

ECOLOGICAL MITIGATION AND ENHANCEMENT SCHEME

OAK ROAD, WREXHAM

REC REFERENCE: 1CO106365EC3R1

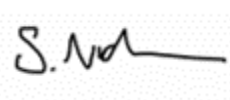
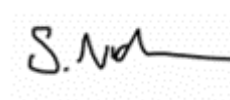
REPORT PREPARED FOR: CONRAD ENERGY LIMITED

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QUALITY ASSURANCE

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Date	02/07/2019	09/07/2019	
Prepared by	Sarah Nicholson B.Sc., M.Sc., GradCIEEM	Sarah Nicholson B.Sc., M.Sc., GradCIEEM	
Signature			
Position	Consultant Ecologist	Consultant Ecologist	
Checked by	James Salisbury B.Sc. (Hons)	James Salisbury B.Sc. (Hons)	
Signature			
Position	Consultant Ecologist	Consultant Ecologist	
Verified by	Nathan Coughlan B.Sc., M.Sc., ACIEEM	Nathan Coughlan B.Sc., M.Sc., ACIEEM	
Signature			
Position	Principal Ecologist	Principal Ecologist	
Project number	1CO106365EC3R0	1CO106365EC3R1	

Office address:

REC Ltd, Osprey House, Pacific Quay, Broadway, M50 2UE
Tel: 0161 868 1300

General enquiries:

t: 0845 676 9303
E: info@recltd.co.uk
www.recltd.co.uk





EXECUTIVE SUMMARY

Site Address	Oak Road, Wrexham, LL13 9RG
Grid Reference	SJ38694951
Site Area	Approximately 0.3 hectares
Current Site Use	The site is currently unused, other than a single pylon located on site.
Adjacent Site Use	To the north and west is predominantly industrial units. Oak road runs along the southern boundary and a powerline runs along the eastern edge.
Conclusions and Recommendations	There are suitable habitats on site for protected species, and there are a number of protected species records within 1km of the site. However, the site has poor connectivity, it is completely enclosed by roads on three sides, and there is an industrial area to the north. Overall, it is considered that the likelihood of protected species on site is low. Recommendations for ecological mitigation have been provided which includes: ▶ habitat retention within a designated ecological mitigation area with a long term management plan; ▶ Any vegetation removal will need to be undertaken outside of the bird breeding season; ▶ Precautionary working methodology for reptiles and great crested newt; ▶ Eradication of the Japanese knotweed prior to any works beginning. In order to enhance biodiversity on site, measures have been put forward which include hedgerow planting, and the installation of a large hibernacula.



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1. INTRODUCTION

1.1 Background

Resource and Environmental Consultants Ltd (REC) has been commissioned by Conrad Energy Limited, herein referred to as 'the Client', to prepare an Ecological Mitigation and Enhancement Scheme for the site at Oak Road, Wrexham, LL13 9RG (grid reference: SJ 3869 4951) to support the discharge of condition 6 of planning permission P/2018/0890 for the erection of 9.9 mW gas fired power station and associated infrastructure. The Site Location Plan is available as **Drawing 1** and the site proposals are available as **Drawing 2** (both appended).

A report has been prepared by REC Ltd (Ref: 1CO106365EC1R1, dated October 2018) which assessed the site of any ecological potential and provided mitigation measures as necessary. The report concluded that the site has poor connectivity, is completely enclosed by roads on three sides, and there is an industrial area to the north. Overall, it is considered that the likelihood of protected species on site is low. Recommendations for ecological mitigation were provided, which included:

- ▶ habitat retention within a designated ecological mitigation area with a long-term management plan;
- ▶ any vegetation removal will need to be undertaken outside of the bird breeding season to avoid any impacts upon nesting birds;
- ▶ precautionary working methodology for reptiles and great crested newt; and,
- ▶ the eradication of the Japanese knotweed prior to any works beginning.

The council have since granted planning permission for the proposals with a number of conditions, of which condition 6 states that:

"No development shall commence until an ecological mitigation and enhancement scheme has been submitted to and approved in writing by the local planning authority. The scheme shall include for the one-way barrier fencing throughout the construction phase of the development and habitat creation and long-term management proposals. The scheme shall include detail of timescales for the implementation of the mitigation and enhancement measures. The development shall be carried out in accordance with the details as may be approved."

This document will support in the discharge of condition 6.

1.2 Site Description

The site is currently an isolated piece of land situated south of an industrial site and north of Oak Road, Wrexham (**Drawing 1** - appended). There is a small area of amenity grassland and ornamental hedgerow bordering the site to the south east.



1.3 Development Proposals

The development proposals include the creation of a flexible power plant, which includes transformers and associated units (**Drawing 2** - appended). The proposed development will result in the loss of semi-improved grassland, tall ruderal vegetation, scrub and scattered trees.

