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LAND OFF CHAPEL HILL, LONGRIDGE

Ecological Impact Assessment

pared for:

WILLIAM PYE LIMITED

Report Ref: BEK-21859-3

November 2021

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Project Quality Assurance Information Sheet

Site	Land off Chapel Hill, Longridge
Report Title	Ecological Impact Assessment
Report Status	Final
Report No	BEK-21960-3
Date	November 2021
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PROJECT NO: 21960

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DATE: November 2021

REVISION STATUS / HISTORY

Rev	Date	Issue / Comment	Prepared	Checked

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Unless explicitly agreed otherwise, in writing, this report has been prepared under BEK's limited standard Terms and Conditions as included within our proposal to the Client.

The report needs to be considered in the light of the BEK proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

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Executive Summary

The aim of this report is to assess the potential ecological impact of the proposed development when considering the proposed construction of four industrial units, associated landscaping and hard standing.

The assessment considers the relevant ecological features present on site, and within a 2 km study area.

Further surveys have been recommended to further inform the assessment, and to prevent a breach of any relevant wildlife protection legislation:

- Further roost assessment surveys of mature trees for bat roosts.
- Further survey assessment of the pond adjacent to the site
- Tree condition report

Potential impacts on breeding birds and terrestrial mammals have been identified, and mitigation measures recommended to avoid or reduce potential impacts.

1. INTRODUCTION

1.1 Personnel

1.1.1 This report is authored and site ecological surveys were undertaken by Carol Edmondson MSc MRSB an ecologist of 9 years' survey and reporting experience.

1.2 Proposed Development

1.2.1 The proposed development includes the construction of 4 industrial units and associated car parking and landscaping, on the site at Chapel Hill, Longridge.

1.3 Objectives

1.3.1 The purpose of the survey was to identify and map all habitats occurring within the survey area, and identify the presence of species present with particular reference to the need for further surveys and legal requirements, and provide an ecological assessment identifying potential impacts.

1.4 Limitations

1.4.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserves the right to amend the conclusions and recommendations if further information becomes available.

1.4.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.

2. THE SITE AND SURROUNDING AREA

2.0.1 To fully assess the potential environmental impact of this proposed development it is necessary to identify and understand the important ecological features and resources on the site and the full zone of influence *(IEMA,2004)*. The following section describes the location of the proposed development and the existing environmental characteristics and conditions of the site and the 2 km survey area.

2.1 Location & Setting

2.1.1 Approximately.5ha of vacant land adjacent to Chapel Hill Industrial Estate, and the Longridge Household Waste facility, PR3 3WS. Central grid reference: SD 60394 36871 *(See Figures.1 & 2).*

2.2 Current Land Use and Habitats

2.2.1 This section provides an overview of the land use and habitats included in the site area. A selection of the Photographs of the site are presented in Appendix 1.

Buildings

2.2.2 The site is bounded to the south by Industrial units, and to the north by residential dwellings and their associated gardens. There is an aerial mast and electronics cabin within the site boundary.

Land Use and General Habitats

2.2.3 The area covered by the proposed site mainly consists of bare ground, with some rank vegetation at the east and north boundary. The northern boundary is a non-native single species conifer hedge. Mature trees form the northeastern boundary to the adjacent playing fields, with an overgrown and well shaded pond, also on the eastern boundary (See Figure 1, *Google Earth, 2021).*

2.2.4 The site is currently used for storage of construction and demolition waste and materials. There is evidence of some landscaping works.

Figure1: *Aerial view showing surrounding landscape (Google Earth, 2021).*

Figure 2*: Immediate landscape surrounding the site (Google Earth, 2021).*

3. METHODOLOGY

3.1 Data search

3.1.1 The desk study area and field survey area (generally 50 m from the site boundary/proposed footprint and including the 'zone of influence' of the scheme) have been identified.

3.1.2 The following online resources were searched to ascertain any records of statutorily protected, notable or rare species, and any designated sites of national, regional or local importance as recommended in the CIEEM guidelines for EIA *(2019)*:

- Multi Agency Geographical Information Centre *(www.magic.co.uk)*
- Lancashire Environment Record Network (LERN) *(http://www.lancashire.gov.uk/lern.aspx)*

3.1.3 As stated on each of these sites, the lack of records does not necessarily imply lack of presence of species, merely that they have not been recorded.

2.3 Field survey

2.3.1 Two visits were made to the site between October 2021 and November 2021 to identify and assess the habitats and potential species present that would likely be impacted by this proposal.

- Baseline information on the site and surrounding area has been recorded through an 'Extended Phase 1 Habitat Survey', including a Phase 1 Habitat Survey (JNCC 2010) and recording further details in relation to notable or protected habitats and species.
- The ecological features present within the survey area have been evaluated where possible (CIEEM, 2019).
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act [WCA]) have been identified.
- Likely impacts on features of value, as a result of the development proposals, have been identified.
- Recommendations for further survey and assessment have been made.

2.4 Survey Constraints

- Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore the survey of the study area should not be considered to have produced a complete list of plants and animals present.

- Desk study data should not be treated as a definitive list of species present within a search area. Many species are under-recorded and low numbers of records can reflect a lack of survey effort in some areas, rather than confirm the absence of a species.

- The survey was carried out outside the breeding season for most species, and outside of the flowering and growth period of the majority of native plant species. Therefore, the survey is based on evidence available only at the time of the survey. Further surveys may be required in spring or summer to capture the full spectrum of species.

- All recommendations in this report relate to the current proposals at the time of the survey. Any subsequent changes may alter recommendations and the proposed mitigation/enhancement measures.

