Nocturnal Bat Survey Report

Mill Road, Thelnetham

for

Mr. John Smith

5 August 2021

greenlight
environmental consultancy

Client
Mr. John Smith

Planning authority
West Suffolk District Council

Time limit of reliance

Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.

Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).

Document	Nocturnal Bat Survey Report
Version	1.0
Date	5 August 2021
Author	Nathan Duszynski M.Sc, B.Sc (Hons), ACIEEM, Natural England licences (Bat survey level 2, Great crested newt level 1)
Reviewer	Etienne Swarts B.Compt (Hons), F.Deg.Sc, ACIEEM, Natural England licences (Bat survey level 2, Great crested newt level 2)

Signed disclosure

The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.

Etienne Swarts, ACIEEM

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Table of Contents

SUMMARY

- Greenlight Environmental Consultancy Ltd. has been commissioned to carry out protected species surveys for bats, relating to a proposed development at Mill Road, Thelnetham, Suffolk, IP22 1JU (grid reference: TM 01144 78867).
- This report provides the results of the bat survey and any potential effects of the proposed development on such species.
- The ecology report is required in support of a planning application for the development of a residential dwelling and cart lodge, with associated access and services.
- The survey and assessment were completed by independent qualified and experienced ecologists with Natural England survey licences for the relevant protected species, and in accordance with the latest survey guidelines.
- The findings of the assessment are that there are no significant ecological constraints that would prevent the proposed works.
- If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Bats	One bat activity survey conducted in July confirmed a **very low** level of bat activity, with at least six bat species recorded: common pipistrelle, soprano pipistrelle, brown long-eared, noctule, serotine and Myotis sp. (considered to be a mixture of Natterer's and Daubenton's).	Potential light disturbance of commuting and foraging habitats on site. No impacts on potential bat roosting locations.	*Mitigation* Lighting schemes should comply with Bat Conservation Trust and CIE 150:2003 guidance. No lighting should be situated along the site periphery. Habitats enhanced through a soft landscaping scheme including: Retention of existing woodland along southern boundary. Soft landscaping scheme to include the planting of new trees and hedgerows around the site, using native species. No further surveys or European Protected Species mitigation licence required. *Enhancement* Installation of one integrated and one standalone bat box on new buildings and trees on site.

1. METHODOLOGY

1.1. A single bat activity survey (comprised of a static detector left in-situ for at least five consecutive nights) was conducted within the optimal surveying season for bats and in suitable weather conditions (Table 1).

1.2. Bat calls were recorded using an SM2 static bat recorder and analysed in AnalookW by a qualified and experienced surveyor: Nathan Duszynski (Natural England bat licence level 2 2017-31943-CLS-CLS).

1.3. All survey methods were carried out in accordance with the most up to date good practice guidance (Collins, 2016).

2. SITE CONTEXT

Location

2.1. The site is situated between Thelnetham and Blo' Norton, in a rural arable landscape with the Little Ouse River located approximately 215m north. The closest town is Diss, located approximately 10km east of the site.

2.2. The site is enclosed by an improved grassland field to the north and east, a small block of deciduous woodland to the south, and Mill Road, with a residential dwelling and beyond to the west. The wider surroundings are comprised of a mixture of sparse residential dwellings, blocks of woodland and arable fields lined with mature trees and hedgerows.

3. DESCRIPTION OF THE DEVELOPMENT

3.1. The proposals are for the construction of a residential dwelling and cart lodge, with associated access and services. Please refer to Appendix D for the proposed plans.

4. FIELD STUDY

Static surveys

4.1. The location of the static detector is shown in Figure 1.

Figure 1
Location of static detector.
Image © Google, date accessed 04/08/21

4.2. The survey conditions are indicated in Table 1 below:

Date	Overnight temperature	Wind (mph scale)	Percipitation overnight
21/07/21	15-18°C	2-6	Dry
22/07/21	14-16°C	2-7	Dry
23/07/21	13-16°C	5-8	Dry
24/07/21	17-18°C	6-9	Dry
25/07/21	15-18°C	3-7	Dry
26/07/21	16-20°C	7-10	Dry
27/07/21	15-17°C	3-7	Dry
28/07/21	11-13°C	6-8	Dry

Table 1, static bat activity survey conditions.

