach in outline Landscape and Biodiversity Strategy. Compensation areas provided to provide biodiversity net gain.	Significant at a Local geographical scale, Minor / + / P / I / N/A
Reinstatement of habitats previously lost during stages 0 - 2	Foraging and Commuting Bats	N/A	Habitats to be reinstated following stage 2 as per approach in outline Landscape and Biodiversity Strategy. Compensation areas provided to provide biodiversity net gain.	Significant at a Local geographical scale, Minor / + / P / I / N/A
Reinstatement of habitats previously lost during stages 0 - 2	Breeding and Wintering Bird	N/A	Habitats to be reinstated following stage 2 as per approach in outline Landscape and Biodiversity Strategy. Compensation areas provided to provide biodiversity net gain.	Significant at a Local geographical scale, Minor / + / P / I / N/A

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Reinstatement of habitats previously lost during stages 0 - 2	Reptile	N/A	Habitats to be reinstated following stage 2 as per approach in outline Landscape and Biodiversity Strategy. Compensation areas provided to provide biodiversity net gain.	Significant at a Local geographical scale, Minor / + / P / I / N/A
Decommissioning				
Site clearance to facilitate decommissioning of Power Station infrastructure	Habitats	Minor / - / T / D / ST	Areas retained where possible, sites subject to decommissioning to be returned to original state as indicated in outline Landscape and Biodiversity Strategy	Minor / - / P / I / N/A
Site clearance to facilitate decommissioning of Power Station infrastructure	Foraging and Commuting Bats	Minor / - / T / I / ST	Areas retained where possible, reinstatement of those habitats lost during site clearance, sites subject to decommissioning to be returned to original state as per outline Landscape and Biodiversity Strategy.	Minor / - / T / I / ST
Noise, visual and lighting disturbance of Dickon Field Drain as a result of decommissioning of AGI	Otter	Minor / - / T / I / ST	Measures to control noise, visual and lighting disturbances during decommissioning phase should follow methods outlined in DEMP.	No significant effects
Noise, visual and lighting disturbance of Dickon Field Drain as a	Water Vole	Minor / - / T / I / ST	Measures to control noise, visual and lighting disturbances during decommissioning phase should follow methods outlined in DEMP.	No significant effects

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
result of decommissioning of AGI				
Site clearance to facilitate decommissioning of Power Station infrastructure	Breeding and Wintering Birds	Minor / - / T / I / ST	Areas retained where possible, reinstatement of those habitats lost during site clearance, sites subject to decommissioning to be returned to original state as per outline Landscape and Biodiversity Strategy.	Minor / - / T/ I / ST
Site clearance to facilitate decommissioning of Power Station infrastructure	Reptile	Minor / - / T / I / ST	Areas retained where possible, reinstatement of those habitats lost during site clearance, sites subject to decommissioning to be returned to original state as per outline Landscape and Biodiversity Strategy.	[]No significant effects

NB: Aspects of the proposed scheme considered as part of the pre-mitigation scenario are summarised above in Section 1.6, and within Chapter X: Summary of Environmental Statement.

Key to table: + / - = Positive or Negative P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term N/A = Not Applicable

N

Lower Derwent Valley Ramsar
Lower Derwent Valley SAC
Skipwith Common SAC
Derwent Ings SSSI
Lower Derwent Valley SPA
Burr Closes, Selby SSSI
10km
5km
Breighton Meadows SSSI
River Derwent SAC
2km
Barlow Common LNR
River Derwent SSSI
Barn Hill Meadows SSSI
Eastrington Ponds LNR
Howden Marsh LNR
Humber Estuary SSSI
Mayfield & Broom Park LNR
Humber Estuary SAC
Humber Estuary SPA
Humber Estuary Ramsar
Eskamhorn Meadows SSSI
Sugar Mill Ponds LNR
Went Ings Meadows SSSI
Forlorn Hope Meadow SSSI
Thorne & Hatfield Moors SPA
Thorne Moor SAC
Thorne, Crowle and Goole Moors SSSI

0 1,000 2,000 4,000 6,000 8,000 m

Key

- Site Boundary
- 2km, 5km and 10km Buffers
- Local Nature Reserve (LNR)
- National Nature Reserve (NNR)
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Ramsar Site - Wetland of International Importance
- Site of Special Scientific Interest (SSSI)

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

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PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.1 Statutory Ecological Designated Sites

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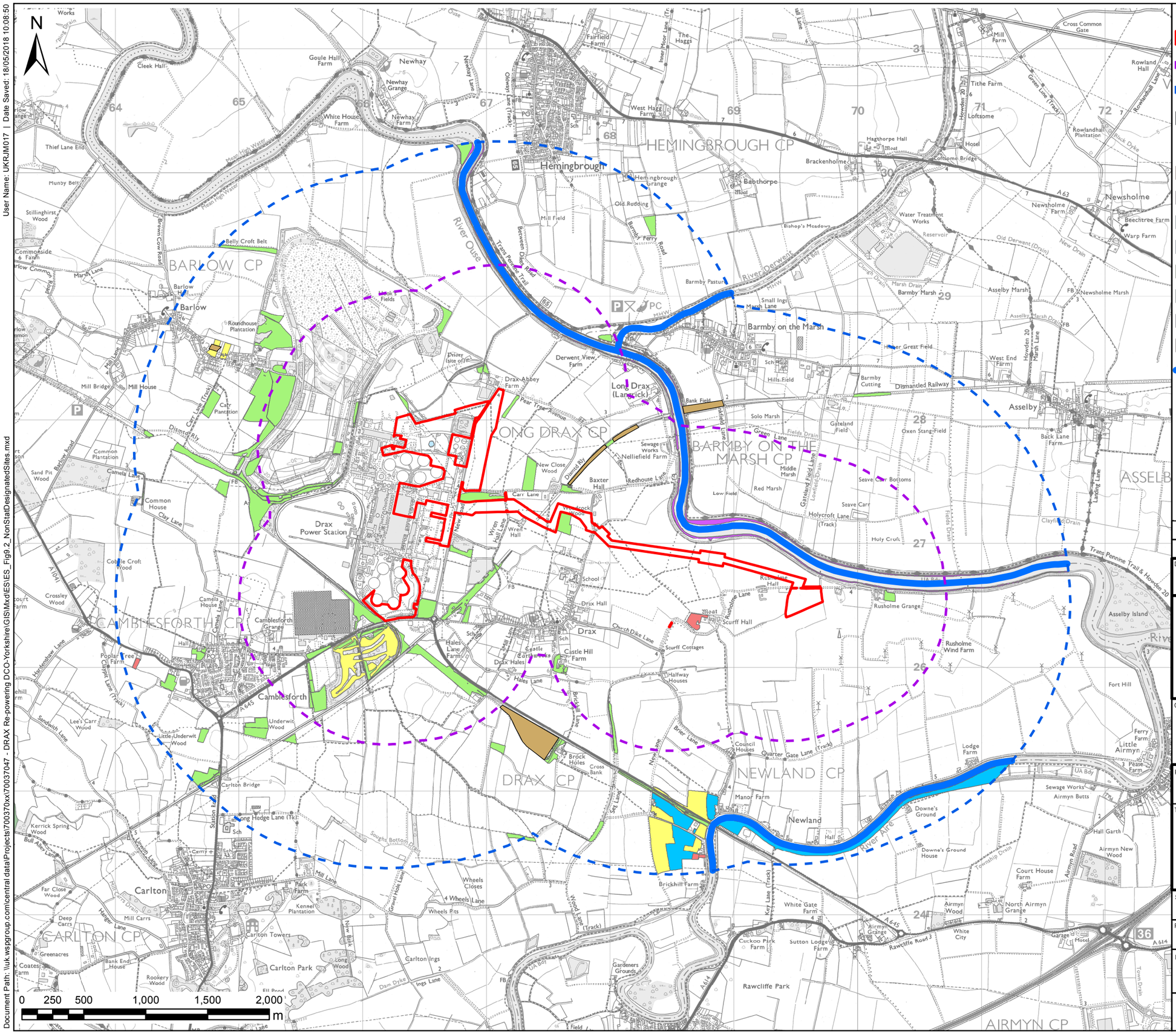

Key

- Site Boundary
- 1km Buffer
- 2km Buffer
- Sites of Importance for Nature Conservation (SINC)

Priority Habitats

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Lowland fens
- Lowland meadows
- Mudflats
- Traditional orchard
- No main habitat but additional habitats
- Pond
- River

Note:
No Ancient Woodland located within 2km of the Site Boundary

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

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TITLE:
Figure 9.2
Non-Statutory Designated Sites and Habitats of Principal Importance

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N

Def
Tanks
Path
Path (um)
FB
FB
Drain
Drain
rr Dike (Dr
L Twr
L Twr
L Twr
L Twr
L Twr
TCBs
WBs
Pond
Tanks
FB
Tanks
Tank
Tanks
Tanks
Tanks
Sluice
Cooling Tower

0 25 50 100 150 200 m

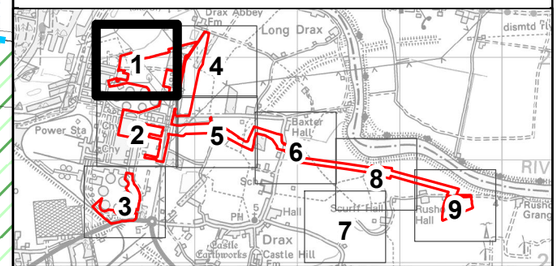
Key

Site Boundary

Phase 1 Habitats

- Bare ground
- Introduced shrub
- Buildings
- Other tall herb and fern - ruderal
- Standing water
- Scrub - dense/continuous
- Broadleaved woodland - plantation
- Cultivated/disturbed land - amenity grassland
- Improved grassland
- Hard standing
- Cultivated/disturbed land - arable
- Mixed woodland - plantation
- Broadleaved Parkland/scattered trees
- Semi-improved grassland
- Defunct hedge - species-poor
- Dry ditch
- Fence
- Intact hedge - species-poor
- Running water

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



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TITLE: Figure 9.3a
Phase 1 Habitat Map Sheet 1 of 9

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N

L Twr
Tanks
FBs
Tank
Cooling Tower
FB
Drain
Sludge Lagoons
Sluice
Slurry Bed
Sluice
Tanks
Trav Crane
L Twr
L Twr
L Twr
L Twr
L Twr
WB
L Twr
L Twr
Drax
Travelling Crane
Chy
Chy
Conveyor
Conveyor
L Twr
Tanks
Tank
M
Tanks
FB
4.9m
4.5m
WREN HALL L