4. DATA SEARCH RESULTS

4.1 Designation Results:

- There are no statutory wildlife habitat or conservation designations within the proposal site boundary
- However the site is partially within the Ribble - conf Calder to tidal Drinking Water Protected Areas (Surface Water) *(MAGIC, 2021)*.
- Alston Reservoir 1 & 2 and Spade Mill Reservoirs 1 & 2 are located within the 2km desk study area
- Table 1 identifies the geographical reference for statutory and non-statutory site designations

Site Name	Designation	Distance	Direction
Alston Reservoir 1	Drinking Water Safeguard Zone	325m	S
Alston Reservoir 2	Drinking Water Safeguard Zone	780m	SE
Spade Mill Reservoirs 1 & 2	Drinking Water Safeguard Zone	1300m	NE
Alston Reservoirs	BHS	325m	S

***Table 1**: Geographical Frame of Reference of Designated Sites to Proposed Development Site*

4.2 Habitat and Land Use

4.2.1 MAGIC & Googe Earth was searched for Priority Habitats and Landscape Characterisation, and are listed in Table 2 below.

Name	Type	Distance/Direction
Broadleaf woodland	Priority Habitat	1100m/E
Semi-Improved Grassland	Priority Habitat	40m/E
Bowland Fringe and Pendle Hill	National Character Areas (England)	2km Buffer
Lancashire Valleys	National Character Areas (England)	2km Buffer
LCD (https://magic.defra.gov.uk/Metadata_for_magic/Landscape_Glossary.pdf)	Landscape Typology (England)	2km Buffer

***Table 2**: Land Use & Habitat Presence Within 2 km of Proposed Development Site (MAGiC, 2021)*

4.3 Protected Species Licences

4.3.1 A search of the magic database for granted European Protected Species Mitigation Licences (EPSMLs) found two granted licences to destroy a bat roost, and two licences to destroy the breeding site of great crested newts (GCN) within a 2 km radius.

4.3.2 In addition, four class licence survey sites show presence of GCN within the 2 km study area (see Figure 3).

4.4 Protected Species Legislation:

4.4.2 In addition to EU environmental legislation relative to planning as stated at 1.2.1, certain declining or rare species and habitats are legally protected by specific EU legislation and UK legislation *(table 3),* whereas some species are listed as of ecological importance on either the UK Biological Action Plan list *(2007),* or the IUCN red list as to international conservation status.

Level	Name & Abbreviation	Purpose
EU/S	Habitats Directive 92/43/EEC of 21 May 1992 (Annex ii, iv, v) *(HSD A2,HSD A4, HSD A5)*	Conservation of natural habitats and of wild fauna and flora
EU/S	Birds Directive 2009/147/EC & Birds Directive 1979 (79/409/EEC) (BD)	Conservation of Wild Birds/ established a comprehensive network of Special Protection Areas (SPAs)
UK/S	The Natural Environment and Rural Communities (NERC) Act (2006) (section 41)	Conserve Biodiversity, based on BAP list
UK/S	Wildlife and Countryside Act 1981 (as amended) (WAC)	A range of protection and offences relating to wild birds, other animals, and plants
UK/S	Conservation of Habitats and Species Regulations 2017 (CoNH)	Transpose European Union Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.
UK/S	Hedgerow Regulations (1997)	Prevent dramatic loss of ancient or species rich hedgerows
UK/NS	Biodiversity Action Plan (2007) (BAP)	Lists priority species for conservation effort at national & county, & local level

EU/UK /NS	IUCN Red List	Lists the conservation status of species at international & European level
EU/UK /NS	RED DATA (RD)	Lists the status of current populations of birds

Table 3: Wildlife & habitat specific legislation, the abbreviations used in this document and the purpose of the legislation. Also indicates the level of the legislation (S=statutory, NS=non-statutory) (JNCC, 2015)

4.5 Protected Species Records

4.5.1 The following section highlights records of statutorily protected, notable or rare species recorded within 2 km of the proposed site, and the relevant legislation/notification.

4.5.2 MAGiC confirmed presence of 3 arable assemblage birds & 4 grassland assemblage birds covered under the BD, also bat species, brown hare and amphibians within the 2 km grid of the proposed development site (see Table 4).

4.5.3 The LERN records (2 km, 2000 to 2014) search returned 617 records of UK BAP priority species and UK protected species, of which 119 are also records of European protected species. These include flowering and vascular plants, birds, mammals, invertebrates, reptiles and amphibians. A summary of noteworthy species is shown at table 4.

