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Bat Survey Report (preliminary day-time survey):

**Trees on land to rear of
12 Owlerbarrow Road,
Walshaw,
Bury,
BL8 1RD**

OS grid reference:
SD 7813 11360

Commissioned-by:
Mr. M. Rodfar

Survey Date: 16/12/24

Previous surveys: day-time (trees) - 20/6/23 and 24/6/23
day-time (house) – 15/8/23

Report Date: 17/12/24

Previous reports: day-time - 28/6/23
day-time (house) – 18/8/23

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N.b. Copyright applies to all my reports and they must not be altered in any way whatsoever by anyone other than myself, or combined with any other report/s, irrespective of who wrote them, without the proposed changes being submitted to me in writing and agreed by me in writing.

1. Summary.

(This summary should be read in conjunction with the conclusions and recommendations.)

n.b. Upon completion of the report I was made aware that the plans have now changed slightly, with fewer trees planned for removal. The report has not been amended.

Trees on this site were inspected from the ground as well as possible for bat roosting potential. Some need removal to facilitate the construction of an access drive to a new dwelling, that will be constructed in the rear garden of number 12. Some hedging will also require removal, and a garage doorway is to be blocked-off.

The site is in a sub-urban location which links directly with wooded habitat; beyond which are Parker's Lodges. A variety of bat species are likely to occur and the plot currently provides what appears to be high quality bat feeding habitat.

No major sources of roosting potential were identified in association with the trees. Some minor defects will increase in size with time, sufficiently to provide potential roosting places in the future. For this reason, along with the wider biodiversity value of mature trees, especially of native species, every attempt should be made to retain as many as possible. Removal should be a last resort when reduction in size and span of the canopy, accompanied by protection of the root zone, cannot achieve an acceptable result.

Only one small rot hole in a tree was identified that would benefit from closer inspection before the tree is felled – if felling is unavoidable.

All tree works and removal of hedging and ivy should be done outside the bird nesting season.

Have the bat consultant on-site at the start of the tree-felling works to provide a tool-box-talk to the contractors and advise on any aerial inspection of defects needed.

At the same visit, have bat boxes put up in trees by tree-climbers in the presence of the bat consultant. As there will now be no new build on the site in which to instal integrated bat boxes, there should now be 6 bat boxes in trees.

Compensatory planting of trees and shrubs should be of native species.

Light-spill from the building, on-site lighting and security lighting must be kept to a minimum. Bat boxes in trees and potential flight lines to and from them must remain unlit.

The canopy over the garage door must not be removed unless there has been further, professional investigation of whether bats use it for roosting.

2. Introduction

I was asked to assess the importance of trees on this site to bats as part of the planning process, prior to felling of some to accommodate the construction of a new access drive to the rear of the property and a new dwelling house in the rear garden.

Incidentally I comment on any issues discovered with respect to other protected/priority/invasive species and species of conservation concern.

I originally made this assessment in **June 2023**. In **August 2023** I also surveyed the existing house prior to proposed construction of a new garage in close proximity to it with removal of a section of front hedge to allow access.

The Summary of the report of the day-survey of the **trees in 2023** included:

"There are a large number of trees on this site and it's likely there will be at least some minor defects where bats could roost, but no major defects were seen. The major limitation of trying to survey these trees in June has to be taken into account however.

"...an inspection of the trees when out-of-leaf should be undertaken to double-check that no major defects have been missed. Aerial survey may be necessary at the time of felling, with input from the bat consultant

I understand there is a planning requirement to replace each tree removed with two specimens. Given the relatively limited space available for replanting, hopefully this will ensure as many existing trees as possible are retained. From an ecological perspective trees should preferably be of native species. Smaller growing varieties that are good for wildlife include hawthorn, elder and rowan.

I always urge the retention of as many mature, healthy, native trees as possible. As well as providing food and a sheltered feeding environment for bats, in time they will develop a degree of bat roosting potential. Certainly some larger specimens should be retained if at all possible and I urge the provision of a few bat boxes in those trees, especially as the existing house appears to have had had some bat roosting potential in the past. A minimum of 3 bat boxes should be put-up.

Care should be taken when planning any lighting on the site, to ensure any potential roosting features provided and bat flight lines along boundaries to access them are appropriately shielded.

Dense shrubbery in the planting scheme would also provide an alternative nesting site for species such as... the dunnock, [a species] of conservation concern."

The Summary of the report of the day-survey of the **house in 2023** included:

"This 1980s-style two-storey, detached house, with more recent single-storey extension, is of a type favoured by the pipistrelle bat.

I understand the proposal is to construct a detached garage adjacent to the single-storey extension. Such a development is far enough removed and sufficiently small-scale as to be unlikely to cause disturbance to the main, two-storey house.

It was not possible to enter the loft of the single-storey extension, but the external assessment indicated that there is little roosting opportunity for bats.

It appears nesting birds – almost certainly house sparrows – have been excluded from nesting at the gable eaves of the main house. The house sparrow is a species of conservation concern and considered to be a biodiversity priority species, so to make alternative provision for house sparrows would be commendable.

Two probable bat droppings at the western gable end of the main, two-storey house loft don't confirm there was an established roost present; but the fitting of the current boxed-eaves does not appear to allow bat access now.