4.3. The static detector recorded a **very low** level of bat foraging and commuting activity across the survey with an average of 22 calls per night. Species recorded included: common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, unidentified pipistrelle *Pipistrellus sp.*, brown long-eared *Plecotus auritus*, noctules *Nyctalus noctula*, serotines *Eptesicus serotinus* and Myotis sp. (considered to be a mixture of Natterer's *Myotis nattereri* and Daubenton's *Myotis daubentonii*).

4.4. Emergence times can be used to give an indication of roosting sites within the local area, as species often emerge at different times. For example, noctules are often recorded emerging up to 10 minutes after sunset, common pipistrelles up to 35 minutes after sunset and brown long-eared bats up to 60 minutes after sunset.

4.5. The following species were recorded within their typical emergence window, indicating potential roosts in the near vicinity: common pipistrelle and brown long-eared.

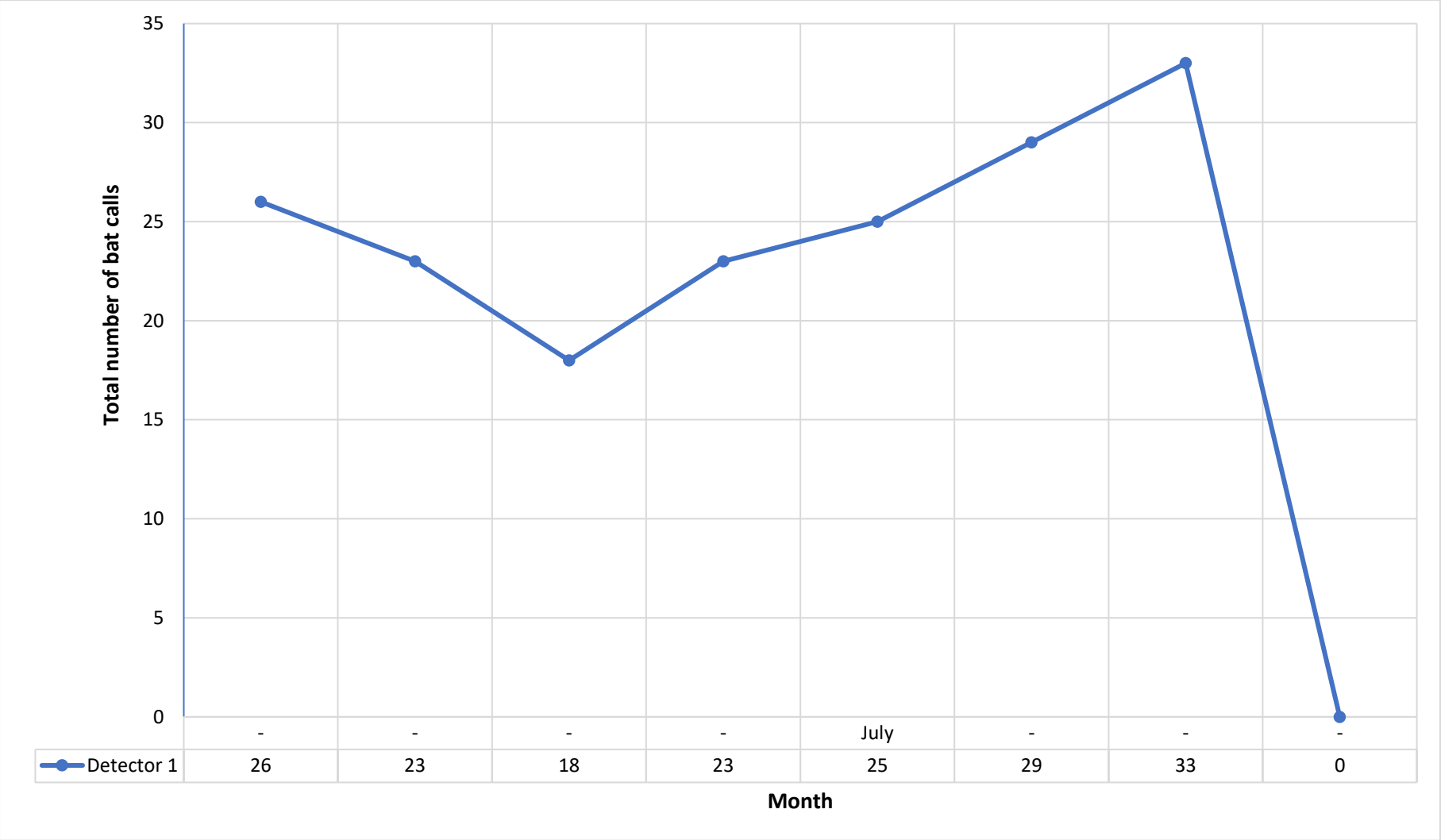

Figure 2, Total number of bat calls per detector/night/month from static detectors.