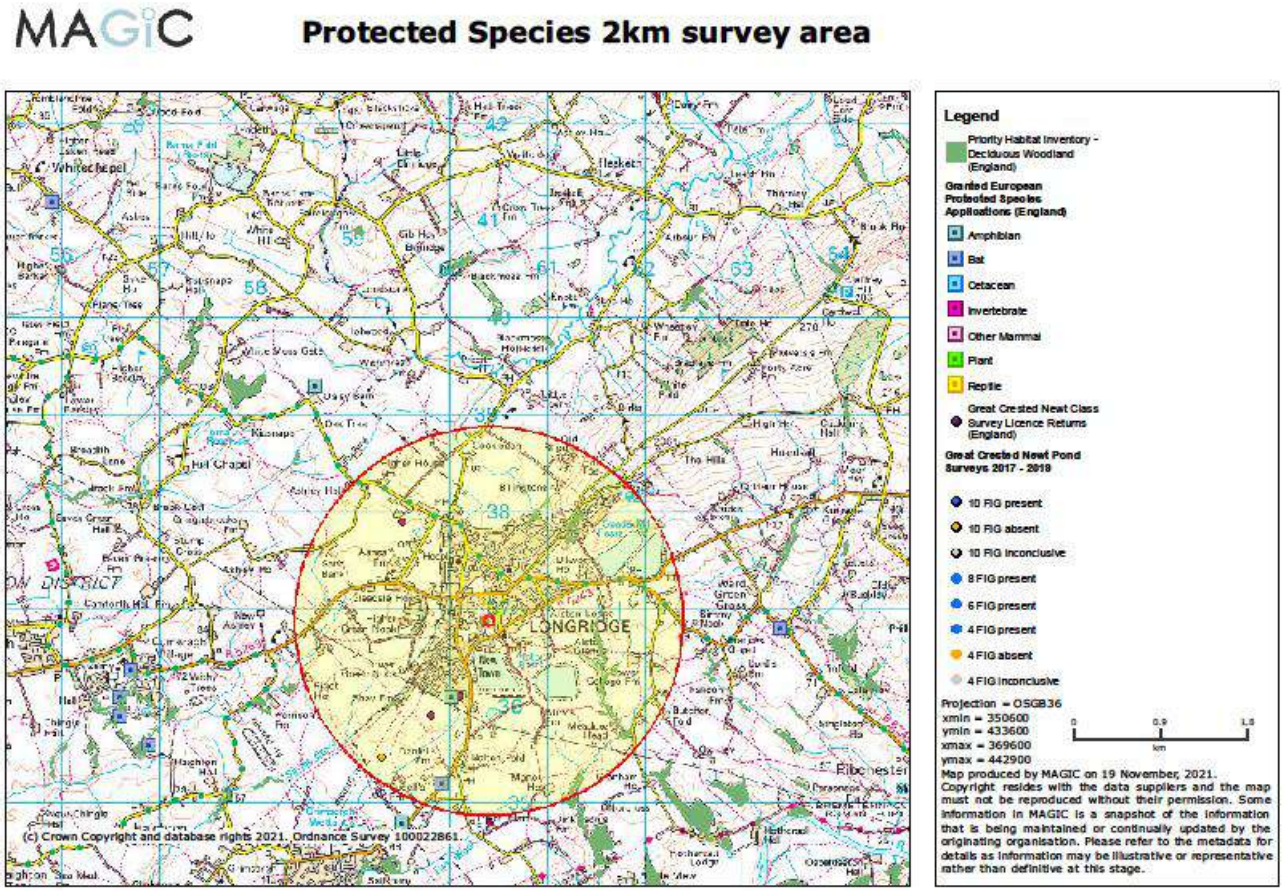

Figure 3. Granted European Protected Species Licences within the 2 km Study Area

	Source	Species	Legislation/status	Grid sq
Mammals / Bats:	LERN	Common pipistrelle *(Pipistrellus pipistrellus) Maternity roost*	Bern2, Bern3, BHS_Species_20170927, CMS_A2, CMS_EUROBATS-A1, HSD4, LBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	500m
	LERN	Soprano pipistrelle (*Pipistrellus pygmaeus*),	Bern2, Bern3, BHS_Species_20170927, CMS_A2, CMS_EUROBATS-A1, HSD4, LBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	1km
	LERN	Noctule (*Nyctalus noctula*)	Bern2, Bern3, BHS_Species_20170927, CMS_A2, CMS_EUROBATS-A1, HSD4, LBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a	1km
Hare:	LERN	Brown Hare *(Lepus europaeus)*	NERC/BAP	2km
Hedgehog:	LERN	West European hedgehog (Erinaceus europaeus)	Bern3, LBAP, Sect.41	2km
Amphibians: Newts	LERN	Great Crested Newt *(Triturus cristatus)*	HSD A4/HSDA2/ CoNH/ WAC/NERC/BAP	1km
Birds	MAGIC/LERN	Tree Sparrow *(Passer montanus)*	NERC/BAP/RD - red	1km
All breeding birds are protected in the UK under the Wildlife and Countryside Act Schedule 1 part 1	LERN	*Starling (Sturnus vulgaris)*	BHS_Species_20170927, BoCC4_Red, LBAP	1km
	MAGIC/LERN	Grey Partridge *(purdex purdex)*	BD AnII/NERC/BAP/ RD - red	2km
	MAGIC/LERN	Curlew *(Numenius arquata)*	BD AnII/NERC/BAP	1km
	MAGIC/LERN	Lapwing (*Vanellus vanellus)*	NERC/RD -red	1km
	MAGIC/LERN	Redshank *(Tringa totanus)*	BD AnII 2.2/BAP/ RD - amber	2km
	MAGIC/LERN	Snipe *(Gallinago gallinago)*	BD AnII 2.2 /RD - amber	1km
	LERN	Mistle Thrush *(Turdus viscivorus)*	BD/ECCITES-A / WAC/NERC/BAP/RD -amber	1km

***Table 4**: Summary of species located within 2km radius of proposed site potentially impacted and would benefit from enhancement/mitigation measures*

4.5.4 BRD include 45 species of Lancs BAP birds, 4 amphibian species, 7 terrestrial mammal species and 48 moth and butterfly species, as well as flowering plants and mosses.