If a bat or bats had been in the loft, any replacement of boxed eaves should have ensured a small gap was left at the soffit so bats could still gain entry. This could still be done retrospectively by cutting a rectangular opening of 40mms wide and 12-15 mms deep in the soffit board, immediately adjacent to the wall, preferably towards the gable apex.

Either way, the building of the garage presents an opportunity to make some provision for bats via integrated bat boxes. I recommend 3 – one in each of the south, west and north elevations as near the eaves as possible.

Care should be taken when planning any lighting on the site, to ensure any potential roosting features provided are appropriately shielded.

It would also be possible to instal integrated nest boxes for house sparrows, again under the eaves. One 'sparrow terrace' containing 3 nesting opportunities in the northern elevation is recommended."

I understand it is no longer the intention to build a garage. Part of the hedgerow will be removed as previously proposed however to allow access to a new parking area.

Number 12 is a modern-style house dating from around the 1980s. It has a very long, narrow rear garden, with trees along all three boundaries:



Garden from top (north) and bottom

There's a low hedge along the drive to the north of the house, which will be removed, along with one or two large conifers, to facilitate construction of the vehicular access to the new build:



House and drive from north

I understand the garage access of the existing house is to be eliminated.

The site is in a sub-urban location which links directly with wooded habitat; beyond which are Parker's Lodges. The nearest is 250m away to the south:



Location of site indicated by red circle

A tree survey was done by Mulberry TMC in March 2018 and reported-on in February 2022. A site plan showing the existing and proposed site layout, as well as their numbering of the trees, is reproduced in Appendix 1.

The pipistrelle bat (2 species: *Pipistrellus pipistrellus* - the common pipistrelle, and *Pipistrellus pygmaeus* - the soprano pipistrelle) is common and widespread in the area.

Roosts of these species can occur in any building that provides suitable roosting crevices, with the risk of bat presence increased by close proximity to good bat feeding habitat and commuting routes; for example tree-lines, hedges, woodland, scrub and water courses and bodies. The bats use different roosts at different times of year, sometimes singly and sometimes in large groups of females with dependent young. They can move frequently and unpredictably between the roost sites known to them. The majority of house-holders with a roost of this species are unaware of it.

In summer females gather together each with their single off-spring in, sometimes large, maternity colony groups. Disturbance can cause the abandonment of babies (pups). In autumn when the young are independent, females visit males to mate. In winter the bats hibernate and rousing from hibernation - a slow process - can result in a depletion of fat reserves that may compromise the bats' ability to survive the winter. Females become pregnant in spring when their food (insects) becomes available again.

Pipistrelle bats in particular are extremely small, weighing about 5g (the weight of a 2p coin) so need only the smallest of gaps in order to enter to roost; often making use of external features and wall cavities without leaving signs in the loft/interior.

A search of DEFRA's Magic database in 2023 discovered that a 4 bat European Protected Species licences had been granted for developments between 1.2 and 2 kms away. All were for common pipistrelle.

A data search from the National Biodiversity Network in 2023 discovered no bat records within 1km, though I have personally recorded common pipistrelle, soprano pipistrelle, Daubenton's (*Myotis daubentonii*) and whiskered (*Myotis mystacinus*)/Brandt's (*Myotis brandtii*), which are hard to separate without dna analysis. Extending the search to 2kms added the first three of these species and I have myself recorded noctule (*Nyctalus noctula*). I am aware that the South Lancashire Bat Group have recorded multiple additional species in the Kirklees Valley within 2kms.

Bats also roost in tree cavities, and individual bats may roost in minor defects including underneath raised bark and in dense ivy (1).

Breeding birds.

Dense shrubbery, including ivy and brambles, are often used for nesting by the wren (*Troglodytes troglodytes*), dunnock (*Prunella modularis*), also known as the hedge accentor, and house sparrow (*Passer domesticus*) - all species of conservation concern and listed in Section 41 of the Natural Environment and Rural Communities Act (NERC) as species "of principal importance for the purpose of conserving biodiversity" - along with unlisted, common species such as the blackbird (*Turdus merula*). Trees, especially with dense ivy cover, as well as shrubs, can also be used by the song thrush (*Turdus philomelos*) - another Section 41 bird of conservation concern - as well as a range of more common species.

3. Bats and the Law

All British bats and their roosts are legally protected under the Wildlife and Countryside Act of 1981 (as amended) and the EC Habitats Directive of 1994 as implemented by the Conservation of Habitats and Species Regulations 2017.

Where a development will destroy a bat roost, a Low Impact Class Licence or a European Protected Species Licence (Mitigation Licence) is required before the roost can be interfered with in any way. The former applies in cases where only small numbers of common species of bat are using the building within certain parameters. It usually takes approximately 2 weeks for these licences to be issued, whereas the turn-around time for a full European Protected Species Licence is approximately 7 weeks once the application has been submitted. Any licence issued is a legally binding document.

Licences can only be issued providing planning permission has been granted, where applicable.

When a roost is found, both the bat consultant and the planners have to apply the "three tests" required by Natural England. Essentially these are:

- That the development is necessary for the purpose of “preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequence of primary importance for the environment”;
- That there is “no satisfactory alternative”;
- That the action authorised “will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

N.b. The way in which the necessity is assessed includes whether the client has an alternative that it would be reasonable to expect them to adopt.