0 25 50 100 150 200 m

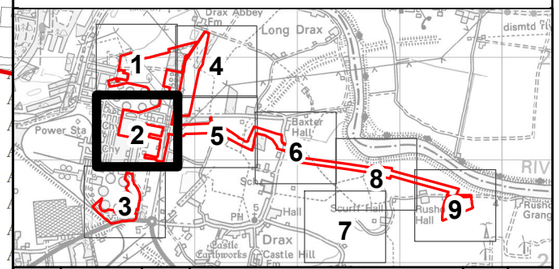
Key

Site Boundary

Phase 1 Habitats

- Bare ground
- Introduced shrub
- Buildings
- Broadleaved woodland - semi-natural
- Cultivated/disturbed land - amenity grassland
- Improved grassland
- Hard standing
- Cultivated/disturbed land - arable
- Marsh/marshy grassland
- Broadleaved Parkland/scattered trees
- Defunct hedge - species-poor
- Dry ditch
- Intact hedge - species-poor

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



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TITLE: Figure 9.3b
Phase 1 Habitat Map Sheet 2 of 9

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N

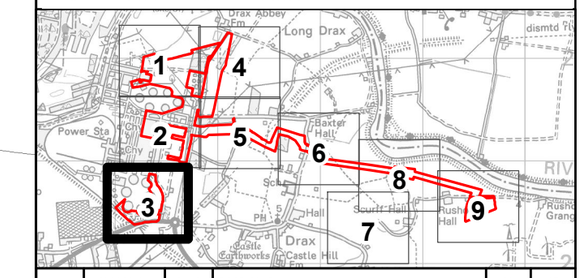
Key

Site Boundary

Phase 1 Habitats

- Bare ground
- Introduced shrub
- Buildings
- Other tall herb and fern - ruderal
- Standing water
- Cultivated/disturbed land - amenity grassland
- Hard standing
- Broadleaved Parkland/scattered trees
- Fence
- Intact hedge - species-poor

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



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TITLE: Figure 9.3c
Phase 1 Habitat Map Sheet 3 of 9

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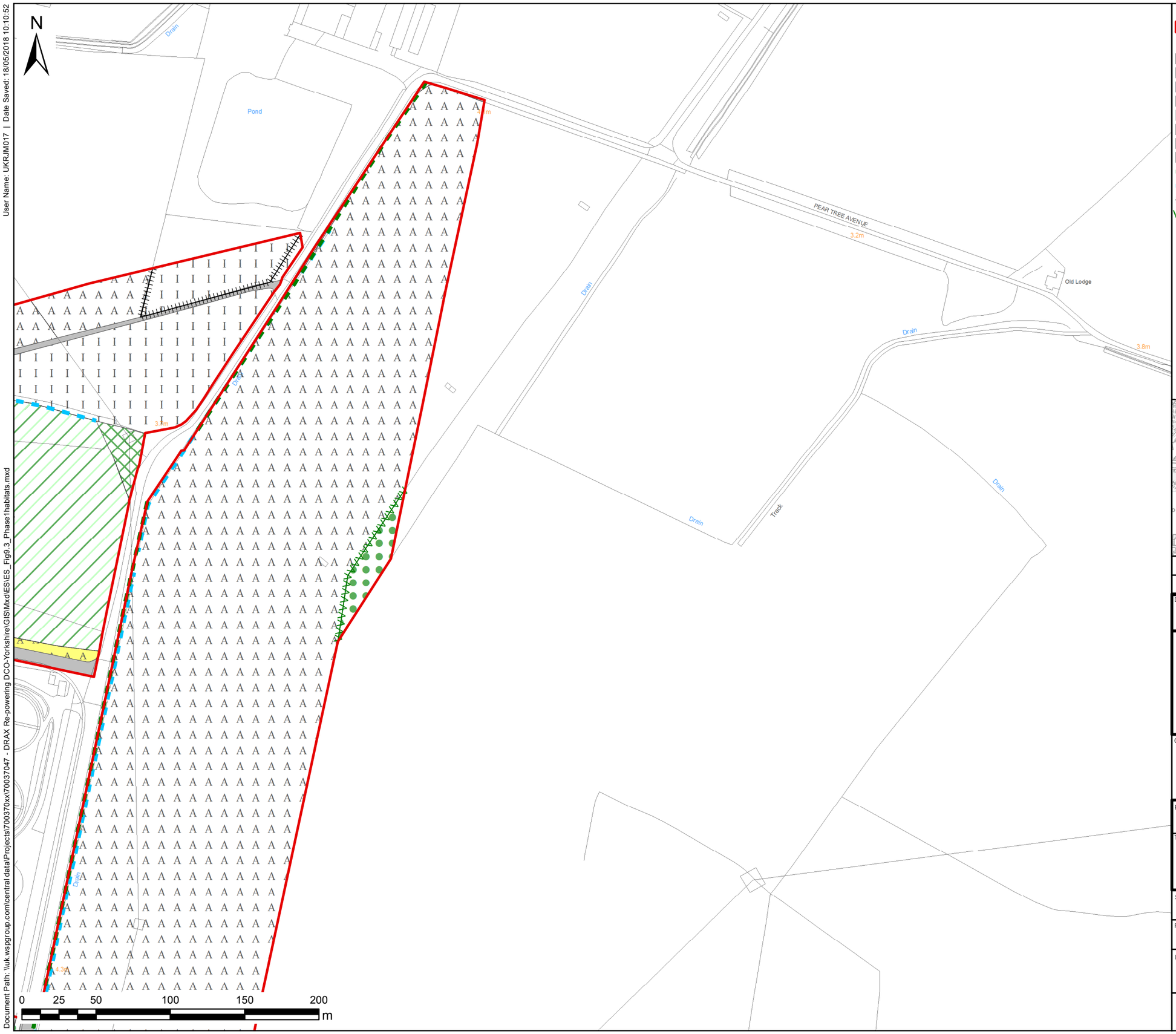


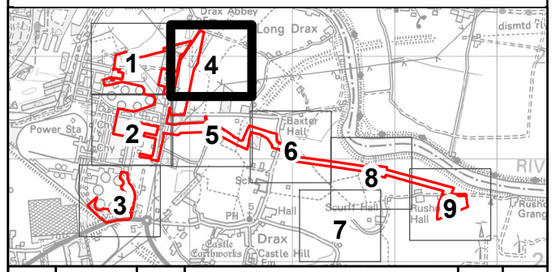
Key

Site Boundary

Phase 1 Habitats

- Bare ground
- Scrub - dense/continuous
- Cultivated/disturbed land - amenity grassland
- Improved grassland
- Hard standing
- Cultivated/disturbed land - arable
- Mixed woodland - plantation
- Broadleaved Parkland/scattered trees
- Defunct hedge - species-poor
- Dry ditch
- Fence
- Intact hedge - native species-rich

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



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TITLE: Figure 9.3d
Phase 1 Habitat Map Sheet 4 of 9

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N

New Close Wood

CARR LANE

Drain

Track

Met Sta

Pond

The Old Nursery

Wren Hall

WREN HALL LANE

1.22m RH

Def

Und

The Laurels

0 25 50 100 150 200 m

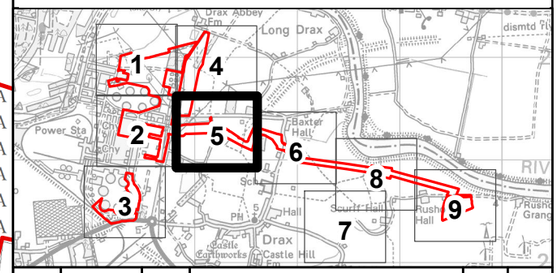
Key

Site Boundary

Phase 1 Habitats

- Bare ground
- Broadleaved woodland - semi-natural
- Other tall herb and fern - ruderal
- Standing water
- Improved grassland
- Hard standing
- Cultivated/disturbed land - arable
- Broadleaved Parkland/scattered trees
- Defunct hedge - species-poor
- Dry ditch
- Intact hedge - native species-rich

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



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PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.3e
Phase 1 Habitat Map Sheet 5 of 9

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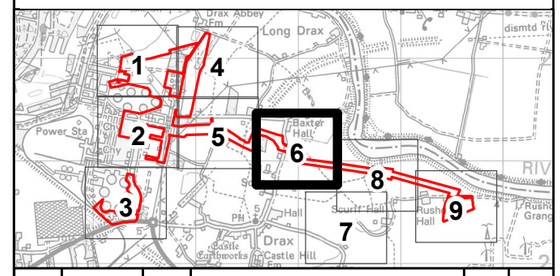
Key

Site Boundary

Phase 1 Habitats

- Other tall herb and fern - ruderal
- Broadleaved woodland - plantation
- Hard standing
- Cultivated/disturbed land - arable
- Broadleaved Parkland/scattered trees
- Dry ditch