4.5.5 The full Biological Records Data are available on request. LERN data map shown at Figure 4.

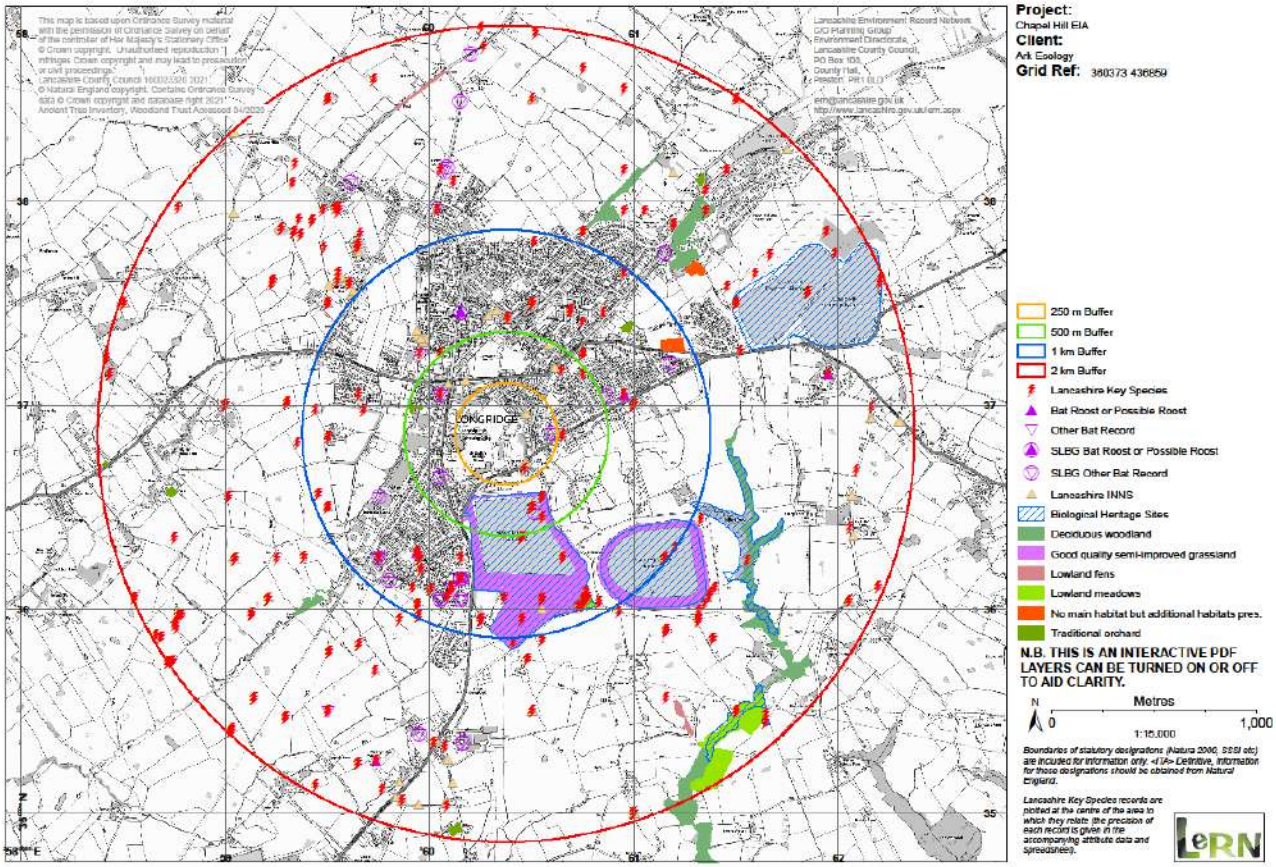

Figure 4: LERN Map of Biological Records for the 2 km Buffer Zone

5. FIELD SURVEY RESULTS

5.0.1 The environmental variables recorded at the time of the survey are shown in Table 5.

Date: 05/10/21	
Temperature	15°C
Humidity	86%
Cloud Cover	90%
Wind	1.1km/h
Rain	Light

Table 5: Environmental Variables During the Survey

5.1 Habitats and Flora

5.1.1 For ease of reference the site is depicted on the Phase 1 habitat map at Figure 5.

5.2 Habitats (JNCC Phase 1 Habitat Survey Guidelines)

J4: Bare ground

5.2.1 The site is predominantly bare clay soil, with spoil and rubble piles, all with no vegetative cover.

C3.1 & C3.2: Tall ruderal and non-ruderal herb:

5.2.2 Scattered around the site and spreading out from the boundaries are areas of tall herb dominated by thistles and broad leaved docks, and include great willowherb *Epilobium hirsutum,* Rosebay willowherb *Chamerion angustifolium*, broad-leaved dock *Rumex obtusifolius**, spear thistle *Cirsium vulgare**, creeping thistle *Cirsium arvense** and bramble spp. *Rubus fruticosus sp.*with some common knapweed Centauria nigra, Nettle *Urtica dioica,* Soft Rush *Juncus effusus,* mugwort *Artemesia vulgaris,* fat-hen *Chenopodium ficifolium* and common ragwort *Senecio jacobaea**. All common and widespread species of waste ground. * Denotes Injurious weed.

5.2.3 Trees and shrubs make up the majority of the east boundary, and include both native and non-native species. The pond adjacent to the site at the northwest boundary is overgrown with trees and shrubs (see Table 6).

Tree species	
Sycamore	*Acer pseudoplatanus*
Ash	*Fraxinus excelsior*
Willow spp.	*Salix spp.*
Birch sp.	*Betulus sp.*
Elder	*Sambucus nigra*
Shrub species	
Hawthorn	*Crataegus monogyna*
Dog-rose	*Rosa canina*
Butterfly bush	*Buddleja davidii**
Bramble spp.	*Rubus fruticosus sp.*

Table 6: *Tree and Shrub Species Present on Site and at the Boundaries*

5.2.4 **Priority Habitats: Ponds** are listed on the Natural Environment and Rural Communities (NERC) Act 2006 Section 41: Habitats of Principal Importance in England.

5.2.5 **Invasive non-native species are present on this site and are marked on the survey map as TN1.** Garden waste is evident at the east boundary and has led to the spread of some non-native species.

5.2.6 Listed on Schedule 9 of the Wildlife and Countryside act 1981 (as amended) and present on site is Himalayan balsam *Impatiens glandulifera.*

5.3 Features of Relevant Wildlife Value - Summary:

- The mature trees and shrub along the west and northwest boundary provide nesting and feeding habitat for birds and potential roosting and foraging habitat for bats.
- The adjacent pond and surrounding scrub provide potential breeding and foraging habitat for amphibians.

