



BAT SURVEY

BOLSTON HOUSE, BONVILSTON, VALE OF GLAMORGAN

OCTOBER 2021

Portabella Ltd

Issue: 1
Version: B



Celtic Ecology and Conservation Ltd
374 Cowbridge Road East
Cardiff
CF5 1JJ

info@cecltd.uk

Page intentionally left blank

PORTABELLA LTD

Proposed Development: Bolston House, Bonvilston, Vale of Glamorgan

Bat Survey

Document control

Issue	Stage	Author	Checked	Approved	Date
1	ISSUE	HD	BE	HD	05.10.2021

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Approved by	Date
1	A	Updated drawing SP612 P02 (Planning) <i>Site Layout Plan</i>	HD	19.11.2021
1	B	Amended mitigation location & details	HD	08.02.2022

Disclaimer

No part of this report may be copied or reproduced by any means without prior written permission from Celtic Ecology and Conservation Ltd. If you have received this report in error, please destroy all copies in your possession or control.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by Celtic Ecology and Conservation Ltd, no other party may use, make use of or rely on the contents of the report. No liability is accepted by Celtic Ecology and Conservation Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of Celtic Ecology and Conservation Ltd using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy.

Please note: this document remains the property of Celtic Ecology and Conservation Ltd and it may not be used for any purpose until such time as the invoice and/or any outstanding invoices have been paid unless Celtic Ecology and Conservation Ltd gives permission otherwise.

CONTENTS

NON-TECHNICAL SUMMARY	1
1 INTRODUCTION	3
1.1 BACKGROUND	3
1.2 SITE DESCRIPTION	3
1.3 SURVEYOR INFORMATION	7
2 ECOLOGY	8
2.1 BATS	8
3 LEGISLATION AND POLICIES.....	9
3.1 CONSERVATION OF HABITATS & SPECIES REGULATIONS 2019	9
3.2 WILDLIFE & COUNTRYSIDE ACT 1981	9
3.3 THE NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT, 2006	9
3.4 THE ENVIRONMENT (WALES) ACT, 2016	10
3.5 THE WELL BEING OF FUTURE GENERATIONS (WALES) ACT, 2015	10
4 METHODOLOGY	12
4.1 DESK STUDY	12
4.2 SCOPING SURVEY	12
4.3 GROUND BASED TREE ASSESSMENT	13
4.4 ACTIVITY SURVEY	14
4.5 TREE CLIMB AND INSPECT SURVEY	16
4.6 CONSTRAINTS	16
5 RESULTS	17
5.1 DESK STUDY	17
5.2 BUILDING SCOPING SURVEY	17
5.3 GROUND BASED TREE ASSESSMENT	18
5.4 BAT ACTIVITY SURVEY	19
5.5 TREE CLIMBING SURVEY	23
6 EVALUATION OF ECOLOGICAL FEATURES	25
6.1 SOPRANO PIPISTRELLE	25
6.2 LESSER HORSESHOE	25
6.3 OTHER BAT SPECIES	25
6.4 WINTER USE	25
6.5 ROOST LOCATIONS	26
6.6 INCIDENTAL RECORDS	26
7 CONCLUSION	27
8 IMPACTS OF DEVELOPMENT.....	28
8.1 PROPOSED DEVELOPMENT	28
8.2 PREDICTED IMPACTS WITHOUT MITIGATION	28
8.3 MITIGATING THE IMPACTS	28
8.4 GENERAL	29

9	GENERAL RECOMMENDATIONS.....	30
9.1	LICENSING	30
9.2	SUPERVISION	30
9.3	TIMESCALES	30
9.4	LIGHTING	31
9.5	TIMBER MATERIAL DETAILS	31
9.6	ROOFING MATERIALS	31
10	REFERENCES	32
	APPENDIX A - PHOTOGRAPHS.....	33
	APPENDIX B – DRAWINGS	38

Drawings

Number	Title
SP612 LRP100 v4	Site Location Plan
SP612 P02	Proposed Site Layout Plan

(NOTE: all full size drawings will be submitted separately with the planning application)

NON-TECHNICAL SUMMARY

An initial building inspection was undertaken in February 2021 as part of a full Ecological Assessment of a domestic property, Bolston House, in Bonvilston in the Vale of Glamorgan, south Wales (*Proposed Development: Bolston House, Bonvilston - Ecological Assessment*, Celtic Ecology and Conservation Ltd, March 2021). Following the recommendations made therein based on the presence of records of bats in the building (from 2016) and the presence of droppings observed during the building inspection, a full suite of bat activity surveys was carried out between May and August 2021.

Bolston House offers bats multiple potential access points into the roof spaces, via gaps behind external timberwork and a number slipped, raised or missing slates and ridge tiles.

There are numerous roosting locations within all the buildings.

The outbuildings were also considered to be suitable for roosting bats; indeed, droppings were observed within the garage building.