Necessary mitigation and compensation measures to ensure the favourable conservation status of bats will be maintained, would include appropriate timing and methodology for the work, including details of how the bats will be provided-for in the long term.

Planners are required by the Government to satisfy themselves before granting planning consent that it would be possible for a licence to be obtained if necessary. Accordingly they are obliged to apply the three tests before issuing consent. For this reason enough survey work has to have been undertaken that the planning authority can evaluate whether or not the three tests can be satisfied and what degree of compensation/enhancement is necessary. To avoid delays in obtaining consent it is in the client's best interest to find out sooner rather than later whether any bat roosting issues need to be addressed.

Natural England, the Government body responsible for administering the law relating to bats, have issued guidelines to planners on how to proceed with respect to bats.

Outside the planning system, the onus is on developers/members of the public, to have sufficient investigations undertaken to satisfy themselves (and the authorities in the event of a subsequent investigation), that their actions are unlikely to be in contravention of bat legislation.

N.b. It should always be remembered that bats often roost in places not anticipated by a lay person, such as modern buildings, trees with cavities, and bridges. Some leave no signs in lofts, as they roost underneath external features such as roof slates, ridges, weather-boarding and cladding.

In the case of a building, tree or other feature not already known to be a bat roost, if bats are found during the course of work, contractors are legally obliged to stop work and seek advice. This should be from an appropriately experienced and licenced bat ecologist.

Roosts are protected whether or not bats are there at the time. Bats are protected from direct interference and disturbance. Lofts where bats roost should be accessed only by bat workers with an appropriate licence, or by operatives accompanied by such a person. (The exception is in the case of householders who may enter to store and retrieve items such as suitcases, without a licence.) It is an offence to destroy a bat roost or obstruct access to it. Certain activities that would otherwise be illegal can be undertaken if covered by licence from Natural England.

Breeding birds.

The Wildlife and Countryside Act of 1981 gives protection to the nests of all wild birds whilst being built or in use, including by newly fledged birds that have not left the immediate vicinity of the nest. The bird nesting season is generally considered to be 1st March to 31st July for most species but can extend a number of weeks either side of this depending on the species concerned and weather conditions in that particular year. Natural England cite the nesting season as being 1st March to 31st August.

A consortium of organisations, via their report on “The population status of birds in the UK: Birds of Conservation Concern 5 (2021)” have listed species according to their conservation need based on red, amber, green basis, where red is of the highest conservation concern.

Additional Relevant Legislation and Policy.

Between 1995 and 2010 certain more vulnerable habitats and species were the subject of National or Local Biodiversity Action Plans. This strategy for the protection of biodiversity has been superseded by UK post-2010 Biodiversity Framework, which is largely now implemented at county level. Internationally The Convention on Biodiversity produced a Strategic Plan for Biodiversity 2011-2020. Further to this the EU Biodiversity Strategy was launched in 2011.

Section 41 of the Natural Environment and Rural Communities Act 2006 lists species “of principal importance for the purpose of conserving biodiversity”. The list was up-dated in 2014 and includes the brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctula*) soprano pipistrelle (*Pipistrellus pygmaeus*) and 4 other bat species.

‘Biodiversity Net Gain’ (BNG) became mandatory for certain developments from 12 February 2024 under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). In England developers must deliver a BNG of 10%. This means a development will result in more or better quality natural habitat than there was before development. While this initiative relates primarily to vegetation, it accords with the principles to consider the needs of fauna also.

4. Survey

I made a daytime visit on **16/12/24** to reassess the likely importance of the trees on this site to bats and advise whether or not a precautionary approach or further survey work is needed.

They were inspected from the ground with the aid of 2 million candle-power torch, binoculars (8x42) and camera with 6x optical zoom. and Head-torch, 10x 50 binoculars, fibrescope (6 and 17mm heads, extendable to 2m) and mirrors were also available if needed.

I was looking for access to potential roosting places and evidence of their use, such as droppings and staining.

Having been involved with bat survey work for 37 years and consultancy work for 28 years, it is always my objective to carry-out my work in a manner consistent with accepted Good Practice Guidelines (3) and consistent with the code of practice of the CIEEM. I hold Natural England Class Licences CL21 (Annex B) and 18. Amongst other things these cover me to apply for Low Impact Licences for clients and undertake bat survey work. I also have a CL29 Barn Owl Class Licence. My credentials are expanded-upon in Appendix 2. The basic criteria I use for assessing the level of risk of roosting are given in Appendix 3.

I also take into consideration the surrounding habitat and the range of bat species it appears likely to support, along with the quality of the habitat linkages with the wider area.

The survey was conducted with the needs of different species of bat over the seasons in mind.

Incidentally I comment on any relevant issues discovered with respect to bat feeding habitat and commuting routes, possibly including likely roosting sites nearby, as well as any relevant findings with respect to other protected/invasive species, biodiversity priority species and species of conservation concern.

5. Limitations of the survey

This was a preliminary survey to discover whether there are obvious signs of use by bats and to assess potential for use. If potential exists, usually follow-up work is required at dusk or dawn, possibly at a more appropriate time of year. See Appendix 3.