6. POTENTIAL IMPACTS

6.0.1 This evaluation takes into account each ecological feature on site, the likely impacts at each stage of the development: Site clearance, construction and use once complete.

Ecological Factor	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations
Designated sites	Designated sites within 2km of the proposed development.	The proposed development is not of a sufficient scale to have an impact on any nearby designated sites.	No further surveys.
Notable habitats and plants	Adjacent Deciduous trees within the zone of influence of the proposed works (50m), Individual trees on site	The proposed development may have an impact on the woodland, depending on the proximity of works to the boundary.	Tree root protection zone established around those trees on site to be retained, and adjacent to any trees outside the site boundary. Arboriculture survey recommended.
Invasive / Non-native species	Both invasive non-native and injurious weed plant species present on site	INNS & Injurious weeds spread off site	Plant material and roots will be removed from site in accordance with current legislation: Weeds Act 1959, The Invasive Alien Species (Enforcement and Permitting) Order 2019 http://www.legislation.gov.uk/ukpga/1981/69/section/14
Bats	Potential foraging and roosting habitat in mature trees	Disturbance from noise and vibration. Disturbance and/or destruction of roosts by removal of trees. Loss of foraging sites and commuting lines through loss of trees, scrub and hedgerows.	Preliminary Roost Assessment of Mature Trees in 50m zone of Influence.

Birds	The site contains evidence of nesting birds. LBAP species present in BRD	Active nests could be destroyed during vegetation removal. The removal of trees on the site will reduce breeding & food resources in the local area for birds. Increased noise disturbance affecting the ability of birds to hold territory if construction took place in the breeding season. There would be a negative impact (variable over the day/ night cycle, but effectively constant) extending up to 500 m from the site and affecting c. 80% of the local population.	Construction to commence outside the bird breeding season (which is March – August inclusive).
Reptiles and amphibians	The site provides some areas of reptile and amphibian refugia and foraging habitat. Single pond located within 500m of the site. GCN recorded in 2km survey area	The proposed development will result in the loss of foraging and refugia habitat for amphibians and common reptiles. Any reptiles or amphibians present during the works could be injured or killed.	HSI indicates no further surveys (see Appendix 3)
Badgers	No evidence of badger activity on the site. No badger records in BRD	No impact	No further surveys
Hedgehogs	Suitable foraging habitat for hedgehogs is	Hedgehogs could be injured or killed during the proposed works, and foraging habitat will be lost.	A precautionary method of working should be employed: See mitigation plan

	present on site. Without the BRD it is unknown whether they are present in the area.		
Air & Water	Site is within a Drinking Water Protected Area (Surface Water)	Noise & vibration disturbance from construction activities and increased traffic will impact the surrounding area, with the possibility of air and water pollution from dust and run off.	Appropriate consultation to be sought (see Table 8).

Table 7: Evaluation of Site: Impacts and Recommendations

7. FURTHER SURVEYS

7.1 Further surveys will be required under relevant legislation to determine the presence/absence of protected species within the site. The methodology and timing of these surveys is summarised at Table 8.

7.2 The results of these surveys will determine the full level and extent of impact and mitigation required. The ground flora on site is of poor quality for ground nesting birds to use for nesting purposes due to the high level of disturbance, therefore surveys are not deemed necessary.

Protected Species	Recommendations
Great Crested Newts	HSI results are 'poor' and no further surveys (see Appendix 3)
Bats Surveys	Surveys of single mature trees Potential Roost Potential (PRA) to be undertaken of the nature trees on the west and north boundaries as set out in Good Practice Guidelines, 2nd Edition (BCT, 2015) Buildings: No buildings with bat roosting potential are present on site To be carried out by a suitably experienced and if necessary licenced personnel (Natural England, 2014)
Trees	Tree condition assessment by suitably qualified consultant is recommended

Table 8: Survey Methodology, Timing and Recommendations to Determine Presence/Absence/Numbers of Protected Species Present on Site

8. RECOMMENDATIONS, MITIGATION AND ENHANCEMENT

8.0.1 Under the current legislation *(Table 4)* mitigation is required to reduce the damage and nett loss of habitat for wildlife. To minimise the impacts listed, it is proposed that some alterations be made to the current footprint of the quarry operation. Some statutory replacement of habitats and improvements to general habitat quality and quantity on restoration of site are also required. Where the statutory mitigation is required, the alternatives suggested offer less impact to wildlife, and reduction in delays and expense.

8.1 Mitigation and Compensation

8.1.1 The Mitigation Hierarchy will be employed at each stage of the development: Avoidance, mitigation, compensation and enhancement.

8.1.2 Mitigation avoids or reduces the occurrence of negative impacts and effects, and compensation addresses effects which are residual, after avoidance and mitigation have been considered.

8.2 Enhancement and Biodiversity Net Gain

STATUTORY MITIGATION / IMPACT REDUCTION STRATEGIES	
Amphibians and Reptiles	Due to the small area of suitable foraging habitat on site and to minimise the risk of killing or injuring herpetofauna, site clearance works will be carried out under a precautionary method of working. The development area should be kept largely clear of vegetation in order to make it unattractive to herpetofauna. This clearance should be to ground level and be carried out in two stages, the latest stage undertaken at least 2 days prior to topsoil removal or other works to allow any reptiles present to move away. The first cut should be at about 15 cm from the ground and the second (between 1 and 3 days later) close to the ground, thereby preventing injury to herpetofauna species during clearance. The vegetation should then be maintained at a very short level (less than 5 cm) even if there are delays in development. Likewise, compost heaps or vegetation, log or rubble piles should be moved by hand prior to commencement of any work. A buffer around the boundaries and herpetofauna fencing to ensure any herpetofauna are restricted from accessing the site during development is recommended.