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TITLE: Figure 9.3f
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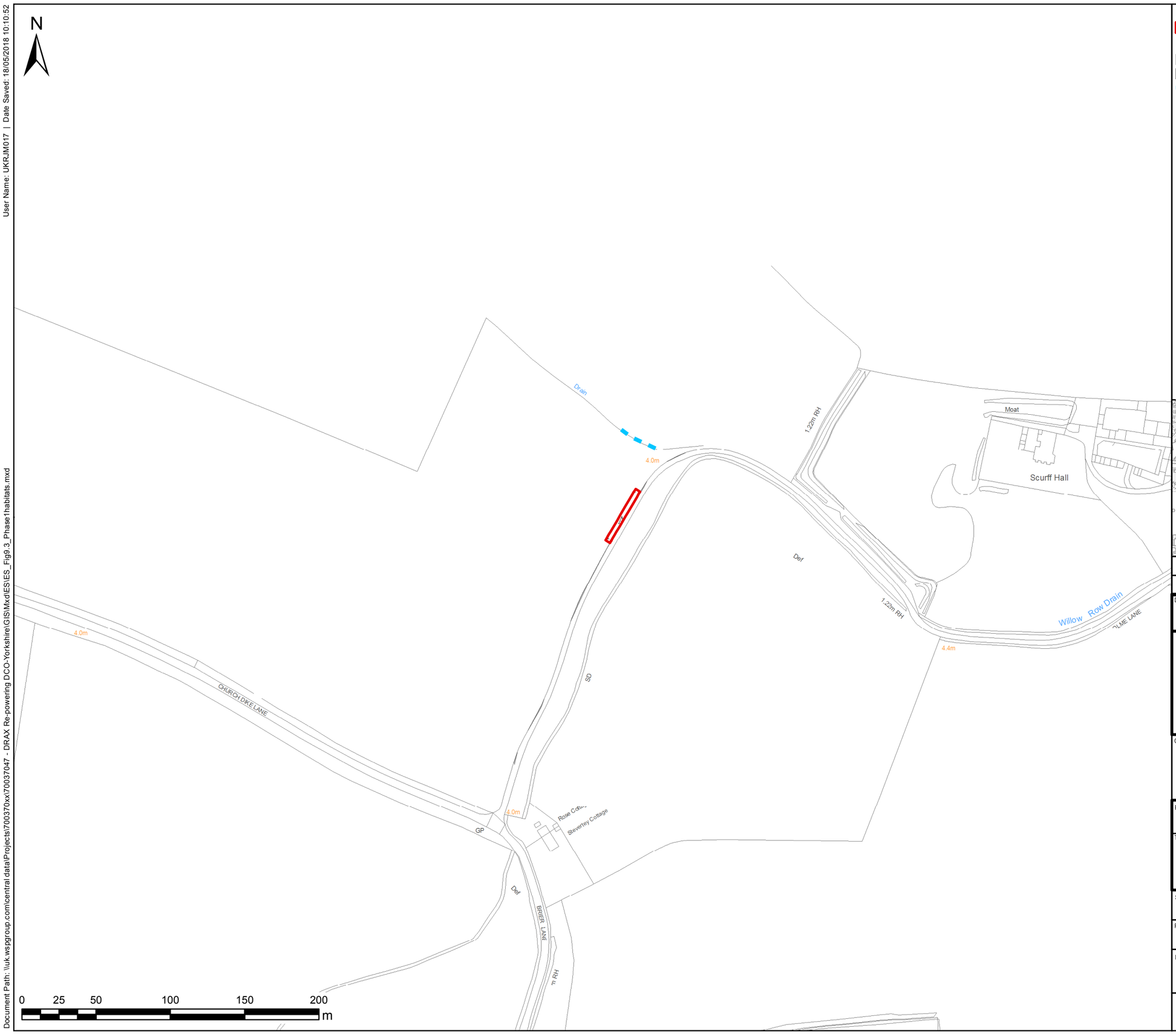


Key

Site Boundary

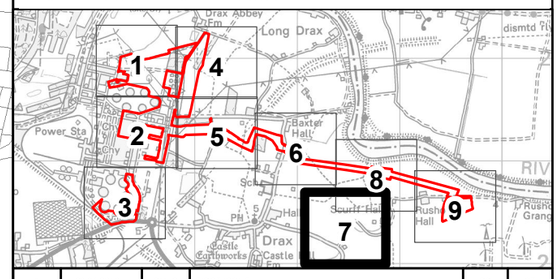
Phase 1 Habitats

Hard standing

Cultivated/disturbed land - arable

Dry ditch

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



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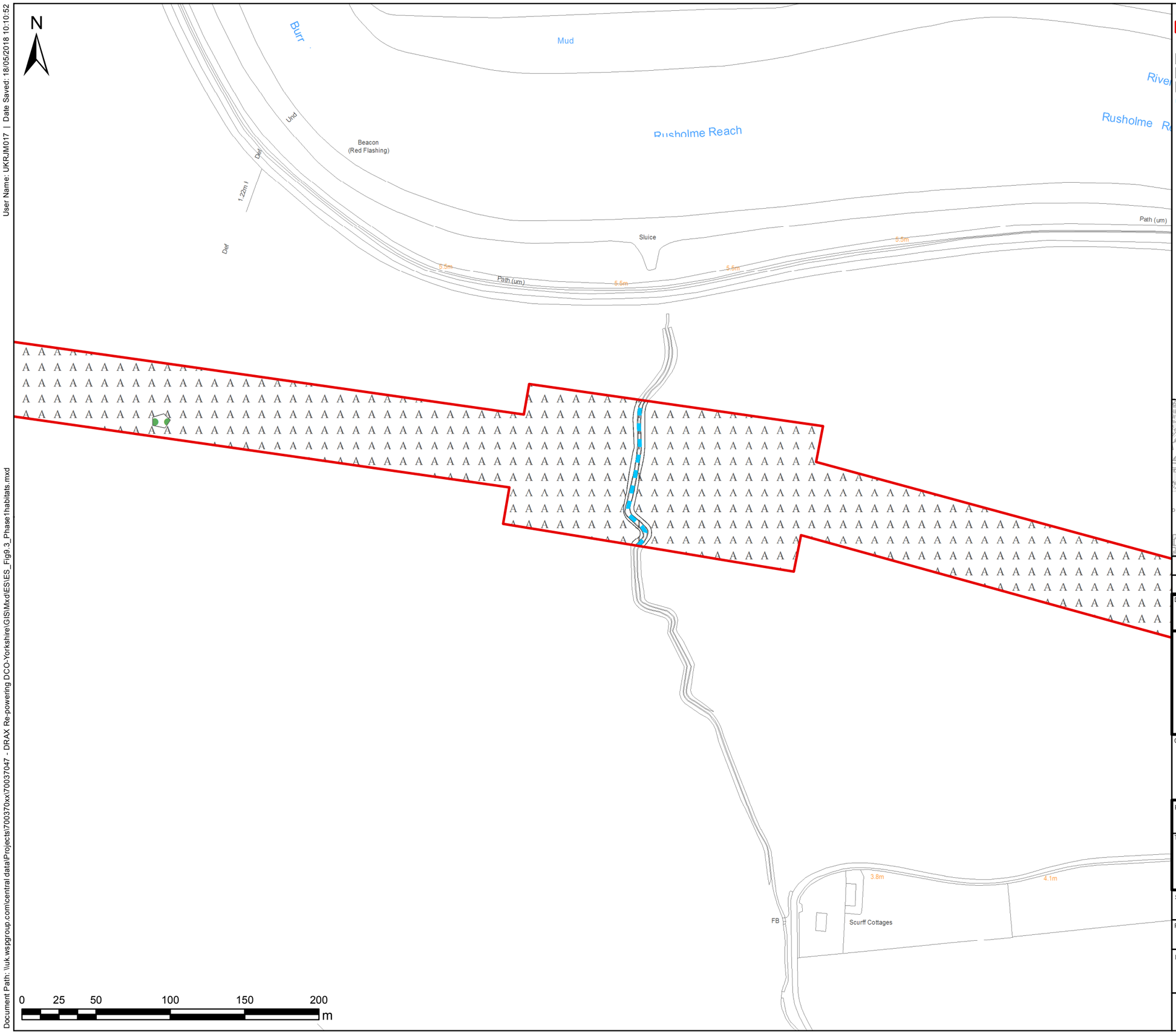
PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.3g
Phase 1 Habitat Map Sheet 7 of 9

SCALE @ A3:	CHECKED:		APPROVED:
2,500 @ A3	PD		CT
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.3g REV: A



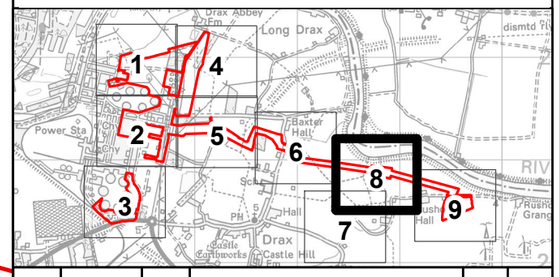
Key

Site Boundary

Phase 1 Habitats

- Improved grassland
- Cultivated/disturbed land - arable
- Broadleaved Parkland/scattered trees
- Dry ditch

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



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PROJECT: The Drax Power (Generating Stations) Order

TITLE:

Figure 9.3i
Phase 1 Habitat Map Sheet 8 of 9

SCALE @ A3:	CHECKED:		APPROVED:
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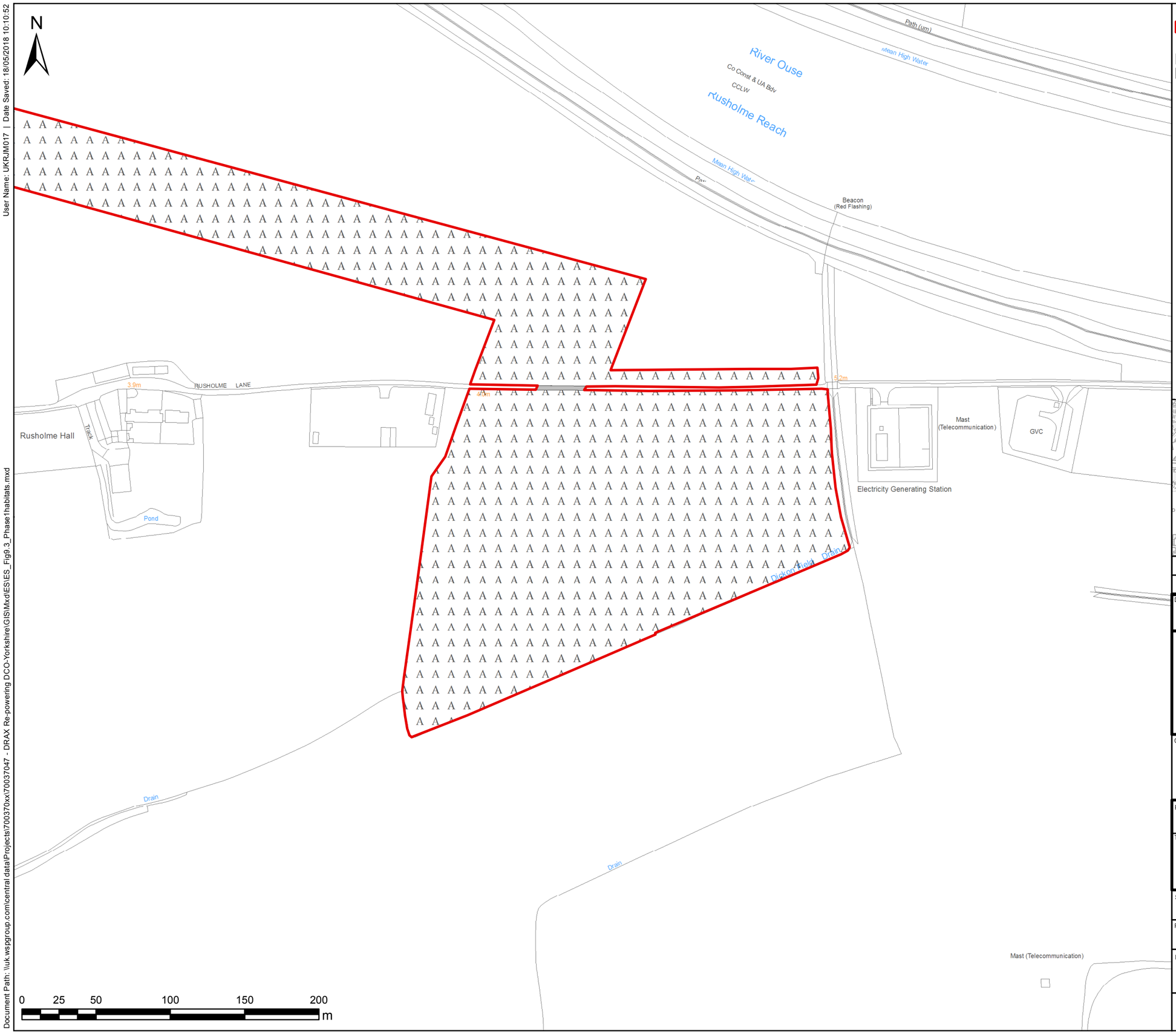
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.3i