The trees in Group 4 (see Appendix 1), and the house, were not reassessed.

It should be noted that droppings are the sign most frequently found, but they are often deposited in areas that cannot be easily visualised, if at all, and they can turn to powder quite quickly. They are usually soon washed and blown away from exposed external surfaces so evidence of use often doesn't last long and pipistrelle bats in particular can change roosts frequently. However an assessment has been made of potential bat roosting places associated with the exterior of the building.

There are additional limitations to undertaking a bat survey in winter, when bats are hibernating and largely inactive. Droppings from the summer may no longer be evident.

As bats often roost in crevices in winter, and are particularly hard to locate when hibernating, the report will highlight any areas that could be used by bats in winter without their presence necessarily being obvious.

6. Findings

The following findings have been reproduced from the survey of June 2023:

"The property is on the edge of a small estate of similar properties.

To the east of the development site is an overgrown area of naturally regenerating vegetation:



To the south is a pasture with trees and hedge boundaries:



To the west are the large gardens of other dwellings:



View of site from south along western boundary

While there are some smaller trees, mainly towards the bottom of the garden away from the proposed location of the new house, including old fruit trees; most are large, mature specimens, both deciduous and coniferous. A variety of native deciduous species are present including whitebeam, lime, field maple, oak, ash, willow, bird cherry, hawthorn and ash. There are large cherry laurel's too.

The tree report made reference to felling 5 willow trees with stem decay from Groups 2, 3 and 5 (see Appendix 1).

As trees with decay may have bat roosting potential an attempt was made to identify any such potential associated with these trees.

In only one willow reported to have decay taking place, was any decay obvious with the access available at the time of this survey. This was at low level on the south side of a tree in Group 2. It appeared this is quite innocuous currently from a bat roosting potential point-of-view:



There could have been further defects at higher level that could not be seen in summer, though the likelihood of the presence of a large cavity seems low.

There is damage to a limb of another willow in Group 5 however:



Currently this does not appear to provide bat roosting potential.

Group 2 is a collection of large, mainly native trees in close proximity to each other on the eastern boundary near the house:



These trees are along the boundary of the existing garden that is to be retained by number 12; including part that will be made into a car-parking area for the new build. (See Appendix 1.)

Although there is a public footpath immediately beyond the eastern boundary, the extent of the foliage made it impossible to survey these trees effectively. All that can be said is that they appeared in good condition, with the exception of the willow referred-to above.

Superficially it appears there is no reason from a development point-of-view for the majority of trees in Group 2 to be under threat or removal, except perhaps that some cutting back may be needed to facilitate access at the time of the development, which may also potentially cause damage to the root zones. At least one close to the house needs removal to provide access to the new development.

I understand the hedge and small trees (Group 1) to the north of Group 2 are also for removal. There is no bat roosting potential associated with these, but birds such as the house sparrow could nest in the hedge. The house sparrow is a species of conservation concern. Nesting sites of all wild birds are protected whilst in use.

No obvious defects were seen in other trees on the site."

At this survey it was much easier to inspect deciduous trees. No major defects were identified.

On the eastern boundary in Group 2, there was the beginning of a freshly excavated hole at about 3m on the west side of a relatively small tree, thought to be a willow:



There was another, apparently shallow hole on the west side of a larger, adjacent tree in Group 3, at about 6m:



The full extent of any hollowing-out within the tree could not be assessed from the ground.

The upper part of a limb has fallen from a tree in Group 5 on the western boundary:



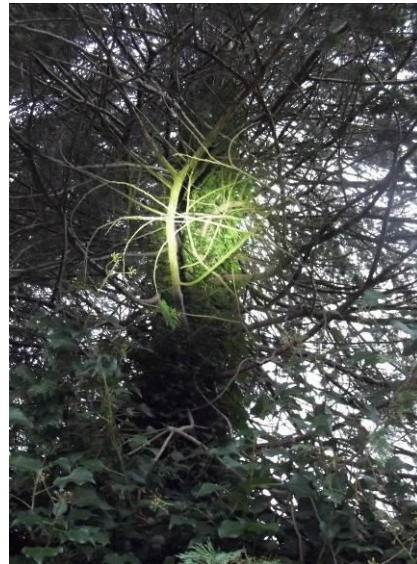
Currently damage to the remaining limb is superficial and lacks bat roosting potential.

Nothing else of significance was identified.

Although conifers of the type found here - thought to be *Leylandii* cypress - generally lack trunk-cavities, branches can grow in close proximity to each other, providing

potential shelter for individual bats. Foliage provides protection from the worst of the elements throughout the year.

The conifers here have relatively open growth, though there is some light ivy-growth in places:



Tree for removal near house to allow creation of new access to rear garden

It appears two conifers will require removal:



Conifers for removal as seen from north and west

Ivy to the fence in the foreground above is dense enough for use by nesting birds and will be impacted to some degree by the creation of the new access.