Bats	Following survey results, any trees adjacent or on the site containing a bat roost will require either a Natural England Licence to disturb plus new roosting sites added to buildings or trees outside the buffer zone in the form of bat boxes. Increased buffer zones to reduce dust and vibration, and therefore impact, and lower nett loss of habitat. Any trees housing a bat roost which cannot remain – licence from natural England required to destroy a roost & felling overseen by qualified ecologist/bat worker. Replacement roosting sites in the form of bat boxes to be sited in remaining trees outside the buffer zone, at a number and design relevant to the population detected. (BCT, 2015) Where possible, trees with a roost to be left in situ.
Waterbodies	To reduce impact on the waterways and associated flora & fauna, the buffer zone of the operation could be increased by 20% adjacent to these features. Strict measures (COSSH) will be required to prevent pollution of the pond.
Birds	Undertaking site clearance and construction outside the bird breeding season of 1st March to 31st August will reduce the impact on local bird breeding population. Removal of hedges, scrub and trees should be carried out outside the bird breeding season to avoid killing or injuring nesting birds. The hedgerows on the site boundary could be allowed to grow taller to improve their wildlife value. Increased planting of local scrub species upon restoration of the site.
Hedgehogs (and other land mammals)	Vegetation and any existing rubble of log piles should be thoroughly checked before removal. Should a hedgehog be found, that area of vegetation must be left. If a hedgehog is injured it should be contained immediately, then the British Hedgehog Preservation Society should be contacted immediately and a carer called. Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in.

Table 9: Enhancement and Biodiversity Net Gain

8.2.1 National Planning Policy Framework (2021) states that development should aim 'to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.'

8.2.2 Although the proposed works will have some negative impact (to be determined fully following further survey) in the area whilst in progress, it is also an opportunity to improve the habitat in the long term.

8.2.3 Providing that sufficient mitigation is in place to ensure no net loss of species occurs during the work and the perimeter habitats are adequately protected, then on restoration the site could incorporate features to greatly enhance future populations, and ensure Biodiversity Net Gain.

8.2.4 The boundary hedges currently of low value to birds will be replaced with a good mix of native varieties (see proposed plans at Appendix 2) and left to grow taller than previously, recreating any bat commuting lines and new nesting and foraging habitat for birds and improving their wildlife value.

Habitats	A wildflower meadow/pollinator area and further native hedge and tree planting will be incorporated into the biodiversity enhancement plan for the site. Such areas offer habitat for invertebrates which in turn feed the local bird and bat population. A wildflower area requires much less maintenance than a lawned area, and enhances the visual aspect of a landscaping scheme. Advice on sourcing seed and maintenance is available at http://www.magnificentmeadows.org.uk/assets/pdfs/Mini-meadow.pdf Any landscape planting should include native pollinator friendly species. Guidance can be found at: https://www.bumblebeeconservation.org/wp-content/uploads/2017/06/Buzzing-Communities-%E2%80%93-English-Proof-6_web_interactive-compressed_WEBSITE-VIEW.pdf Tree species for proposed landscaping will be a mix of native species which offer habitat for insects and autumn foraging for birds, and reflect the surrounding landscape. Suggested examples include: Common Oak — Quercus robur Rowan — Sorbus aucuparia Bird Cherry — Prunus padus Silver Birch — Betula pendula Willow spp. — Salix spp. Any introduced boundary hedgerows will include a mix of native species eg: Hawthorn — Craetagus montana Hazel — Corylus avellana Blackthorn — Prunus spinosa

	Dog rose Rosa canina agg. Rowan Sorbus aucuparia Holly Ilex aquifolium Yew *Taxus bacc*ata offers an excellent evergreen alternative to non-native hedging species.
Bats	The installation of bat boxes on the building when finished will provide additional roosting habitat for bats (number/type to be determined following further surveys) e.g. • 1FF Schwegler Bat Box • Greenwoods Ecohabitats • https://www.greenwoodsecohabitats.co.uk/bats • Kent Bat Box (timber). Bat boxes should be positioned 3-5 m above ground level facing in a south/south-westerly direction with a clear flight path to and from the entrance. Cavity bat boxes are also a good option in new construction available from: https://www.nhbs.com/ib-vl-05-vivara-pro-build-in-woodstone-batbox?bkfno=252213 Bat tubes should be positioned high on the building, close to the eaves, away from windows and other artificial light sources.
Birds	Site relevant bird nesting boxes will be included in the building plans to add to the available nesting opportunities in the local area. For example: Schwegler 1SP Sparrow Terrace Schwegler 1B nest boxes Schwegler 2H Robin Boxes Nest boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
Reptiles & amphibians	Waste materials created during the development e.g. log piles, brash, rocks etc. Can be used to create hibernacula and refugia for common reptiles. These should be positioned on the site boundaries below hedgerows or beneath retained shrubs
Badgers and Hedgehogs	The biodiversity enhancement plan for the areas not developed will increase the overall habitat value of the site area e.g. widening the hedgerow, planting more trees, including fruit trees and creating a species rich hay meadow area. Gaps of 150mm or more should be left under fences on the site to allow for hedgehogs to access the site. No slug pellets should be used on the site grounds. A hedgehog 'house' should be installed on site.