The Wrexham industrial estate (WIE), in which the site is located, is an important site at the European and national level, for great crested newt. As such, the WIE is the subject of specific policy requirements laid out in LPG 29 (LPG 29 – Employment Development and Nature Conservation). These require mitigation measures to be imposed with any development proposals.

1.4 Confidentiality

REC has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from REC. A charge may be levied against such approval.



2. ECOLOGICAL MITIGATION AND ENHANCEMENT SCHEME

The following mitigation and enhancement measures will be undertaken to ensure protected species and habitats are protected from any negative impacts from the proposed works, and to ensure that ecological enhancement measures are incorporated into the development proposals. This is in line with Planning Policy Wales (PPW) which states that developments should ensure *“that all reasonable steps are taken to safeguard or enhance the environment”*.

2.1 Mitigation

2.1.1 Habitats

In line with Local Planning Guidance 29 (LPG29), the proposals include on-site mitigation through the retention of an area of land approximately 950 m² (**Drawing 2** - appended) which will be managed long term for biodiversity. This includes approximately 33% of the current land, however with the implementation of a long-term management plan, it is considered that these measures will retain the ecological interest of the site.

2.1.1.1 Management

It is recommended that the retained habitats on site are managed for reptiles, amphibians and breeding birds due to the potential presence on site.

Amphibians and reptiles occupy dynamic, successional habitats and their requirements may be met only in certain stages. Reptile habitats do not stay suitable without natural succession being interrupted in some way as habitats will become scrubbed up, and lose their openness which is generally favoured by reptiles. In the absence of natural factors, intervention in the form of management is necessary to maintain all successional stages of a habitat and the specialised wildlife that each support.

The following methodology will be followed to ensure the habitats are maintained to suitable standards preferred by reptiles and amphibians:

- ▶ to maintain the diverse vegetation structure preferred by amphibians/reptiles it will be necessary to control the growth of scrub, bramble, and other dominant plants on site. A cutting regime that does not harm key features of the site (i.e. hibernation/basking areas) will be implemented that avoids simultaneous removal of all vegetation cover, or substantial areas of it. This will be achieved through cutting approximately 30% of the area each year to ensure that a diverse vegetation structure is maintained (i.e. areas of both longer and shorter swards);
- ▶ cutting will be undertaken when reptiles/amphibians are least likely to be harmed generally between November-February. Winter cutting or mowing will avoid creating large areas of very short sward vegetation around hibernation sites, where reptiles/amphibians need some cover on emergence in the spring; and,





- ▶ to maintain a diverse tussocky structure on rough grassland and prevent succession to scrub, plots will be cut on a rotation of no shorter than three years (i.e. one third of the plots are cut each year).

It is considered that these measures will provide ongoing ecological benefits for the on-site mitigation area and will provide benefits for amphibians, reptiles, and breeding birds.

2.1.1.2 Connectivity

In order to retain connectivity with the surrounding amenity areas, hedgerow planting will be incorporated around the peripheries of the site (as described in **Section 2.2.1**). The location of the planting is available as **Drawing 4** (appended). It is considered that with the implementation of these hedgerows, connectivity can be maintained on site with the surrounding amenity planting. Furthermore, this hedgerow will be managed long term to ensure maximum ecological benefit.

2.1.2 Protected Species

The following sections outline with required mitigation measures for protected species. Further details on the legislation surrounding these species can be found in **Appendix 1**.

2.1.2.1 Bats

No potential roosting features were seen on any of the trees on site. There were no other structures on site that had potential to support roosting bats and overall the site is deemed to have negligible potential for roosting bats. The site is also isolated, and lacked sufficient tree lines to provide foraging or commuting areas for bats. However, as hedgerow will be planted around the periphery of the site, as well as a retained area down the centre of the site, it is recommended that a sensitive lighting scheme is implemented during the constructional and operational phases of the development to safeguard any bats and other animals from light disturbance.

In line with new lighting recommendations from the Institute of Lighting Professionals and the Bat Conservation Trust, the following measures will be implemented:

- ▶ exterior lighting will not face towards retained habitat;
- ▶ lights will always be mounted on the horizontal, i.e. no upward tilt;
- ▶ any external security lighting will be set on motion-sensors and short (1min) timers; and,
- ▶ as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.

2.1.2.2 Breeding Birds

The trees, semi-improved grassland and tall ruderal vegetation on site provide potential nesting opportunities for birds. Therefore, the development will aim to conduct tree and shrub removal works





outside of the breeding bird season (generally considered to be March to August, inclusive). Should these works be required within the breeding bird season, then an Ecological Clerk of Works (ECoW) will be required to check vegetation for active nests prior to works commencing. Any active nests will be retained *in situ* (with a sufficient buffer zone) until the young have fledged and are fully independent. If no breeding birds are identified on site, then no further mitigation measures will be required for breeding birds.