Access to a new drive and parking area for number 12 still requires the removal of a section of front hedge. The parking area will be located between the existing single-storey extension and the hedge along the front boundary:



Front hedge and extension as seen from south and east

The vicinity of the garage door to be removed was checked for bat roosting potential:



Bat access is possible into the canopy over the door, on the south side:



7. Conclusions/Discussion

n.b. Upon completion of the report I was made aware that the plans have now changed slightly, with fewer trees planned for removal. The report has not been amended.

No major sources of roosting potential were identified in association with the trees. Some minor defects will increase in size with time, sufficiently to provide potential roosting places in the future. For this reason, along with the wider biodiversity value of mature trees, especially of native species, every attempt should be made to retain as many as possible. Removal should be a last resort when reduction in size and span of the canopy, accompanied by protection of the root zone, cannot achieve an acceptable result.

Only one small opening in a tree in Group 2 was identified that would benefit from closer inspection before the tree is felled – if felling is unavoidable. The bat consultant should meet with tree surgeons before they commence. The defect should be inspected with the bat consultant in attendance, though it is anticipated there will be little bat roosting potential available within currently. A tool-box-talk can be provided to ensure appropriate care is taken and the contractors know what to do in the event they should unexpectedly find either a bat or a defect with roosting potential that was over-looked at this survey.

No hedging, trees or ivy should be removed during the bird nesting season.

The canopy over the garage door must not be removed unless there has been further, professional investigation of whether bats use it for roosting. Appendix 4 gives the basic criteria for additional survey work being needed.

As there will be some felling of trees that are at a stage of life where bat roosting potential has started to develop, there should be bat roosting potential provided in retained trees, via bat boxes. This would accord with principles of the Biodiversity Net Gain

initiative. As there will now be no new build on the site in which to instal integrated bat boxes, there should be 6 bat boxes in trees.

I recommend boxes made by Greenwoods Ecohabitats, which are made of a concrete mixed with recycled polystyrene. This gives them better thermal properties than wooden boxes and they are much more durable. Larger, multiple-creviced boxes are advised. <https://www.greenwoodsecohabitats.co.uk/shop>

The bat boxes should be put up by tree climbers in the presence of the bat consultant. Ideally this would be done at the time of tree surgery.

Proposed landscaping should provide replacement trees and shrubs of native species.

Care should be taken when planning any lighting on the site, to ensure any potential roosting features retained or provided, and likely flight-lines to and from them, are appropriately shielded. (4)

8. Recommendations

These recommendations should be read in conjunction with the conclusions above.

Retain as many existing trees as possible via appropriate management.

Do all trees works and removal of hedging and ivy outside the bird nesting season.

Have the bat consultant on-site at the start of the tree-felling works to provide a tool-box-talk to the contractors and advise on any aerial inspection of defects needed.

At the same visit have bat boxes put up in trees by tree-climbers in the presence of the bat consultant.

Compensatory planting of trees and shrubs should be of native species.

Light-spill from the building, on-site lighting and security lighting must be kept to a minimum. Bat boxes in trees and potential flight lines to and from them must remain unlit.