REV: A



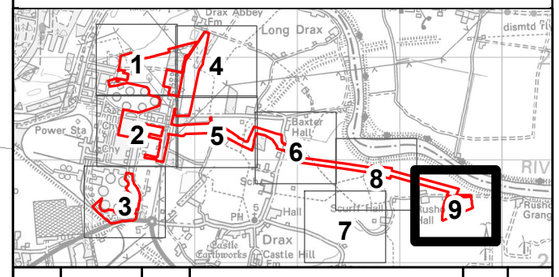
Key

Site Boundary

Phase 1 Habitats

Hard standing

Cultivated/disturbed land - arable



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.3j
Phase 1 Habitat Map Sheet 9 of 9

SCALE @ A3:	CHECKED:	APPROVED:
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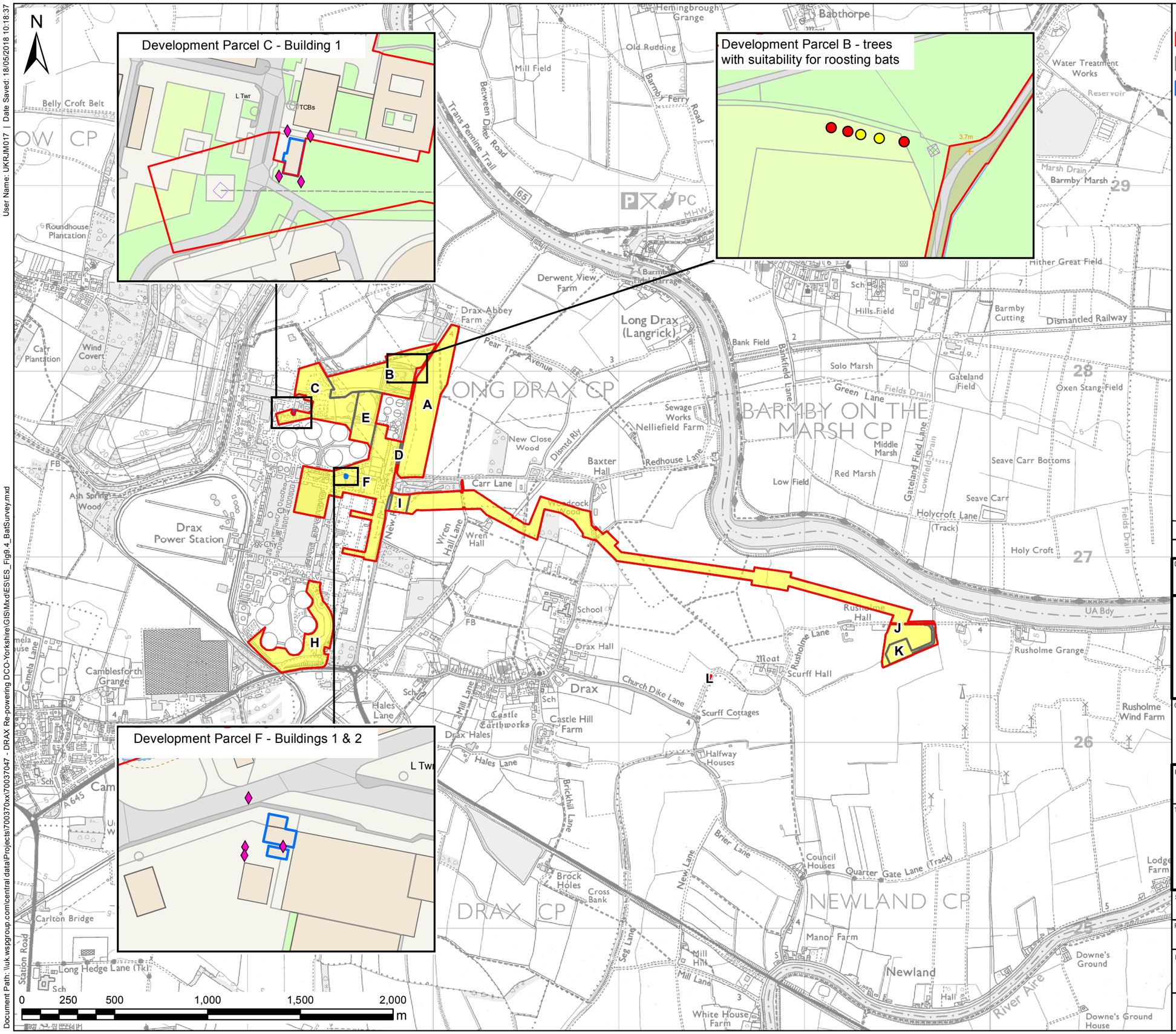
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.3j REV: A



Key

- Site Boundary
- Development Parcels
- Buildings Surveyed
- Surveyor Position

Trees With Suitability for Roosting Bats

- High
- Moderate
- Low

Note:
Other than those identified, all buildings within the Site have been assessed as having negligible bat roosting suitability

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

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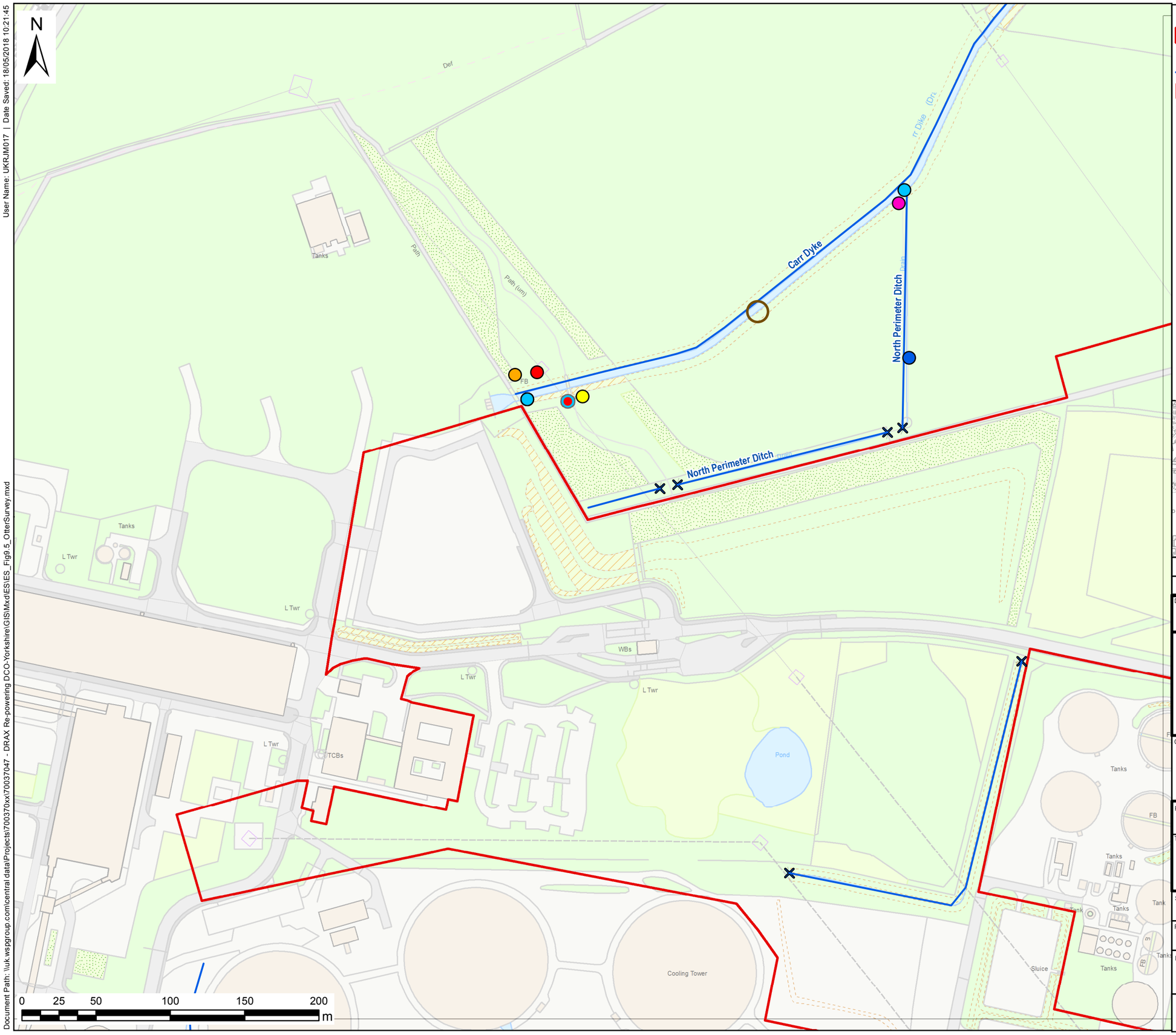
PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.4
Preliminary Bat Survey Results