2.1.2.3 Great Crested Newt

The site is isolated by anthropogenic barriers, and therefore, not linked to areas of suitable great crested newt habitat. The surrounding roads have high kerbs and drains which suggests that great crested newt will have restricted access to the site. However, there is a low possibility that great crested newt will be using the site occasionally due to the suitable habitat. It is recommended that the works are undertaken in the winter to avoid the active season for great crested newt (as well as the bird breeding season). Therefore, the following precautionary working methods will be implemented during the construction phase:

- ▶ the proposed development area will be searched beforehand by a suitably qualified ecologist to search and remove any suitable features such as logs or rubble piles. Any encountered great crested newt will be captured, and moved into the retained habitats (bordering grassland) by an ecologist, with the method statement updated accordingly;
- ▶ a one-way barrier fence will be erected, under supervision of an ECoW, around the borders of the development and the borders of the retained area for the duration of the construction phase to exclude newts from the works area;
- ▶ the vegetation on the development site will be removed with hand tools (including chainsaws and brush cutters, for example) under the supervision of a suitably qualified ecologist, in a linear fashion (to around 150 mm) towards the retained habitats;
- ▶ upon completion of the strimming, the site will be further searched by an ecologist, to ensure that the area is clear of any great crested newt; and,
- ▶ once the development area has been cleared of the sparse vegetation and any suitable features, the development will proceed.

2.1.2.4 Reptiles

There were a small number of historic records for adder within 1 km of the site boundary. Habitats on site are generally lacking in open basking areas, making it relatively unsuitable for adder. The site is also isolated by anthropogenic barriers, and therefore, not linked to areas of suitable reptile habitat. However, there is a low possibility that reptiles will be using the site due to the suitable habitat. Therefore, the following precautionary working methods will be implemented during the construction phase (in line with the recommendations for great crested newt):

- ▶ the proposed development area will be searched beforehand by a suitably qualified ecologist to search and remove any suitable features such as logs or rubble piles;





- ▶ a one-way barrier fence will be erected, under supervision of an ECoW, around the borders of the development and the retained area for the duration of the construction phase;
- ▶ any encountered reptiles will be captured, and moved into the retained habitats (bordering grassland) by an ecologist;
- ▶ the vegetation on the development site will be removed with hand tools (including chainsaws and brush cutters, for example) under the supervision of a suitably qualified ecologist, in a linear fashion (to around 150 mm) towards the retained habitats;
- ▶ upon completion of the strimming, the site will be further searched by an ecologist, to ensure that the area is clear of any reptiles; and,
- ▶ once the development area has been cleared of the sparse vegetation and any suitable features, the development can proceed.

2.1.2.5 Invasive Species

Japanese knotweed (*Fallopia japonica*) is present on site. Japanese knotweed removal or management will be undertaken prior to any works being undertaken on site within a 10 m buffer zone of the current known area of growth, as it would be highly likely that any groundworks would cause the spread of this species elsewhere. It is recommended that the area of Japanese knotweed is fully eradicated prior to any works commencing. A Biosecurity Risk Assessment will be produced to detail the control measures and eradication procedures which will remove the Japanese knotweed from site and prevent any new stands of invasive species colonising the site during the constructional and operational phases of the development. This will be achieved through the use of digging or chemical treatment.



2.1.3 Summary of Mitigation Measures

A summary of the proposed mitigation measures can be found in **Table 2.1**.

Table 2.1: Summary of mitigation measures.

Species/Habitat	Mitigation
Habitats	Retention of central area and long-term management for amphibians, reptiles, and breeding birds. Planting of hedgerows around the periphery of the sites.
Breeding birds	Removal of vegetation outside of the breeding bird season (generally considered to be March to August, inclusive). If vegetation will be removed during this time, a breeding bird check is recommended prior to any works commencing.
Great crested newt	Installation of barrier fencing around the peripheries. Supervised vegetation removal during the winter by a suitably qualified ecologist.
Reptiles	Installation of barrier fencing around the peripheries. Supervised vegetation removal during the winter by a suitably qualified ecologist.
Invasive species	Eradication prior to any works commencing.