Species	% of total calls
Brown long-eared	1.70%
Common pipistrelle	36.16%
Myotis sp.	3.39%
Noctule	9.60%
Pipistrellus sp.	22.60%
Soprano pipistrelle	21.47%
Serotine	5.08%

Table 2, species composition as a percentage of total bat calls per month.

4.6. Although the species composition of bat activity was comprised predominantly of by common pipistrelles and soprano pipistrelles (80.23%), a relatively large proportion of calls were from rarer species (e.g. noctules, serotines and Myotis sp.), which are likely to be from individuals commuting along the woodland edge.

4.7. Due to the low number of calls per night and the limited number of feeding buzzes observed within the sonograms, it is considered these bats are occasionally commuting across the site rather than foraging. The habitats within the local vicinity are considered of higher quality than those on and directly adjacent the site, featuring large blocks of deciduous woodland and the Little Ouse River.

5. DISCUSSION AND CONCLUSIONS

5.1. A single bat activity survey was conducted within the optimal surveying season for bats and in accordance with the latest bat survey guidelines (Collins, 2016).

5.2. The static activity survey indicated a **very low** level of bat foraging and commuting activity across the site, with at least six species recorded – common pipistrelles, soprano pipistrelles, brown long-eared, noctules, serotines and Myotis sp. (considered to be a mixture of Natterer's and Daubenton's). The majority of this activity is considered to be from bats occasionally commuting across the site rather than foraging.

5.3. A number of common pipistrelles and brown long-eared calls were recorded around their typical emergence times, indicating roosts in the near vicinity.

5.4. The proposed works will require the clearance of vegetated habitats on site, including ≈0.25ha of ephemeral vegetation. This has the potential to indirectly (e.g. increased noise and light levels) impact foraging and commuting routes.

5.5. The following mitigation is recommended to avoid impacts on bats from the proposed development:

i. Lighting schemes should follow guidance from the Bat Conservation Trust and CIE 150:2003. Warm-white (long wavelength) lights with UV filters should be fitted as close to the ground as possible. Lighting units should be angled below 70° and equipped with movement sensors, baffles, hoods, louvres and horizontal cut off units at 90°. No lighting should be situated along the periphery of the site, specifically along the northern or western boundaries, with the majority of bat calls concentrated in these areas and thus ecologically sensitive to changes in light levels.

ii. The site's habitat biodiversity should be enhanced through a soft landscaping scheme, which should include:

   a. A buffer zone of at least 30m between the woodland to the north and proposed development site.
   b. Retention of existing woodland along the southern boundary.
   c. The planting of new native species-rich (≥5 species), hedgerows and trees around the site, especially along the northern and western boundaries, to create a 'green buffer' zone. A list of suitable native species for planting and sowing is provided in Appendix C.

5.6. As enhancements, we recommend the installation of:

i. One integrated bat box (Schwegler 1FR Bat Tube – Appendix B).

ii. One standalone bat box on a suitably mature tree (Schwegler 2F Bat Box– Appendix B).

5.7. After the effects of the above mitigation and enhancements, we consider that the favourable conservation status of the local bat population will be maintained and that no further surveys or a European Protected Species mitigation licence will be required.

6. BIBLIOGRAPHY

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British Standards Institution (2012). BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations.*

Collins, J. (Ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.).* The Bat Conservation Trust, London.

International Commission on Illumination (2003). CIE 150:2003, *Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations*.

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Stone, E.L. (2013). *Bats and lighting: Overview of current evidence and mitigation*. University of Bristol.

Appendix A
Legislation

European Protected Species

National Planning Policy - National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework 2019 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by … minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

Implications of legislation and policies

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

Bats

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 30th November 2017, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2017.