SCALE @ A3:	CHECKED:	APPROVED:
2,500 @ A3	PD	CT

PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.4 REV: A



Key

Site Boundary

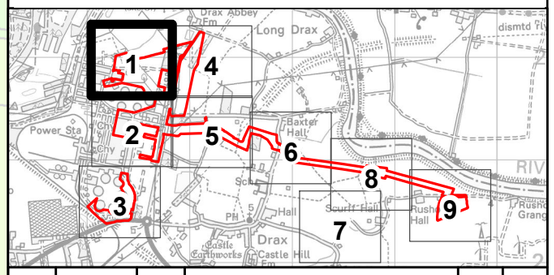
Culvert

Ditches

Area not surveyed during visit 1

Sign

- American mink prints
- Otter prints
- Potential otter prints
- Otter spraint (old)
- Otter spraint (recent)
- Potential otter couch
- Slide
- Small mammal burrows



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5a
Otter and Water Vole Survey Results
Sheet 1 of 9

SCALE @ A3:	CHECKED:		APPROVED:
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PROJECT No:	DESIGNED:	DRAWN:	DATE:
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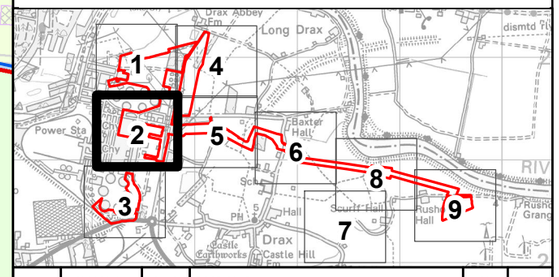
N

Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

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



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5b
Otter and Water Vole Survey Results
Sheet 2 of 9

SCALE @ A3:	CHECKED:	APPROVED:
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PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.5b REV: A

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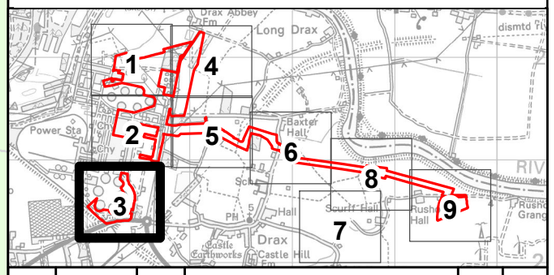
N

Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

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



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5c
Otter and Water Vole Survey Results
Sheet 3 of 9

SCALE @ A3:	CHECKED:	APPROVED:
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PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.5c

REV: A

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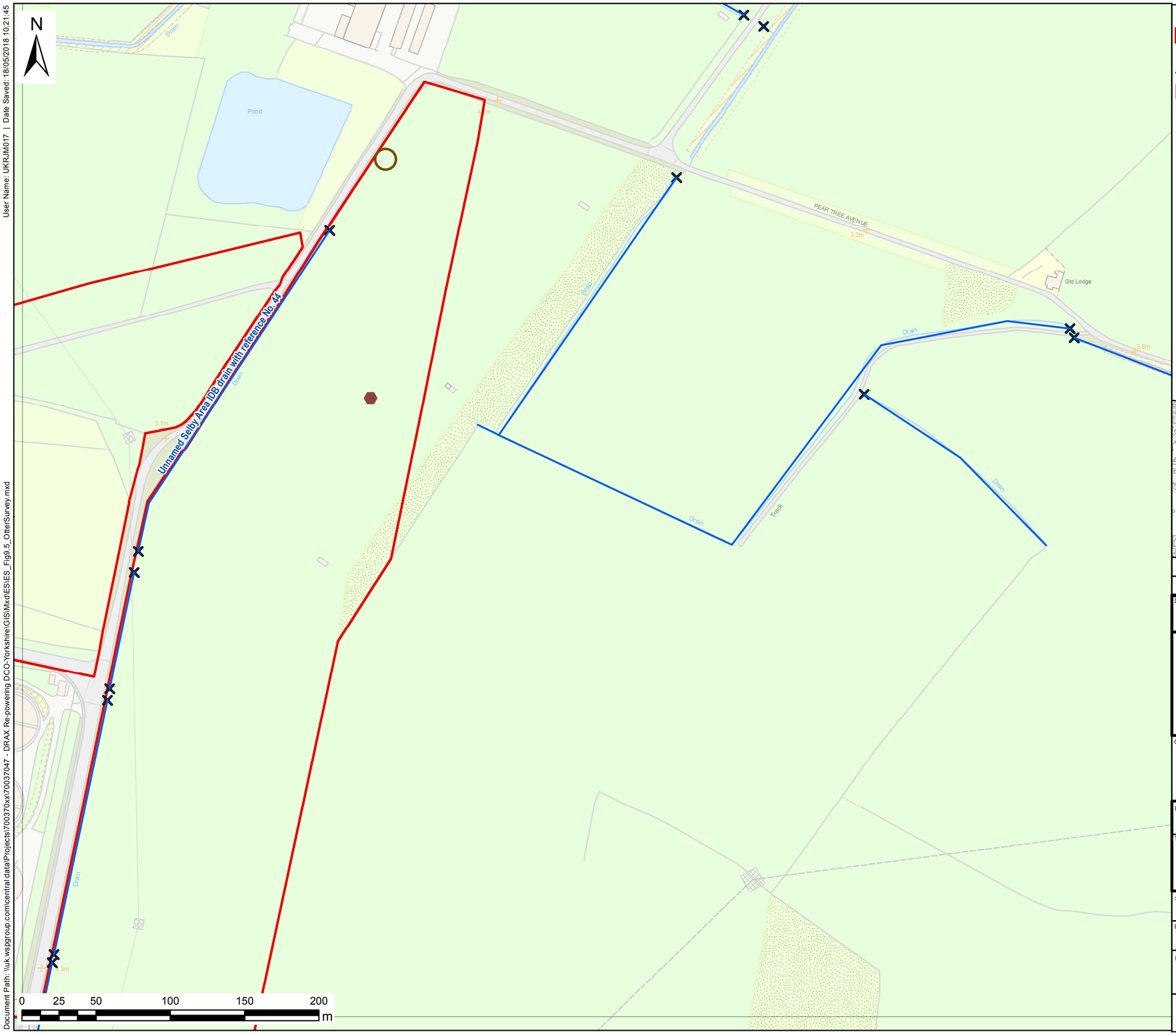


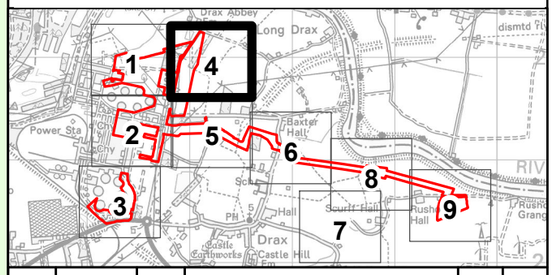
Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

Sign

- Brown hare
- Small mammal burrows

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



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5d
Otter and Water Vole Survey Results
Sheet 4 of 9

SCALE @ A3:	CHECKED:		APPROVED:
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N

Carr Lane Drain
Unnamed Selby Area IDB drain with reference 18/4
Unnamed Selby Area IDB drain with reference 18/4
CARR LANE
Track
Met Sta
The Old Nursery
New Close Wood
Drain
Pond
Def
1.22m RH
WREN HA
Track
Wren Hall
Back Lane Drain
WREN HALL LANE
Und
The Laurels

0 25 50 100 150 200 m

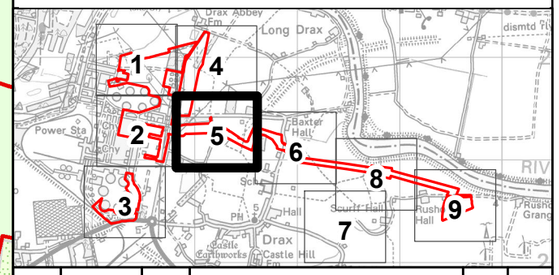
Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

Sign

- Potential otter prints
- Small mammal burrows

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



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5e
Otter and Water Vole Survey Results
Sheet 5 of 9

SCALE @ A3:	CHECKED:		APPROVED:
2,500 @ A3	PD		CT
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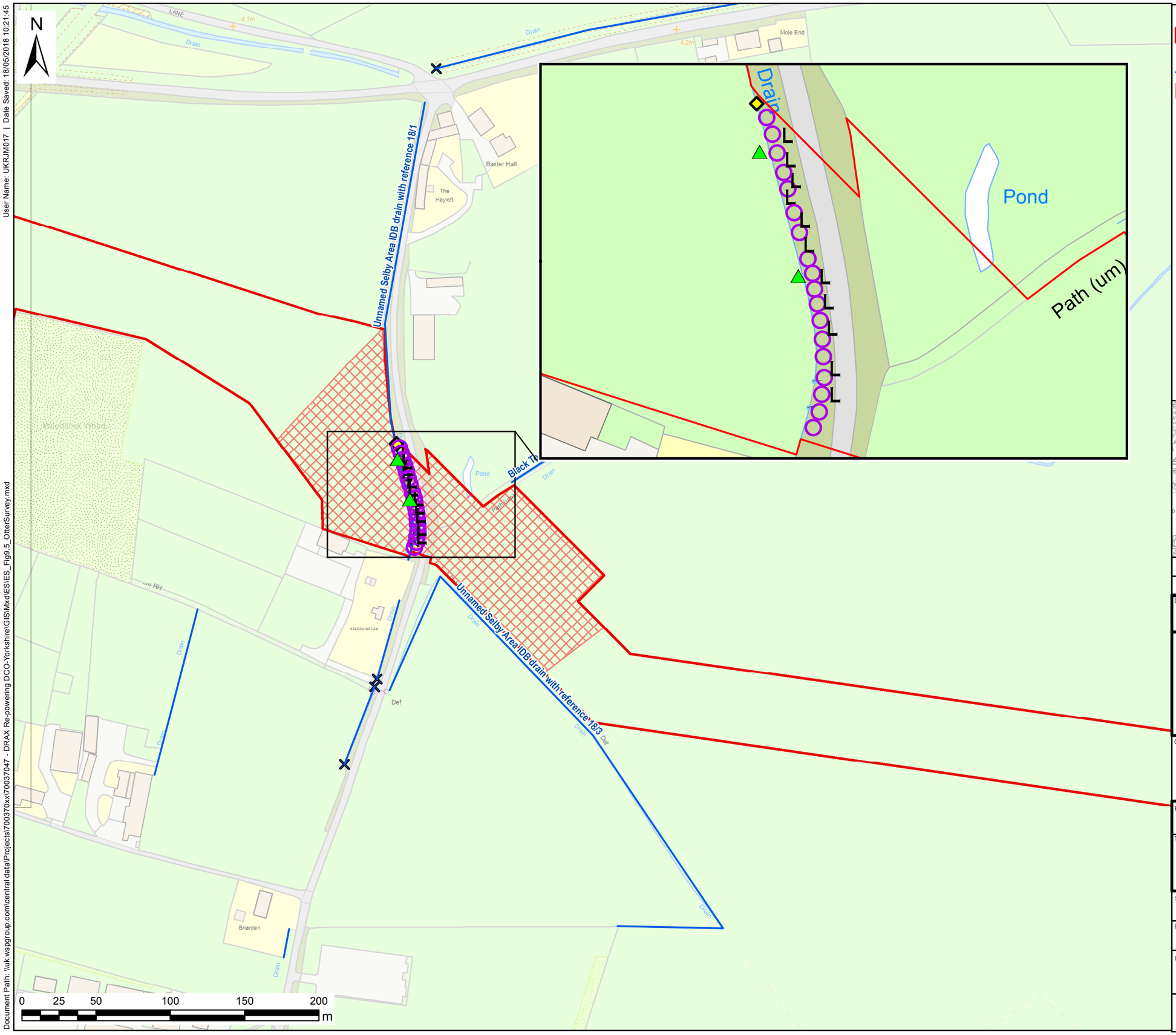