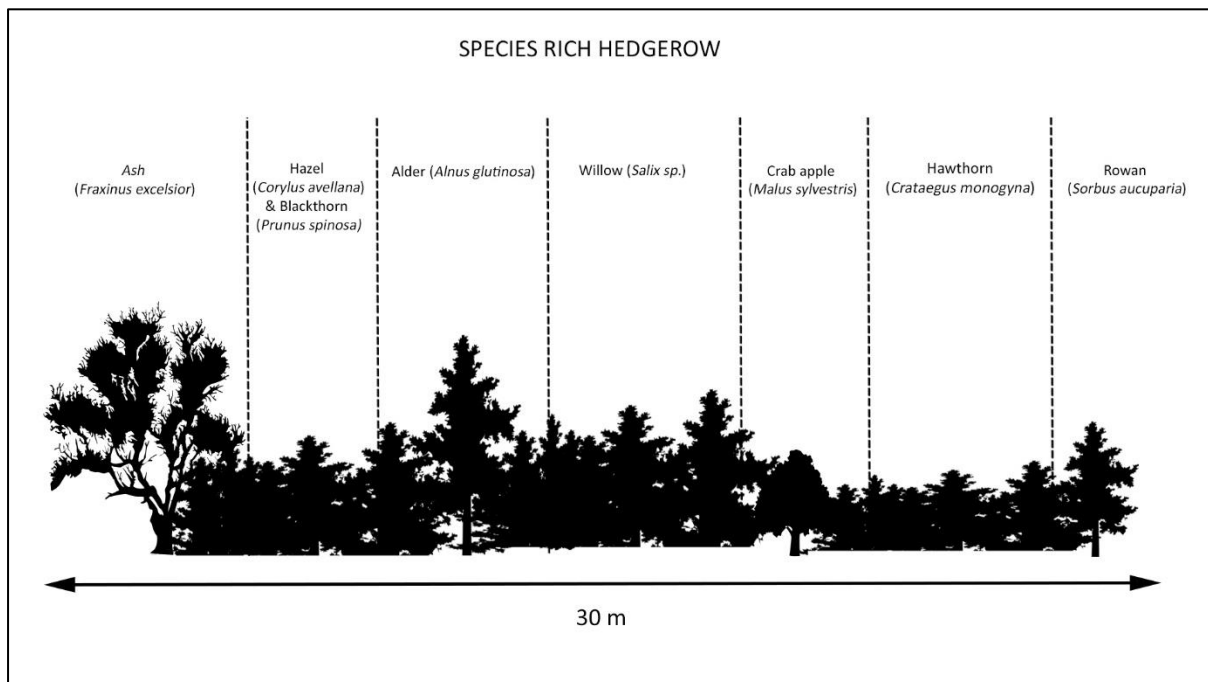


2.2 Enhancements

2.2.1 Hedgerow Planting

It is considered that site is currently lacks connectivity to the surrounding area and areas of ecological interest. The areas to the immediate south east of the site comprises amenity grassland and heavily managed hedgerows. Native hedgerow planting (with a buffer zone) will be incorporated around the peripheries of the site to provide connectivity to the amenity areas to the south east of the site. The hedgerow will be planted upon completion of the proposed development. It is considered that these measures will enable the movement of species and provide additional habitat above the already proposed mitigation areas. Such species described in **Figure 2.2** are deemed appropriate for the site, for their conservation qualities i.e. their ability to bear fruit as a food source of bird species and providing natural nesting sites for birds as the trees mature.

Figure 2.2: Species rich hedgerow



2.2.1.1 Management

It is recommended that the following management is implemented to provide maximum ecological benefits:

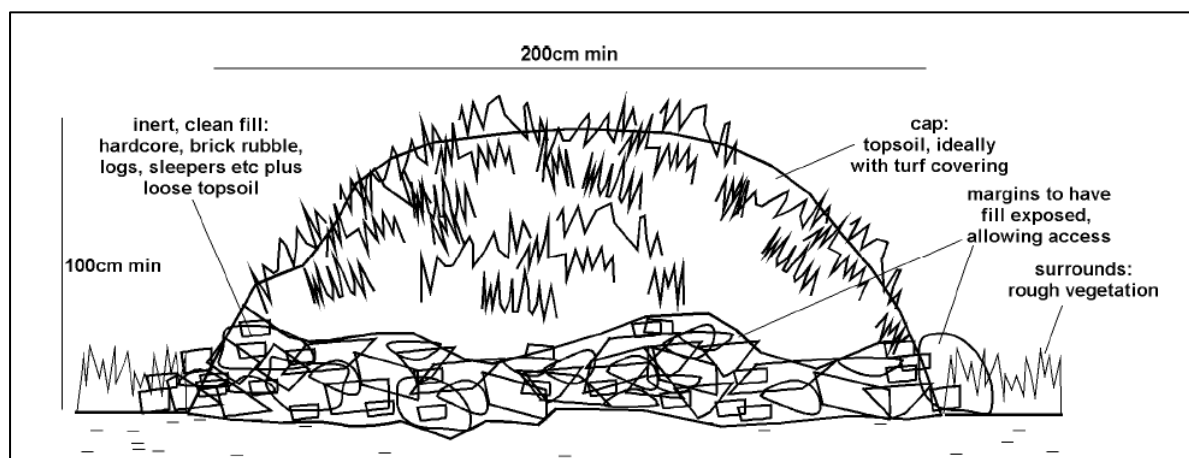
- ▶ trim in January or February to avoid the destruction of birds' nests (present from March to August) and to allow any berry crop to be used by wintering birds (September to December); and,
- ▶ Trim on a two- or three-year rotation, rather than annually, to ensure that thick nesting cover is available every year, and to boost the berry crop that generally develops on second-year growth.