***Table 10**: Site Enhancement Measures to Improve Biodiversity and Value for Wildlife*

8.2.5 A full biodiversity design stage plan may be required to support a full planning application.

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APPENDIX 1

Photogpraphs

Appendix 1 Site Photos

Plate 1

Proposed location of Unit 1

Plate 2

Current site use

Plate 3

Bramble scrub and ash tree with signs of disease

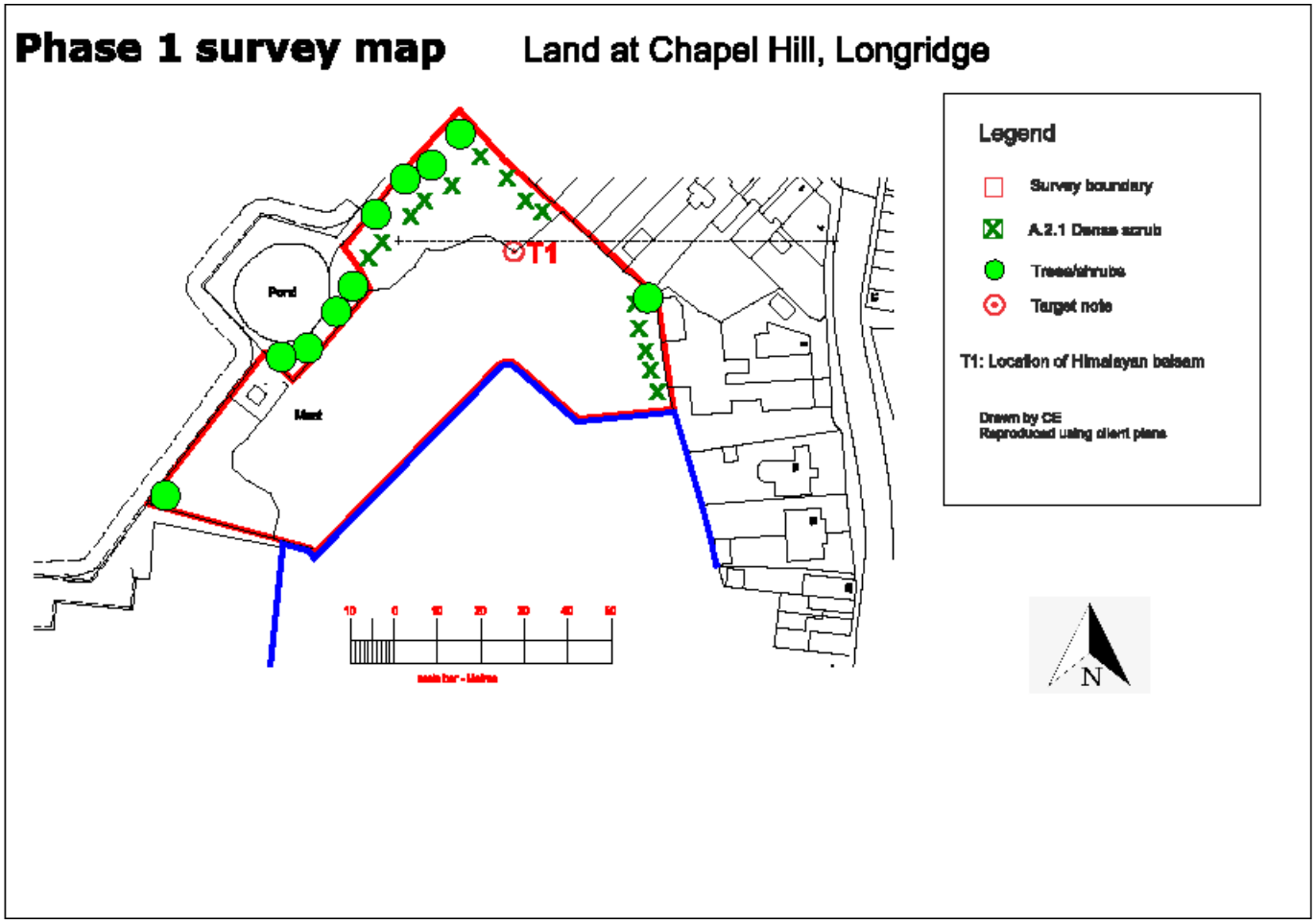
Plate 4

Non-native garden species and ruderal herb

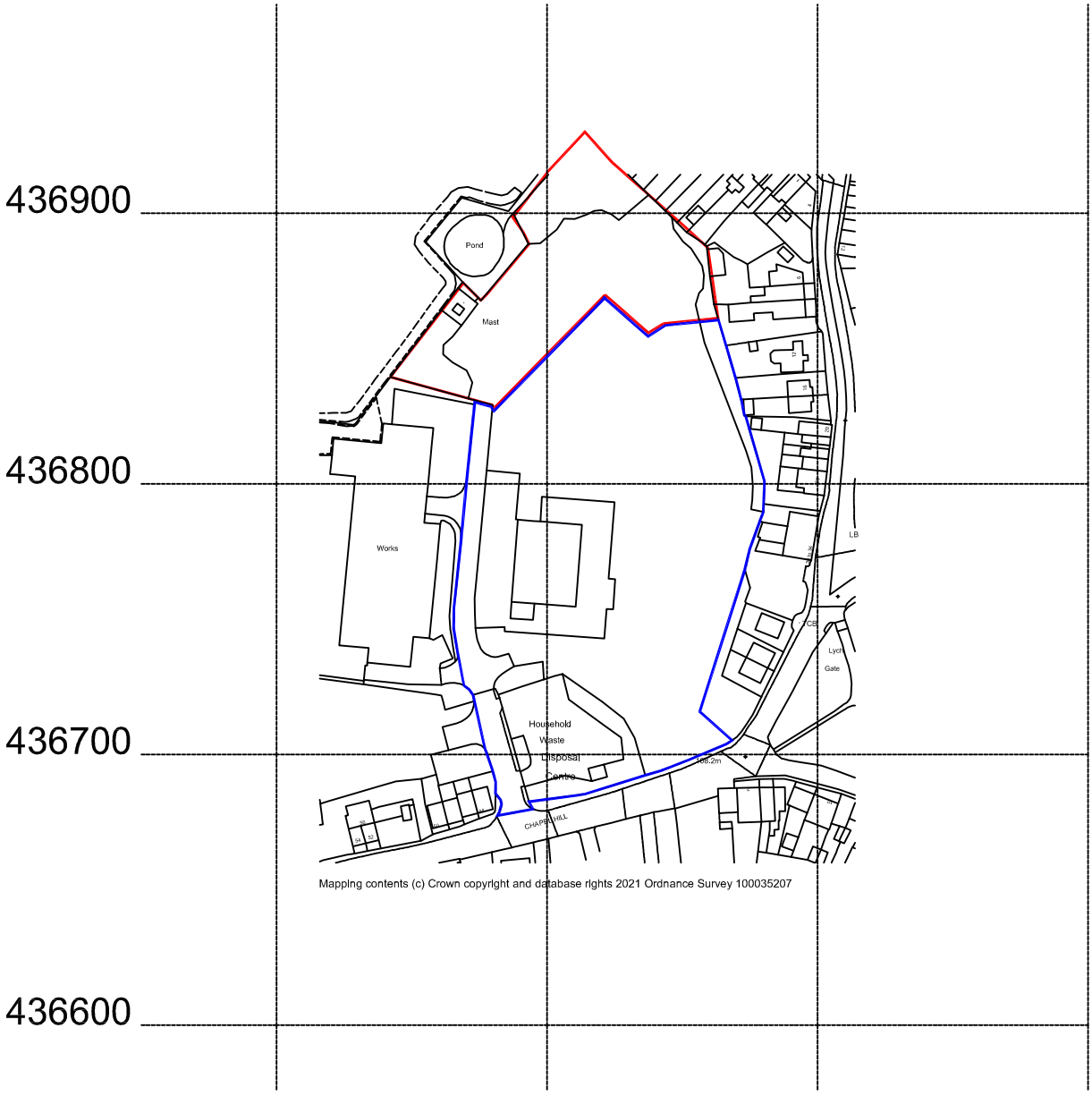
APPENDIX 2

Drawings

Appendix 2: Site Plans



NORTH



10 0 10 20 30 40 50
scale bar - Metres

CLIENT WILLIAM PYE LTD			DRAWING No 1	REV
PROJECT LAND AT CHAPEL HILL, LONGRIDGE, PRESTON PR3 3BU . LOCATION PLAN				
SCALE 1/2500 @ A4	DATE Oct 2021	JOB No 4021 /		

Architectural Technologist & Building Design Consultant
Ian Pawson Ltd, 26 Essex Street, Barnoldswick, Yorkshire, BB18 5DT
Tel: 01282 814148
E-mail: info@ianpawson.com


SECTION A - A 1:200
FRONT ELEVATION
REAR ELEVATION
SIDE ELEVATION
FRONT ELEVATION
New hedge to Northeast boundary consisting of Hawthorn, Blackthorn, Holly, Hazel and Beech planted in a staggered double row 40 centimeters (cm) apart with a minimum of 6 plants per meter.
All area to the Northwest between Unit 1 and Units2-4 to be grass, banking to rear of Units 2-4 to be grassed between footpath and new hedge
UNIT 3
288 sq.m (3100 sq.ft)
UNIT 4
288 sq.m (3100 sq.ft)
UNIT 2
288 sq.m (3100 sq.ft)
Refuse Area
Refuse Area
10 11 12 13 14 15 16 17 18 19
30 29 28 27 26 25 24 23 22 21 20
10 0 10 20 30 40 50
scale bar - Metres
OPEN PLAN OFFICE
FIRST FLOOR PLAN
UNIT 1
196 sq.m per floor
392sq.m (4220 sq.ft)
WORKSPACE
RECEPTION
GROUND FLOOR PLAN
2 3 4 5 6 7 8 9
SOUTHEAST ELEVATION
SOUTHWEST ELEVATION
NORTHEAST ELEVATION
NORTHWEST ELEVATION

Amendments

ip