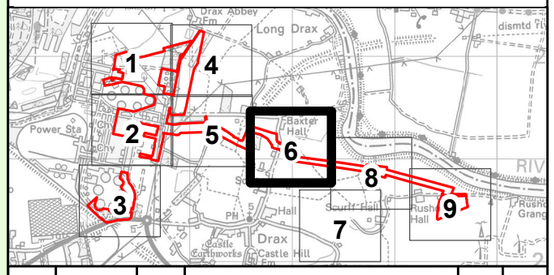
Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

Sign

- Water vole burrows
- Water vole sighting
- Water vole latrines
- Water vole feeding station

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



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PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5f
Otter and Water Vole Survey Results
Sheet 6 of 9

SCALE @ A3:	CHECKED:	APPROVED:
2,500 @ A3	PD	CT

PROJECT No:	DESIGNED:	DRAWN:	DATE:
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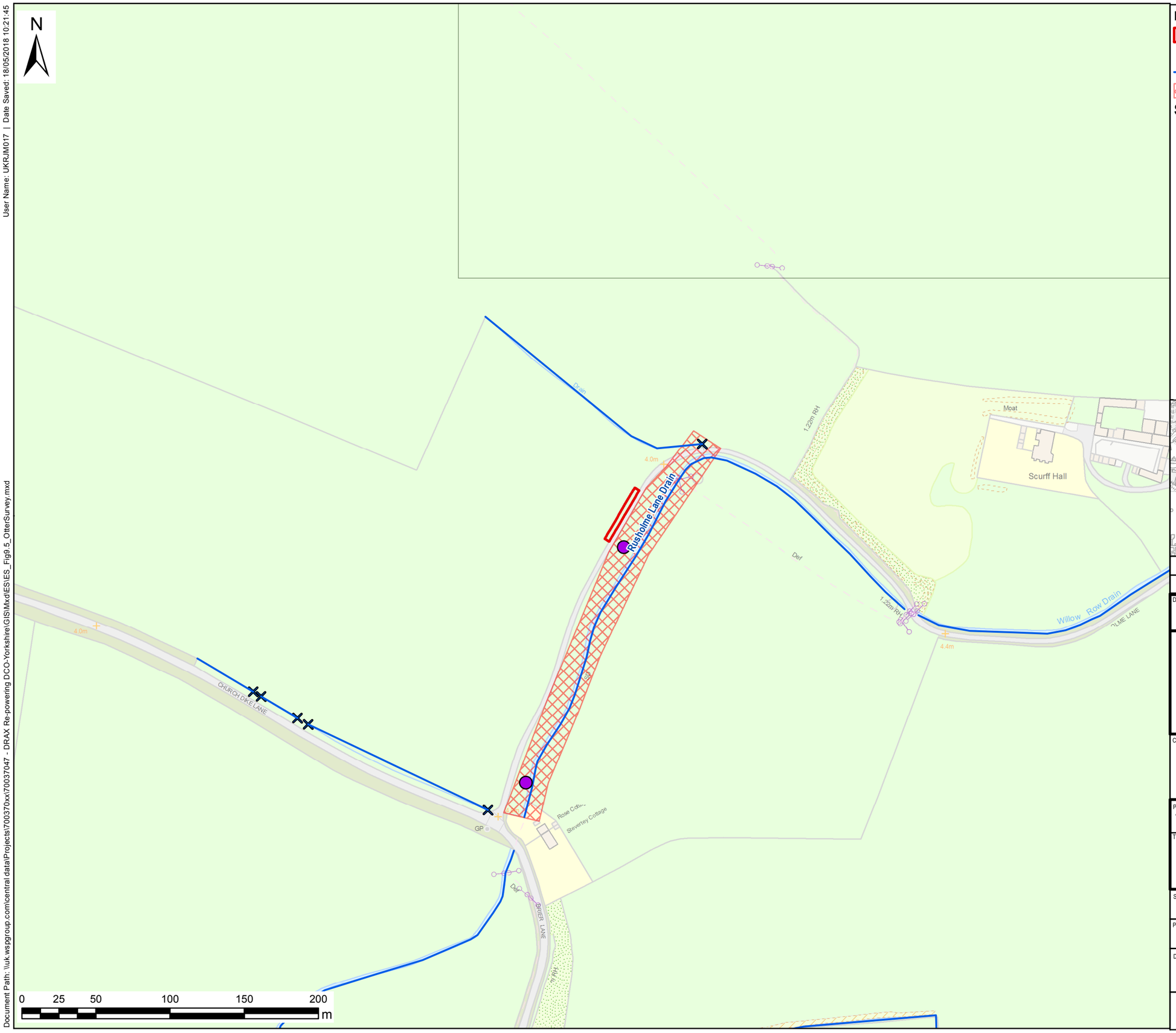


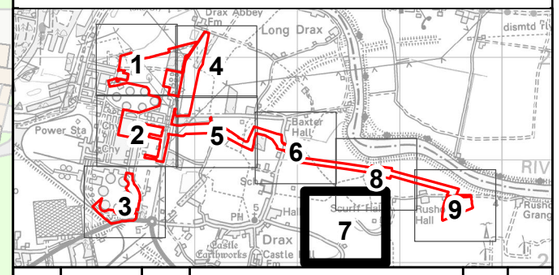
Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

Sign

- Small mammal prints

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



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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5g
Otter and Water Vole Survey Results
Sheet 7 of 9

SCALE @ A3:	CHECKED:	APPROVED:
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70037047	PD	RMcC	23/04/2018

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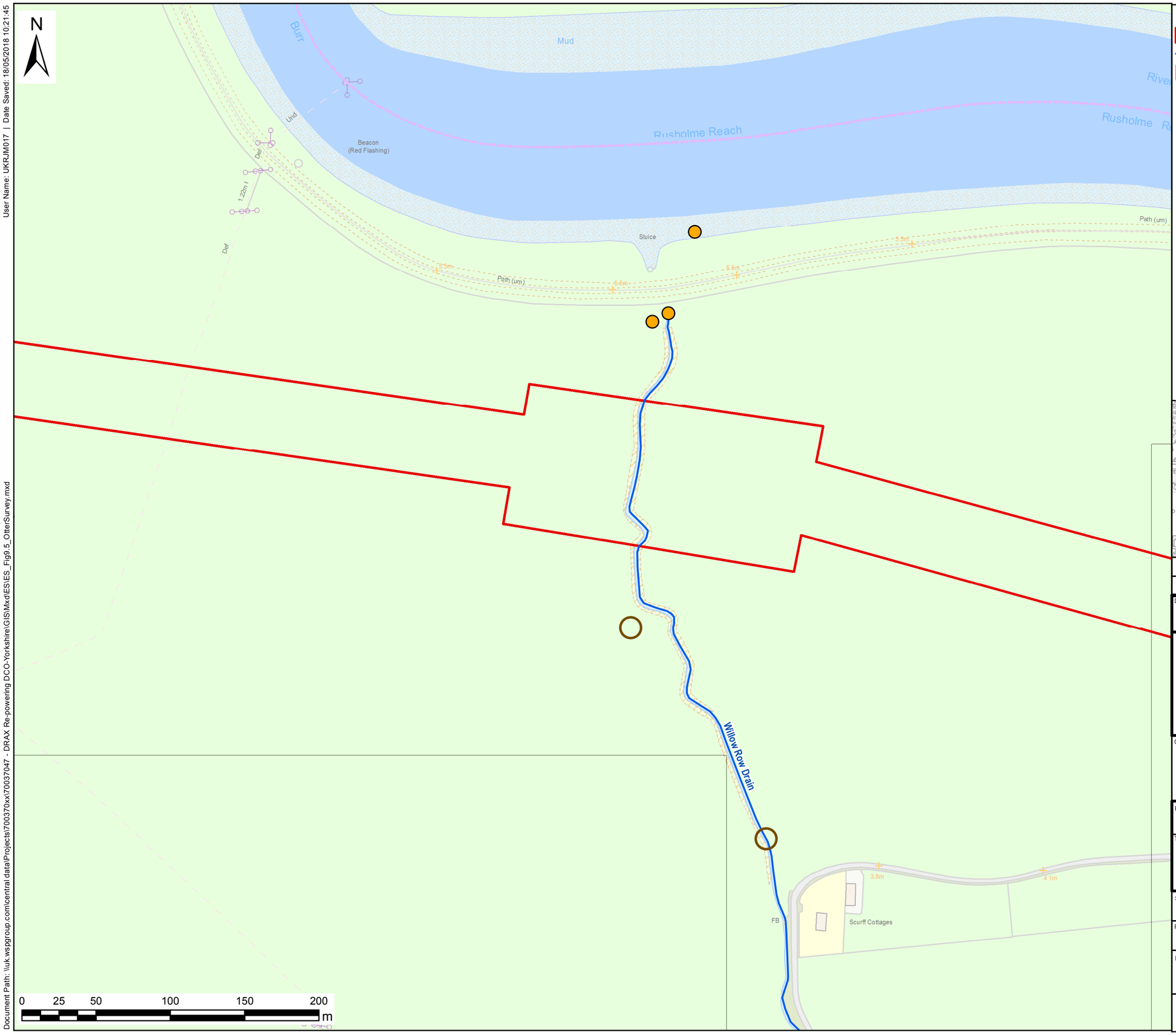