2.2.2 Hibernacula

A hibernacula is proposed within the proposed mitigation area. The minimum dimensions of the hibernacula will be 2 m wide by 1 m tall. The hibernacula will be placed in a suitably sunny location within the ecological mitigation area (as outlined within **Drawing 3** - appended), within existing vegetation so that there is immediate cover for reptiles when emerging. For further information, please refer to **Figure 2.3**. It is recommended that the cuttings from the hedgerow and grassland management are used to replenish the hibernacula each year.

Figure 2.3: Reptile hibernacula





3. REFERENCES

- ▶ Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition. Bat Conservation Trust.
- ▶ Froglife (1999) Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.
- ▶ Gent, T. And Gibson, S. (2003). Herpetofauna Workers' Manual. JNCC, Peterborough.
- ▶ Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth.

3.1 Internet Sources

- ▶ Google (2019) Google Satellite.
- ▶ Natural England (2019) MAGIC Map. URL <https://magic.defra.gov.uk/>
- ▶ QGIS Development Team (2019) QGIS Geographic Information System. Open Space Geospatial Foundation Project. URL <http://qgis.org>



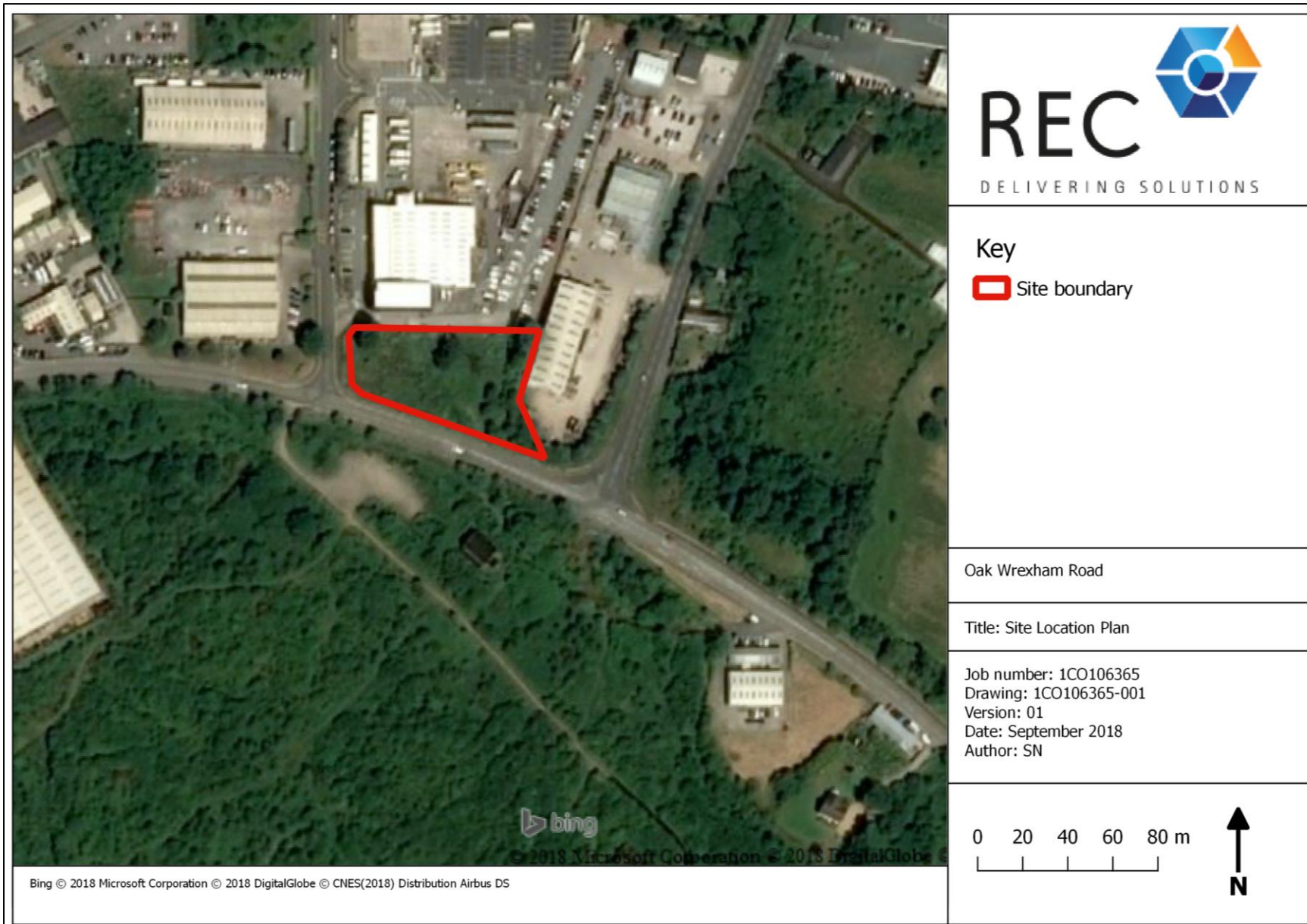


Drawings

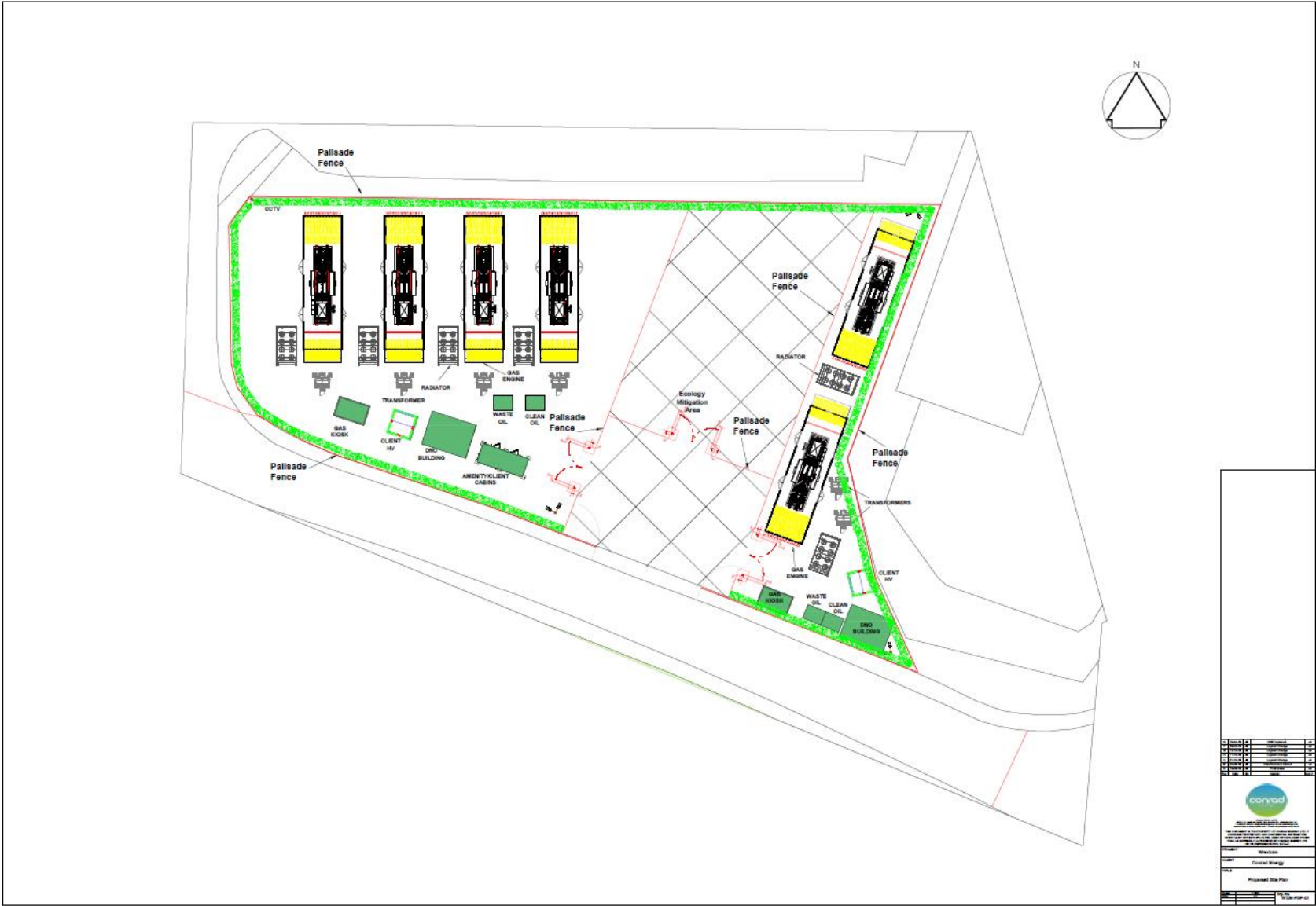
- ▶ Drawing 1 – Site Location Plan
- ▶ Drawing 2 – Site Proposals
- ▶ Drawing 3 – Extended Phase 1 Habitat Map and Retained Area
- ▶ Drawing 4 – Connectivity Map