Architectural Technologist & Building Design Consultant

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Client.
WILLIAM PYE LIMITED

Project.
LAND AT CHAPEL HILL,
LONGRIDGE, PRESTON PR3 3BU

PLANS & ELEVATIONS AS PROPOSED

Scale.	1:200 1:500	Drawing No.	Am.
By.	I Pawson	3	
Date.	Oct 2021		
Job No.	4021 /		

APPENDIX 3

Great Crested Newt Habitat Suitability Index (HSI)

File note

Land at Chapel Hill

Longridge

25th November 2021

Author: Carol Edmondson MSc MRSB

Great Crested Newt Habitat Suitability Index (HSI) (*Oldham et al, 2000)*

Addendum to the Ecological Impact Assessment for the above site.

Requirement for further investigations of the pond adjacent to the development site were identified in the EcIA report November 2021. A further site visit on 26th November concluded that there is now water visible in the pond, although access from the site was not possible due to waste material and dense scrub against the fencing. The calculation of the HSI are shown in the table below:

Suitability index : value:	**Score**
1: Location: B	.5
2: Pond area : 300m2	0.6
3: Permanence : sometimes dries	0.5
4: Water quality : poor (very shaded, few sub-merged plants)	0.33
5: Shade: 90%	0.3
6: Fowl : Minor	0.67
7: Fish: Possible	0.67
8: Pond count: .64	.45
9: Terrestrial: Moderate	0.67
10: Macrophytes: 10%	0.35
HSI = $(SI_1 \times SI_2 \times SI_3 \times SI_4 \times SI_5 \times SI_6 \times SI_7 \times SI_8 \times SI_9 \times SI_{10})1/10$	<.1 = **Poor**

Although SI's 6 & 7 were not possible to physically assess, they were given a moderate score as judged probable by the surveyor.

The outcome of the HSI is poor, and therefore no further surveys are required.

However a precautionary approach should be adopted as recommended in the EcIA report, November 2021 section 7.1 Mitigation and Impact reduction.

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