European protected animal species ("EPS") and their breeding sites or resting places are protected under Regulation 42. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs

such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

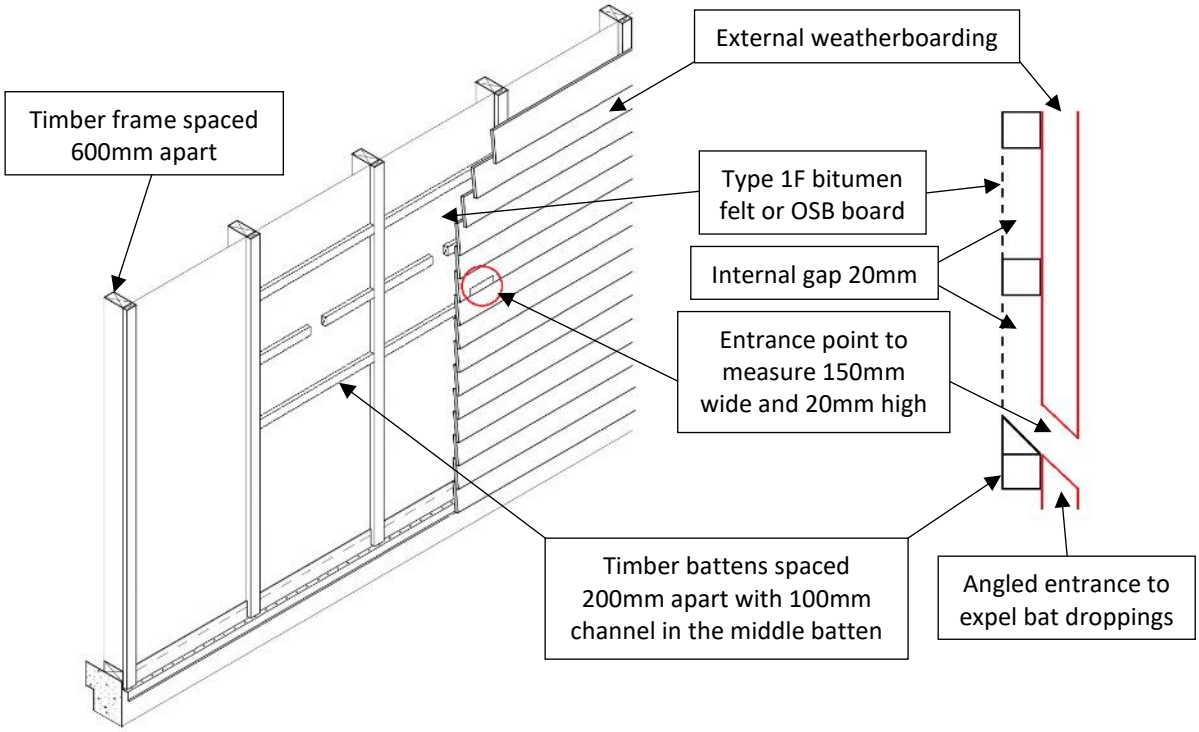
Natural England Licensing - EPS Mitigation Licensing

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

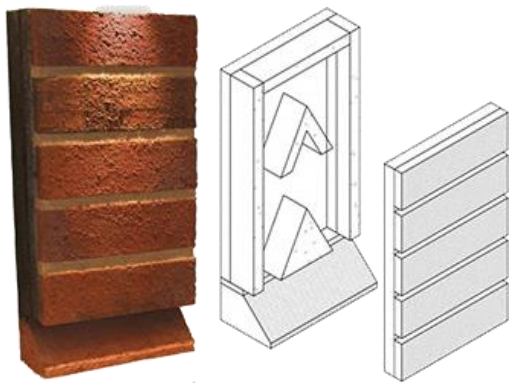
Appendix B
Examples of bat boxes

(images sourced from www.nhbs.com and www.habibat.co.uk)