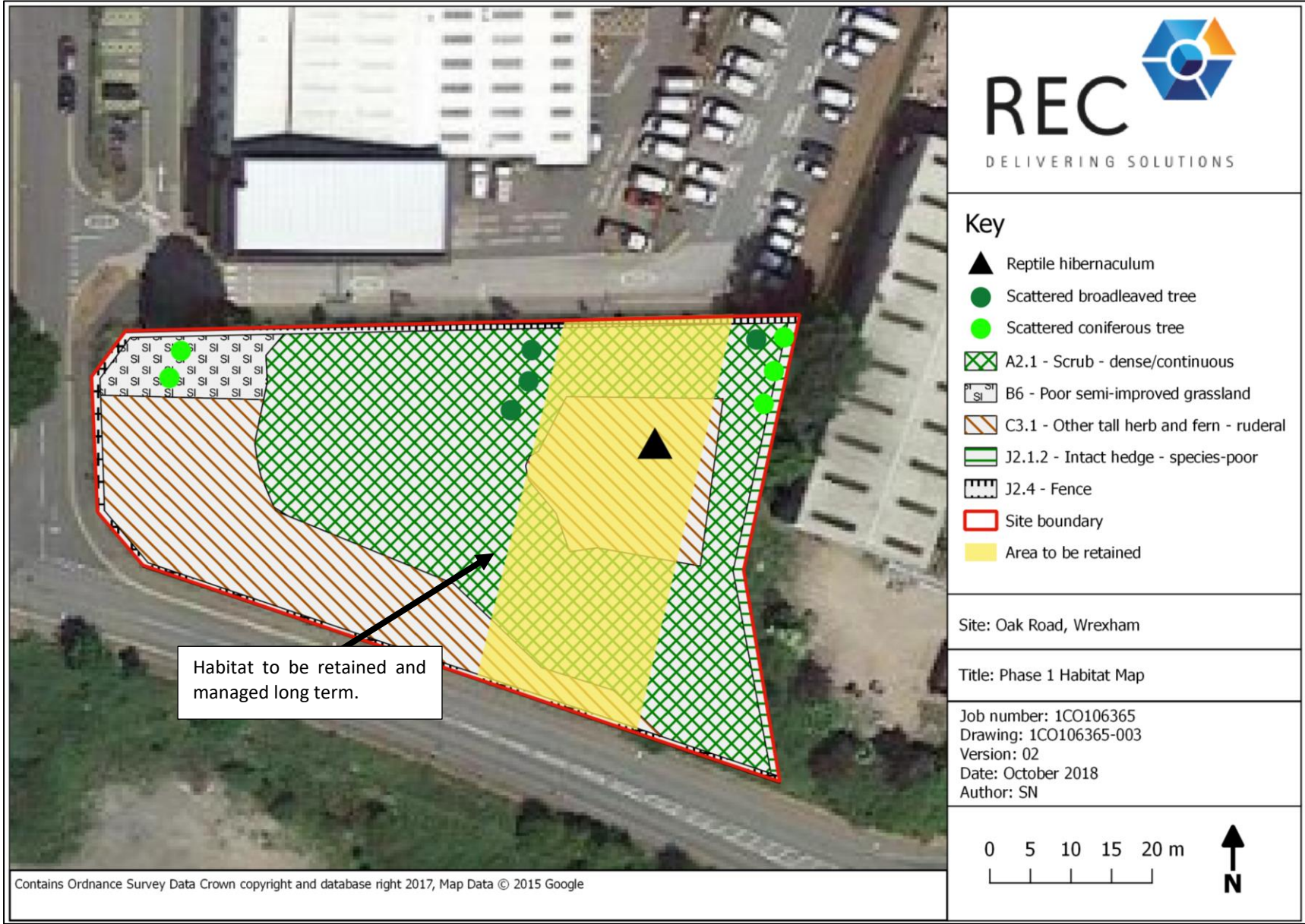
DRAWING 1 – Site Location Plan



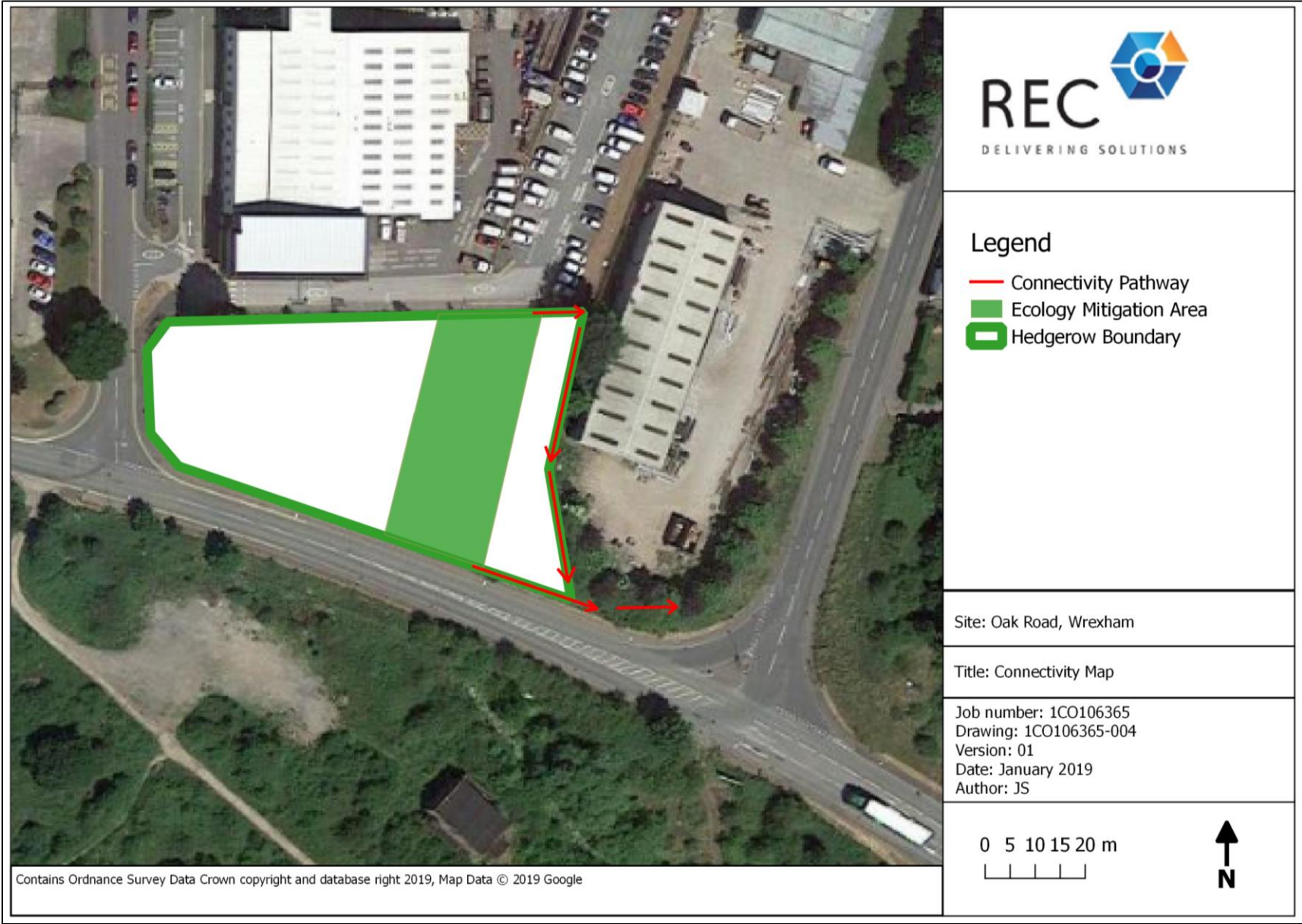
DRAWING 2 – Site Proposal



DRAWING 3 – Extended Phase 1 Habitat Map and Retention Area



DRAWING 4 – Connectivity Map



Appendices

- ▶ Appendix 1 – Protected Species Legislation



APPENDIX 1 – Protected Species Legislation

Legislation (England & Wales)	Relevant Species	Offence
European Protected Species (EPS): Protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). Schedule 5: Protected under the Wildlife and Countryside Act 1981 (as amended) in respect to section 9(4)(b) and (c) and (5) only.	▶ Bats, all species (<i>Rhinolophidae</i> & <i>Vespertilionidae</i> species) ▶ Great crested newt (<i>Triturus cristatus</i>)	▶ Deliberately captures, injures or kills any wild animal of an EPS, ▶ Deliberately disturbs wild animals of any such species (in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.), ▶ Deliberately takes or destroys the eggs of such an animal, or ▶ Damages or destroys a breeding site or resting place of such an animal, ▶ Possess, control, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a EPS, or any part of, or anything derived from a EPS, ▶ Intentionally or recklessly disturb a EPS while it is occupying a structure or place which it uses for shelter or protection; or ▶ Intentionally or recklessly obstruct access to any structure or place which any EPS uses for shelter or protection.