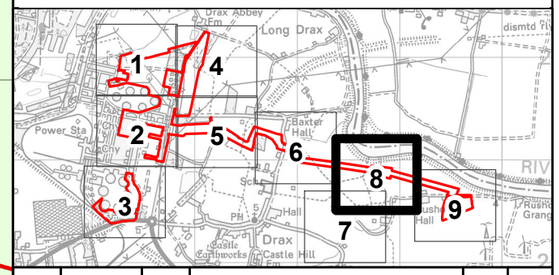
Key

- Site Boundary
- Ditches
- Area not surveyed during visit 1

Sign

- Otter prints
- Small mammal burrows

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



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PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5i
Otter and Water Vole Survey Results
Sheet 8 of 9

SCALE @ A3:	CHECKED:	APPROVED:
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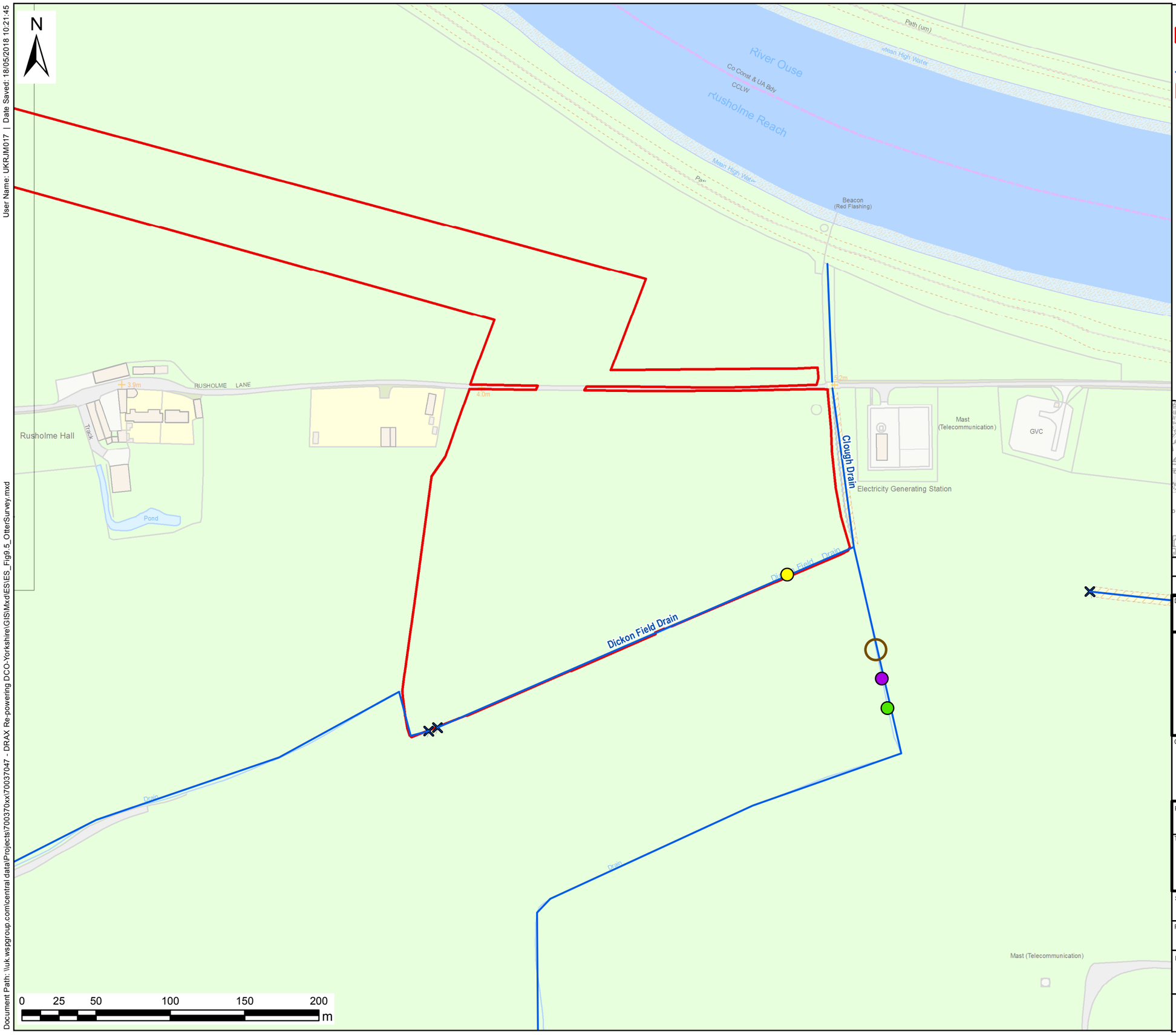

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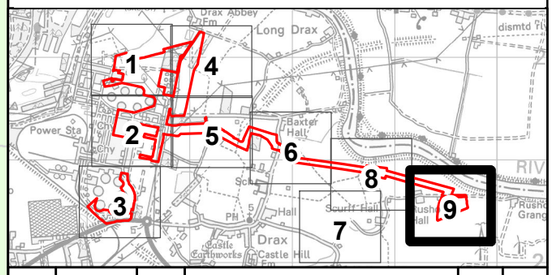
Key

- Site Boundary
- Culvert
- Ditches
- Area not surveyed during visit 1

Sign

- Small mammal prints
- American mink scat
- Otter spraint (old)
- Small mammal burrows

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



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PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.5j
Otter and Water Vole Survey Results
Sheet 9 of 9

SCALE @ A3:	CHECKED:		APPROVED:
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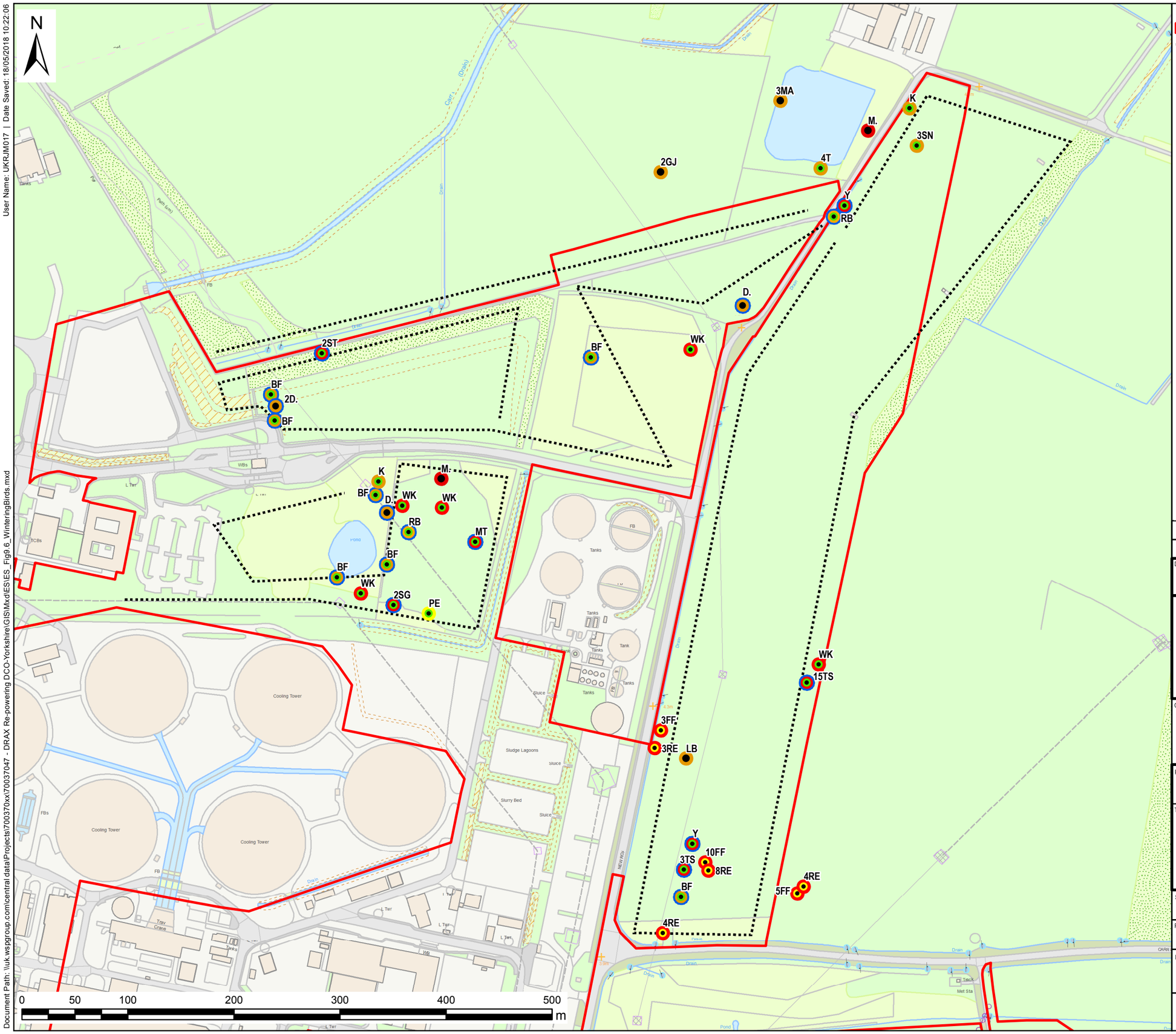

Key

- Site Boundary
- Survey Transect
- Birds of Conservation Concern 4 Amber List
- Birds of Conservation Concern 4 Red List
- WCA Schedule 1 Birds
- S41 NERC Act Priority Species
- Selby LBAP

BTO Bird Species Codes

- Bullfinch (BF)
- Dunnock (D.)
- Fieldfare (FF)
- Greylag Goose (GJ)
- Kestrel (K.)
- Lesser Black-backed Gull (LB)
- Mistle Thrush (M.)
- Mallard (MA)
- Marsh Tit (MT)
- Peregrine (PE)
- Reed Bunting (RB)
- Redwing (RE)
- Starling (SG)
- Snipe (SN)
- Song Thrush (ST)
- Teal (T.)
- Tree Sparrow (TS)
- Woodcock (WK)
- Yellowhammer (Y.)