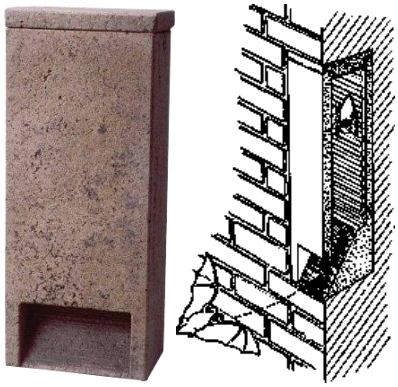
Integrated weatherboard roost

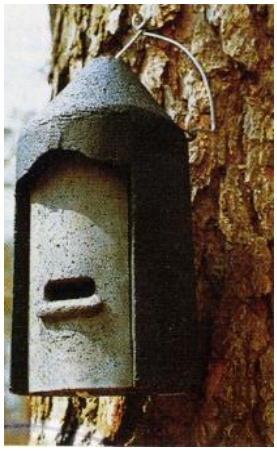


Integrated bat box
Habibat Bat Box



Integrated bat box
1FR Schwegler Bat Tube



Standalone bat box 2F Schwegler Bat Box (General purpose)	**Standalone bat box** 1FF Schwegler Bat Box with built-in wooden rear panel
	

Recommendations for installing bat boxes:
(Sourced from Bat Conservation Trust www.bct.org)

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.
Locate boxes:

- Where bats are known to feed close to hedges and treelines (some bats use a treeline or hedgerow for navigation, putting boxes near these features may help the bats find the box).
- On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.
- On buildings: boxes should be placed as close to the eaves as possible.
- As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).
- In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.
Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.
Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.

Appendix C
Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

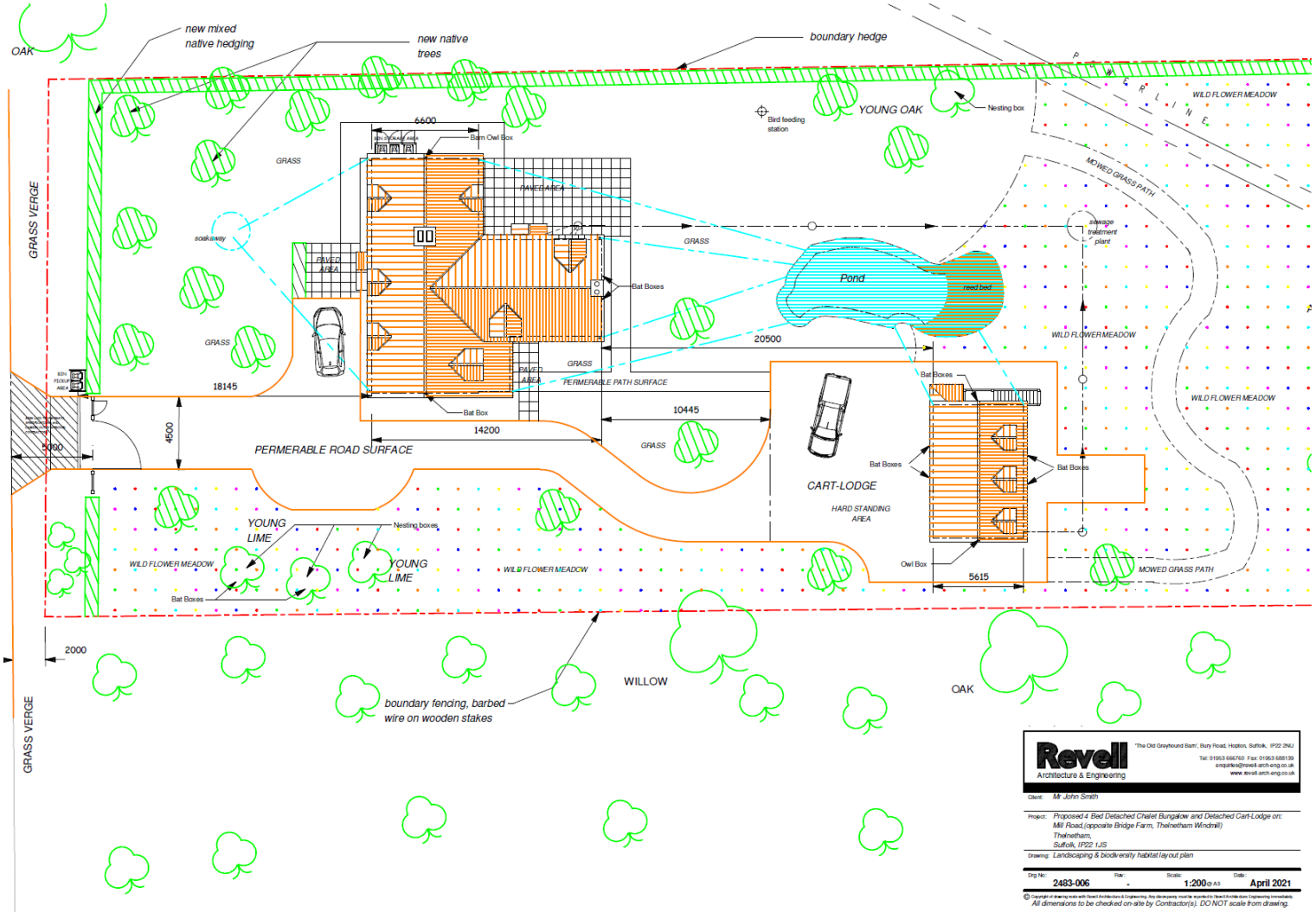
Trees	
Alder (d)	*Alnus glutinosa*
Apples (f; d)	*Malus spp.* (local varieties)
Ash (d)	*Fraxinus excelsior*
Beech (d)	*Fagus sylvatica*
Bird cherry (f; d)	*Prunus padus*
Elder (f; d)	*Sambucus nigra*
Elm (d)	*Ulmus procera*
Field maple (d)	*Acer campestre*
Pedunculate oak (d)	*Quercus robur*
Rowan (f; d)	*Sorbus aucuparia*
Pears (f; d)	*Pyrus spp.*
Silver birch (d)	*Betula pendula*
Small-leaved lime (d)	*Tilia cordata*
White willow (d)	*Salix alba*
Wild cherry (f; d)	*Prunus avium*
Walnut (d)	*Juglans regia*