Schedule 5: Protected under section 9(5) of the Wildlife and Countryside Act 1981 (as amended).	▶ Adder (<i>Vipera berus</i>) ▶ Slow-worm (<i>Anguis Fragilis</i>) ▶ Grass snake (<i>Natrix helvetica helvetica</i>)	▶ Intentionally kill or injure; ▶ Sell, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in Schedule 5, or any part of, or anything derived from, such an animal; or ▶ Publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things.
Wildlife and Countryside Act 1981 (as amended)	▶ All wild birds	▶ Kill, injure or take any wild bird; ▶ Take, damage or destroy the nest of any wild bird while it is being built or in use; ▶ Take or destroy the eggs of any wild bird; and, ▶ Possess or control any wild bird or egg unless obtained legally.



Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)	▶ Barn Owl (<i>Tyto alba</i>) ▶ Peregrine Falcon (<i>Falco peregrinus</i>)	▶ Disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young; or ▶ Disturb the dependent young of any wild bird listed on Schedule 1.
Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)	▶ Japanese Knotweed (<i>Fallopia japonica</i>) ▶ Himalayan Balsam (<i>Impatiens glandulifera</i>)	Invasive plants are listed on Schedule 9 (part 2, section 14) of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to ' <i>plant or otherwise cause such species to grow</i> ' in the wild. This includes spreading of the species or transferring polluted ground material from one area to another.

Note. Information presented in this table is only a summary of the relevant legislation.