9. References

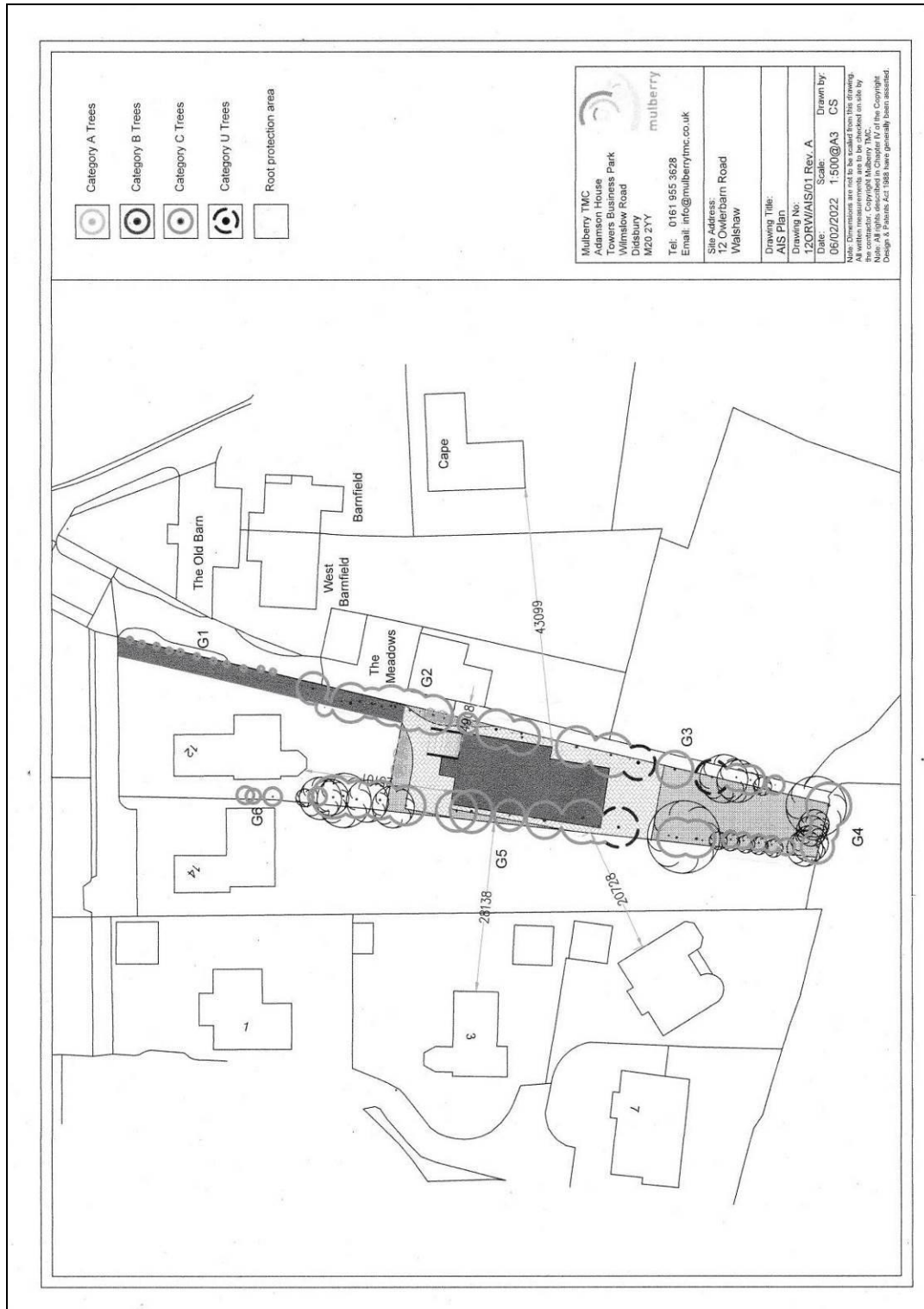
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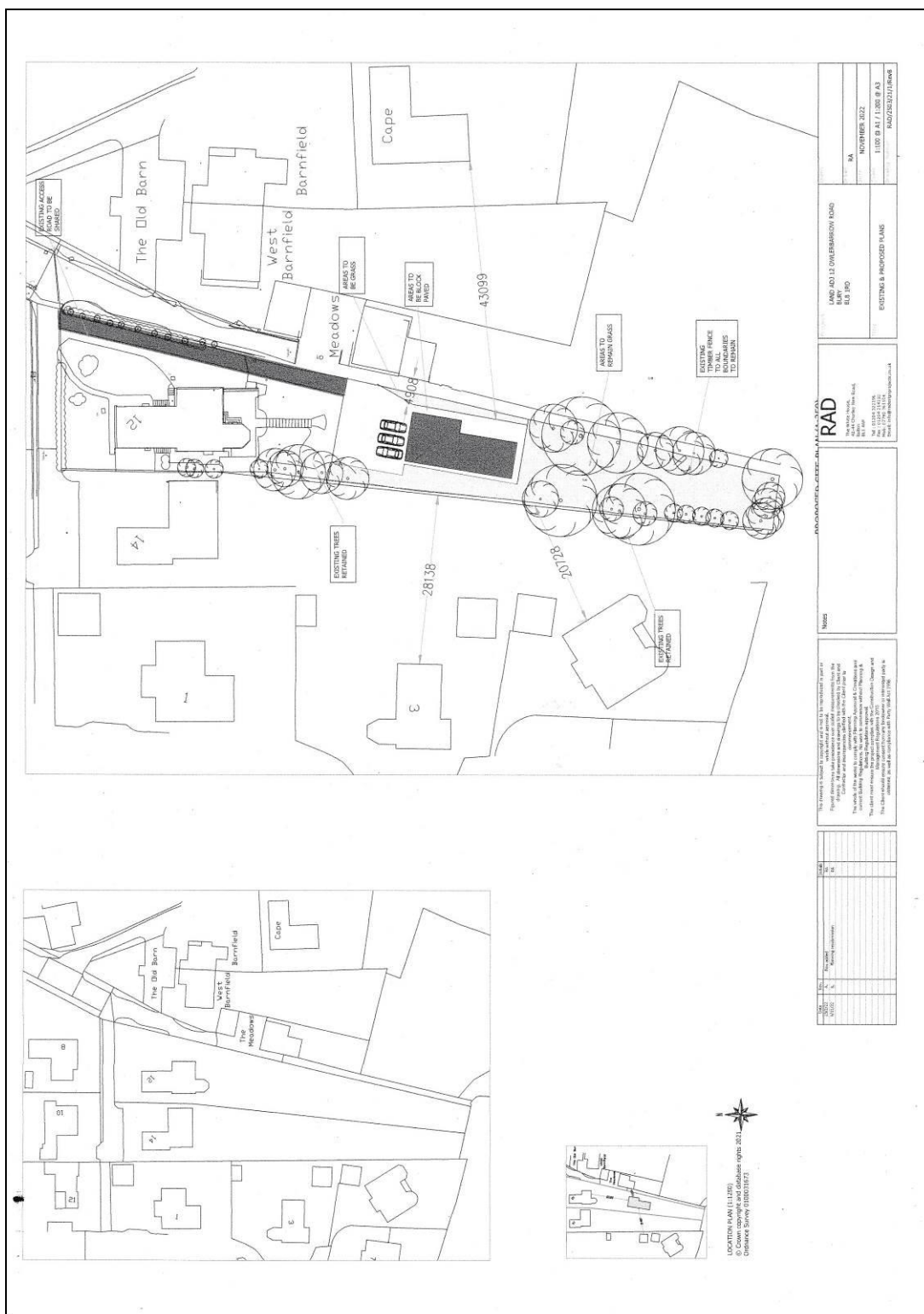
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Appendix 1 – Existing and proposed site plans as 2023, showing trees

n.b, upon completion of the report I was made aware that the plans have now changed slightly, with fewer trees planned for removal



Tree groupings (G1 to 6) as devised by Mulberry TMC, February 2022.