Shrubs	
Blackthorn (f; d)	*Prunus spinosa*
Buckthorn (f; d)	*Rhamnus catharticus*
Crab apple (f; d)	*Malus sylvestris*
Dog rose (f; d)	*Rosa canina*
Dogwood (f; d)	*Cornus sanguinea*
Field maple (d)	*Acer campestre*
Guelder-rose (f; d)	*Viburnum opulus*
Hawthorn (f; d)	*Crataegus monogyna*
Hazel (d)	*Corylus avellana*
Holly (e)	*Ilex aquifolium*
Honeysuckle (f; d)	*Lonicera periclymemum*
Spindle (f; d)	*Euonymus europaeus*
Wild privet (f; se)	*Ligustrum vulgare*
Yew (f; e)	*Taxus baccata*

Flowering plants	
Bird's-foot trefoil	*Lotus corniculatus*
Black knapweed	*Centaurea nigra*
Common cat's-ear	*Hypochoeris radicata*
Common sorrel	*Rumex acetosa*
Common vetch	*Vicia sativa*
Cowslip	*Primula veris*
Field scabious	*Knautia arvense*
Foxglove	*Digitalis purpurea*
Lady's bedstraw	*Galium verum*
Meadow buttercup	*Ranunculus acris*
Meadow vetchling	*Lathyrus pratensis*
Oxeye daisy	*Leucanthemum vulgare*
Primrose	*Primula vulgaris*
Red clover	*Trifolium pratense*
Selfheal	*Prunella vulgaris*
Sweet violet	*Viola odorata*
Wild daffodil	*Narcissus pseudonarcissus*
Yarrow	*Achillea millefolium*

Grasses	
Common bent	*Agrostis capillaris*
Crested dog's-tail	*Cynosurus cristatus*
Meadow fescue	*Festuca pratensis*
Red fescue	*Festuca rubra*
Rough meadow-grass	*Poa trivialis*
Small timothy	*Phleum bertolonii*
Smooth meadow-grass	*Poa pratensis*
Sweet vernal-grass	*Anthoxanthum odoratum*
Yellow oat-grass	*Trisetum flavescens*

Appendix D
Proposed plans



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Client: Mr John Smith

Project: Proposed 4 Bed Detached Chalet Bungalow and Detached Cart-Lodge on: Mill Road,(opposite Bridge Farm, Thelnetham Windmill) Thelnetham, Suffolk, IP22 1JS

Drawing: Landscaping & biodiversity habitat layout plan

Drg No:	Rev:	Scale:	Date:
2483-006	-	1:200 @ A3	April 2021

All dimensions to be checked on-site by Contractor(s). DO NOT scale from drawing.