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

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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.6
Wintering Bird Survey Results

SCALE @ A3:	CHECKED:		APPROVED:
3,500 @ A3	PD		CT
PROJECT No:	DESIGNED:	DRAWN:	DATE:
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DRAWING No: 70037047-9.6 REV: A

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N

Drax Power Station

0 50 100 200 300 400 500 m

Key

- Site Boundary
- Reptile Survey Refugia Location
- Optimal Reptile Habitat

Phase 1 Habitats

- Bare ground
- Introduced shrub
- Buildings
- Broadleaved woodland - semi-natural
- Other tall herb and fern - ruderal
- Standing water
- Scrub - dense/continuous
- Broadleaved woodland - plantation
- Cultivated/disturbed land - amenity grassland
- Improved grassland
- Hard standing
- Cultivated/disturbed land - arable
- Marsh/marshy grassland
- Mixed woodland - plantation
- Broadleaved Parkland/scattered trees
- Semi-improved grassland
- Defunct hedge - species-poor
- Dry ditch
- Fence
- Intact hedge - native species-rich
- Intact hedge - species-poor
- Running water

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

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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 9.7
Reptile Survey Refugia Locations

SCALE @ A3:	CHECKED:		APPROVED:
5,000 @ A3	PD		CT
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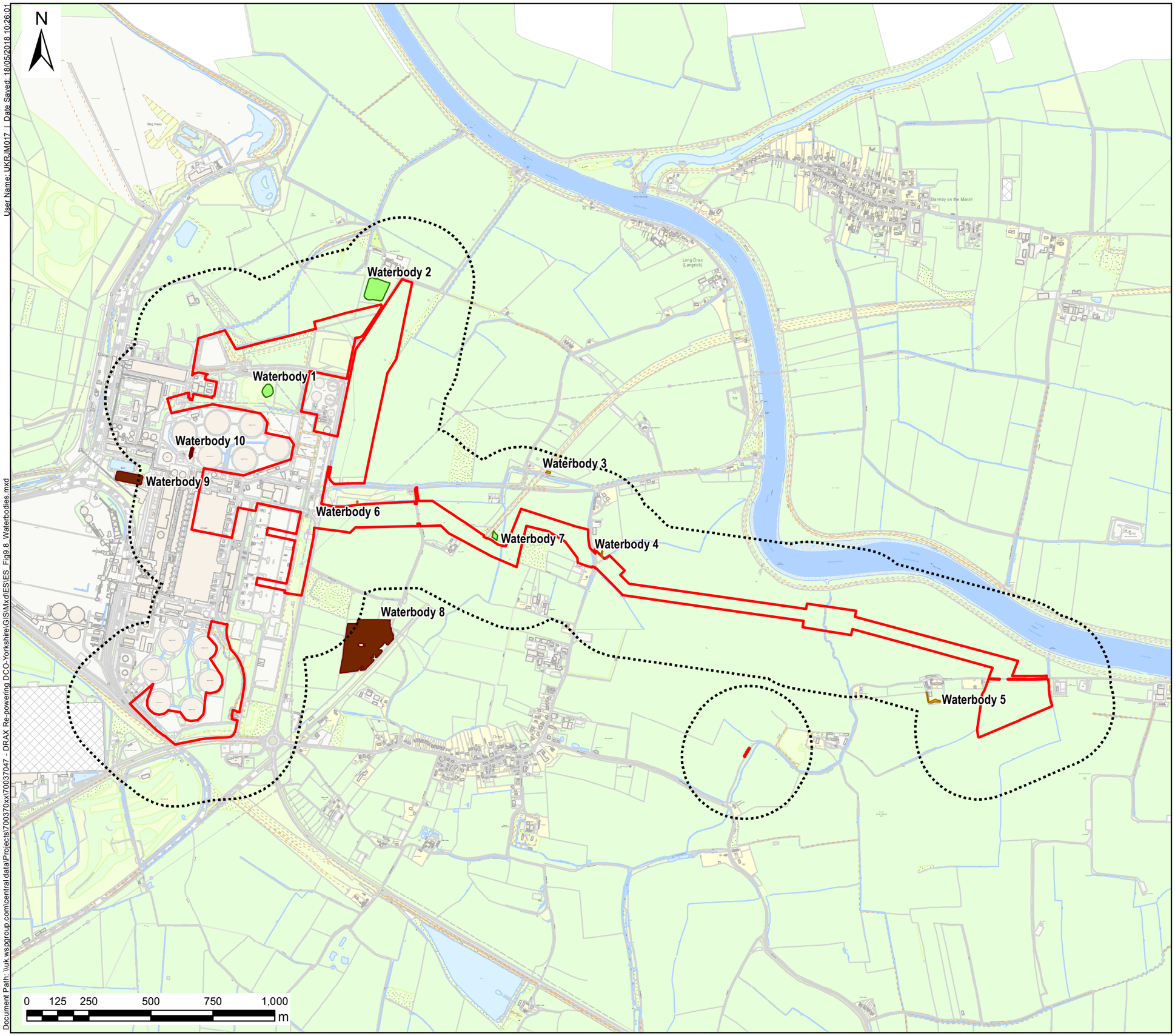
70037047	PD	RMcC	23/04/2018

DRAWING No: 70037047-9.7 REV: A



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Key

- Site Boundary
- 250m Buffer

Waterbodies

- Waterbodies subject to initial scoping exercise, HSI assessment and presence/likely absence surveys
- Waterbodies scoped out at HSI assessment stage
- Waterbodies scoped out at initial scoping exercise stage

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

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Figure 9.8
Great Crested Newt Survey Results

SCALE @ A3:	CHECKED:		APPROVED:
15,000 @ A3	PD		CT
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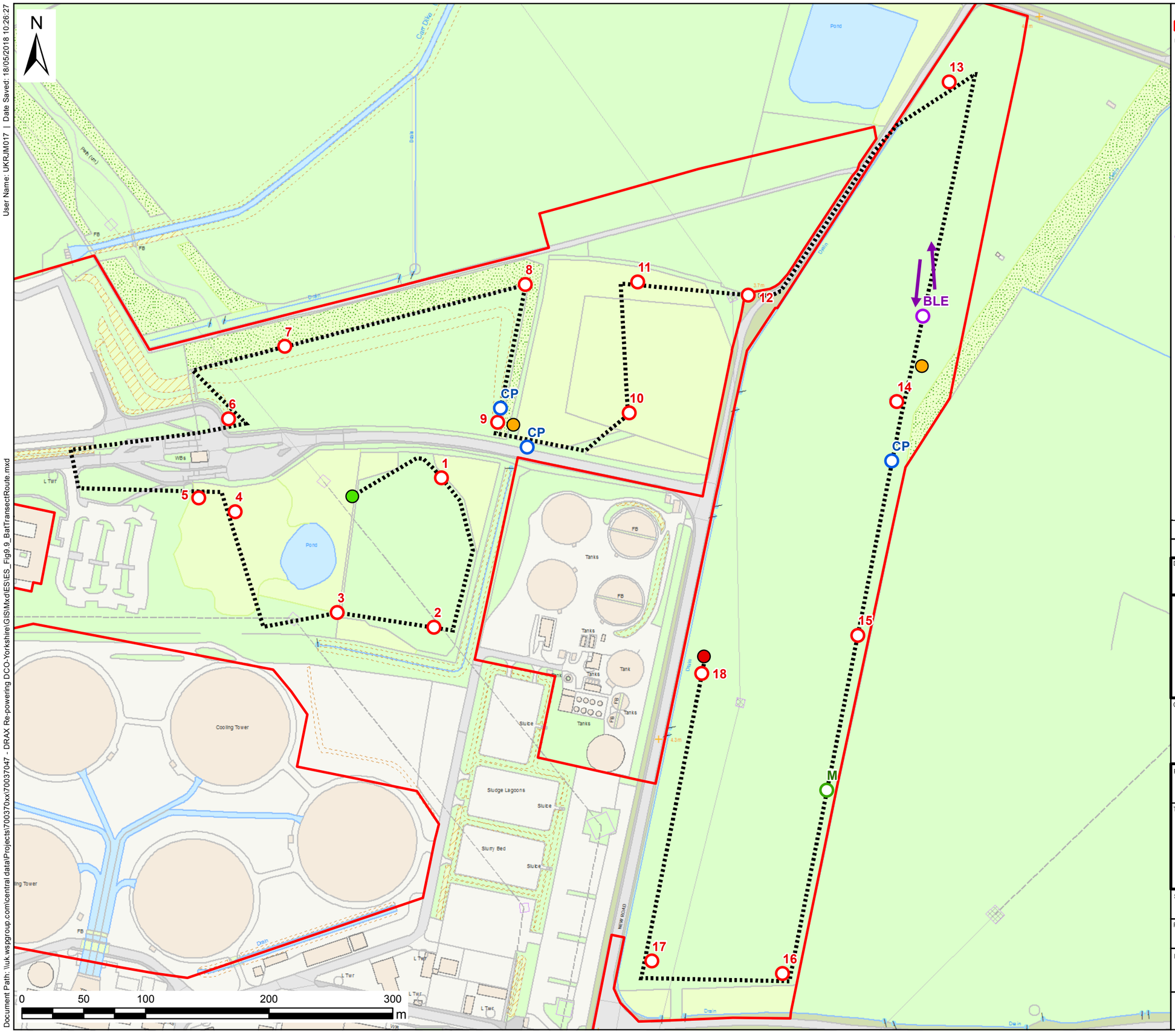

Key

- Site Boundary
- Bat Transect Route
- Transect Start
- Transect End
- Static Detector Location
- Spot Count Location

Location of bat calls heard during transect but not observed

- Myotis sp. (M)
- Common pipsitrelle (CP)

Location of bat activity observed during transect

- Brown long-eared (BLE)
- Flight Path

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REV	DATE	BY	DESCRIPTION	CHK	APP
A	09/05/2018	RMcC	FIRST ISSUE	PD	CT

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PROJECT: The Drax Power (Generating Stations) Order

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Figure 9.9
Bat Transect Route

SCALE @ A3:	CHECKED:		APPROVED:
3,000 @ A3	PD		CT
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	PD	RMcC	09/05/2018

DRAWING No: 70037047-9.9 REV: A

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