Descriptions of trees/groupings as reproduced from the report of February 2022 by Mulberry TMC, plus plan for removal:

Arboricultural Implications Study- 12 Owlerbarrow Road

TREE SURVEY SCHEDULE

Arboricultural Data Sheet:					Date of Survey: 17/03/18				Surveyor: C. Salisbury			
Tree No.	Species	DBH (mm)	Height (m)	Age	Crown Spread (m)				Crown clearance	Condition rating	Comments and preliminary management recommendations	Estimated remaining contribution
					N	E	S	W				
G1	Cherry	60 avg.	2.00	Y	-	-	-	-	1.00	B/C	A linear group being maintained at their current height.	20 – 40
G2	Lime, Conifer, Willow & Birch	150 avg.	14.20	SM/ M	-	-	-	-	0.40	B/C	A linear mixed species belt situated on the property boundary. – Fell Willow with stem decay	20 – 40
G3	Ash, Maple, Willow, Oak & Conifer	210 avg.	13.80	SM/E M	-	-	-	-	0.60	B/C	A linear mixed species belt situated on the property boundary. – Fell 2 x Willow with stem decay and in decline	20 – 40
G4	Maple & Hawthorn	230 avg.	13.20	EM/ OM	-	-	-	-	0.40	B/C	A linear mixed species belt situated on the property boundary.	20 – 40
G5	Apple, Conifer, Birch, Ash, Oak, Willow, Alder & Cherry	260 avg.	13.40	EM	-	-	-	-	1.20	B/C	A linear mixed species belt situated on the property boundary. – Fell 3 x Willow with stem decay and in decline	20 – 40
G6	2 x Cherry & 1 x Conifer	110 avg.	8.80	SM	-	-	-	-	1.00	B/C	A poor-quality mixed species group.	20 – 40

Tree No.	Root Protection Area identified in Table 2 of BS 5837:2012	Distance to Proposed Hard Standing (m)	Distance to Proposed Development (m)	Can the Tree/s be Successfully Retained
G1	Fell Due to Development			
G2	Fell Due to Development			
G3	20m ²	1.70	10.70	Retain with the exception of 4 trees due to development
G4	24m ²	2.90	11.60	Yes
G5	31m ²	4.20	11.80	Retain with the exception of 10 trees due to development
G6	5m ²	22.10	27.80	Yes

Tree No.	Trees to be retained		Trees to be removed	
	With No Impact	With detailed construction	Due to Condition	Due to Development
	G3, G4, G5 & G6	N/A	G2 (1 tree), G3 (2 trees) & G5 (3 trees)	G1, G2, G3 (4 trees) & G5 (10 trees)

Appendix 2 - Angela Graham's Experience.

- I hold Natural England Class Licences CL21 (Annex B) - Registered Consultant 163 - and CL18 (CL18 (2015 11871 - CLS-CLS). CL21 covers me to apply for Low Impact Class Licences for clients - a more stream-lined system for quickly obtaining a licence from Natural England when a roost of a small number of common bat species will be impacted-upon by the development. CL18 covers me for survey/consultancy/scientific work. I have a supplementary licence to possess up to 10 live/dead bat specimens (20123429). I have a CL29 licence to disturb barn owls.
- I'm a member of The Chartered Institute of Ecology and Environmental Management.
- I undertake my work in accordance with the principles outlined in the Bat Conservation Trust's "Good Practice Guidelines".
- I have been involved in bat conservation for over 30 years, initially as a member of the South Lancashire Bat Group from its inception in 1987 and as a volunteer with the Nature Conservancy Council (NCC) - first licenced in 1989. Later, and for many years, I was Co-ordinator/Chair and Trainer for the South Lancashire Bat Group. I trained the people who currently run the group, one of whom has been a Trustee for the Bat Conservation Trust. I was a founder member of the Greater Manchester Bat Group in 2002 and ran the group for 4 years.
- Over the last 27 years I have done increasing numbers of bat surveys on a consultancy basis, firstly part-time then full time from December 2003.
- My experience in applying-for European Protected Species Licences with respect to bats spans over 20 years.
- From 2003 to 2008 I represented the bat groups of the north-west region at national bat worker meetings, hosted by the Bat Conservation Trust.

Other experience includes:

- Attending bat-worker conferences every year since 1988 (mainly England, some in Wales) plus additional symposia on specific topics such as mitigation and woodland bats.
- Helping with winter surveys of underground hibernation sites in Clwyd and north Lancashire.
- Participating in "Bat Detector Workshops" during the 1990s in different areas of the country, concerned with locating bat roosts and feeding sites/commuting routes.
- Sitting on local council "Wildlife Advisory Groups" (WAGs) in the Greater Manchester area from the early 1990s until around 2005.
- Helping local authorities and the Greater Manchester Ecology Unit formulate their Biodiversity Action Plans for bats.
- Administering the bat casework for English Nature (now Natural England) in the South Lancashire and Greater Manchester areas over 1998-2000.
- Assisting with research involving mist netting, harp trapping and radio-tracking.
- Continuing to attend courses run by recognised experts to ensure I stay up-to date both with respect to bat survey-work and conservation, and issues such as health and safety.
- Re-passing the Construction Site (CITB) Operatives test in June 2017.
- Contributing to the Bat Conservation Trust's survey standards guidelines.

Other ecological experience includes:

- Bird watching for fun since 1982 with a general interest in wildlife, ecology and conservation for a similar period.
- Attending short courses and field training with respect to grasses, flowering plants, British mammals including water voles, reptiles and amphibians, non-native invasive plant species, Extended Phase 1 Habitat Surveying, National Vegetation Classification, Environmental Impact Assessment and use of GIS.
- Taking part in British Trust for Ornithology breeding bird surveys annually.
- A year-long sandwich placement assisting with badger research, including radio-tracking.
- Short periods of voluntary work with the Lancashire Wildlife Trust and Royal Society for Protection of Birds.

Appendix 3 - Personally-devised criteria used in assessing risk of roosting (in the absence of obvious evidence at the preliminary survey).

Risk of roosting	Definition	Suggested Action
Nil	Whole of structure/tree can be seen well enough to be sure there are no roosting opportunities.	No need to consider bats further unless development is delayed and potential roosting places might develop in time.
Minimal/negligible	All or most of structure/tree can be seen well enough to suggest there are few, if any, places suitable for roosting and the location does not provide easy access to potential feeding grounds.	Although roosting is thought to be unlikely and therefore the development is unlikely to impact on the favourable conservation status of bats, a precautionary approach should be taken in relevant areas at the time of the work. Further survey work needed only if development delayed.
Low	Whole of structure/tree can be seen well enough to know there are no more than a few openings that could be used by an individual bat or two and/or these provide access to the sorts of features that are likely to be suboptimal due to materials and/or conditions within (eg unstable temperature); and/or the location provides limited access to potential feeding grounds.	Although regular roosting is thought to be relatively unlikely and the development is unlikely to impact on the favourable conservation status of bats, a single survey at dusk or dawn in favourable weather conditions would be appropriate to accord with good practice. This would reduce the extent to which the judgement is based on speculation. If the findings were ambiguous e.g. possible bat emergence and/or considerable bat activity around the building, the survey would need repeating.
Moderate/medium	A small number of openings are present in an area of reasonable habitat, and at least some seem likely to provide access to good conditions for roosting bats, and/or a loft/hay-loft is present that appears to have good qualities for roosting but there were limitations to access or no evidence of bats was found at the time. Cellars may be assessed as potentially being suitable for hibernation in winter,	Further work is needed to better assess the abundance of bat activity in the vicinity and whether or not bats seem to make use of the roosting potential available. To accord with good practice a dusk emergence survey and a dawn return-to-roost survey will be necessary. A second inspection of the interior may also be necessary - if the survey was undertaken in winter for example. As the absence of bats on two occasions wouldn't guarantee absence at other

	but the conditions and/or location aren't optimal.	times, possibly including winter, some precautions would be needed at the time of the work and some roosting potential should be retained/re-created. In the case of cellars and equivalent, inspection in winter is necessary. Some work, for example pointing old stone walls, should be avoided in winter.
High	There is at least one feature that is typical of those favoured by bats for regular roosting and it/they provide access to abundant insect food on-site and/or via good links with the wider natural environment. The feature/s could be suitable for use by a maternity colony, either as a main or satellite roost, or by a territorial male in autumn in the case of pipistrelles, or by individuals or small numbers of bats at any time of year, including winter when hibernating.	The extent to which bats of different species make use of the potential available needs to be investigated by carrying-out at least 3 surveys at dusk and/or dawn spaced over the months of May to September inclusive, possibly extending into April or October if weather conditions are favourable. (Air temperature above 8°C and not more than light rain and/or gentle breeze. I generally plan to do surveys only when the forecast is for 10°C or above.) Maternity colonies have largely disbanded by September, but territorial male pipistrelles may be missed without a survey in September and a lot of smaller roosts are discovered at this time of year. As bats could hibernate unseen in winter and/or roost at other times not covered by the survey work, appropriate precautions would be needed at the time of the work along with maintenance of appropriate potential roosting places.
High - hibernation only	Cave-like places with stable conditions and high humidity, such as cellars can be used for hibernation in winter.	High-risk potential hibernation sites need at least 3 inspections spaced over the winter months as bats will move between sites depending on the weather conditions.

Appendix 4 - Recommendations for further survey work when the findings of the preliminary survey were negative.

N.b. new Good Practice Guidelines were published in late 2023, but the guidance has changed little from that shown below, except to extend the recommended minimum period between surveys to 3 weeks and put more emphasis on the use of infra-red recording equipment.

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Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in the category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Taken from "Bat Surveys for Professional Ecologists: Good Practice Guidelines", 3rd Edition (2)