With the presence of confirmed records from the building and the droppings in the house and garage, it was therefore recommended that activity surveys be undertaken of the house, to determine what level of bat activity was in the area and whether or not the buildings were used. Therefore, three dusk emergence surveys were carried out between May and August 2021 in accordance with the current survey guidelines and best practice, to determine whether or not bats were present, the species concerned, in what numbers, for what purpose they are using the buildings and what mitigation might be required. The survey was carried out in accordance with current guidance on standards of survey for bats (Collins (Ed) Bat Conservation Trust (BCT) 2016).

Common pipistrelle, soprano pipistrelle, brown long-eared, noctule and lesser horseshoe bats were heard and seen during the surveys by all surveyors. Additionally, *Myotis* species bat calls were heard during the first and second survey visits.

Soprano pipistrelle bats were seen to emerge from the house on the front and rear elevations apparently for occasional day roosting. A maximum (peak) count of two lesser horseshoe bats was made using the garage for occasional day roosting and night perching purposes.

It is therefore considered that Bolston House and the garage are both currently used by bats for roosting purposes and that, as bats were observed using the buildings, mitigation, a Natural Resources Wales (NRW) development licence with an accompanying method statement detailing appropriate mitigation will be required prior to the commencement of any demolition.

There will be constraints to the methods used for demolition; all roof removal will have to be completed by hand under ecological supervision until the supervising ecologist says that work may continue without supervision.

It will be a requirement that a suitably licensed and experienced ecologist be on site when works to remove the roof are carried out.

In the event that any evidence of bats other than soprano pipistrelle and lesser horseshoe is observed, works will cease and the ecologist (or Natural Resources Wales) be consulted immediately. Works may only resume on receipt of written confirmation from either the ecologist or NRW. Further surveys may be required.

The ecologist will be “on call” for the duration of the project in the event that bats are encountered at a later date.

Seasonal constraints will apply to the demolition.

1 INTRODUCTION

1.1 BACKGROUND

A building inspection was undertaken in February 2021 by Celtic Ecology and Conservation Ltd. of a domestic property, Bolston House in Bonvilston in Vale of Glamorgan in south Wales. During this inspection, evidence of bats was observed in the main roof space over the house and in the garage. A number of potential bat access points and possible roost sites were noted.

Celtic Ecology and Conservation Ltd. was then commissioned by the site owner to undertake a bat activity survey of the buildings.

This survey report therefore details the findings of the survey visits undertaken between May and August 2021 and provides an assessment of bat activity at the site.

Bats were found to be using Bolston House during the survey visits. As such, mitigation and a development licence will be required.

The surveys were carried out in accordance with current guidance on standards of survey for bats (Bat Conservation Trust, 2016¹) as required by Natural Resources Wales (NRW) and Vale of Glamorgan Council (VoGC).

1.2 SITE DESCRIPTION

Bolston House is located in a wholly rural landscape to the south east of the main village of Bonvilston in Vale of Glamorgan in south Wales (National Grid Reference SO 35501207; **Figures 1 & 2**).

Photos are at **Appendix A**.

The site is approximately 0.9ha in extent and is located in the centre of Bonvilston to the west of Cardiff in the Vale of Glamorgan in south Wales (centred on NGR ST 06607410) (**Figures 1 & 2**). The site is approximately rectangular in shape, with its longest axis oriented north-south. This ecologically small site is comprised of a domestic property (Plates 1 – 8) surrounded by gardens (Plates 9 – 17) containing mature trees, shrubs, lawns and bare ground.

The site is bounded by vegetated fences and walls with houses, gardens and roads beyond .

There are three man-made structures on the site:

Bolston House

This is a rendered domestic two storey property under a simple pitched slate roof, the main ridge of which is oriented generally east – west with a subsidiary ridge oriented north south. The building appears to be older than 1850, the north south section being an extension built after 1870. External timberwork where present is in a poor condition with gaps between them and the walls.

The roof is in a reasonable condition, with very few missing, raised or slipped tiles. All ridge tiles appear to be well seated with no obvious gaps. All lead flashing is in a good condition with no lifted sections.

All brickwork and stone facings are in a good condition with no missing mortar or obvious crevices / gaps.

¹ *Bat Surveys for Professional Ecologists - Good Practice Guidelines* (Collins, J (Ed). BCT, 2016)

Internally, the roof is divided into a number of sections. All are lined with bitumen felt.

The main east – west roof has a joist to ridge height of approximately 2m and is of an open purlin and rafter construction. one continuous space lined with bitumen felt.

The north – south extension has a joist to ridge height of approximately 1.5m and is also lined with bitumen felt. The roof is of open trussed construction.

All roof spaces are insulated at joist level. There are gaps visible (i.e. daylight showing) at eaves level and at gable ends. The roof space is currently used for general storage.

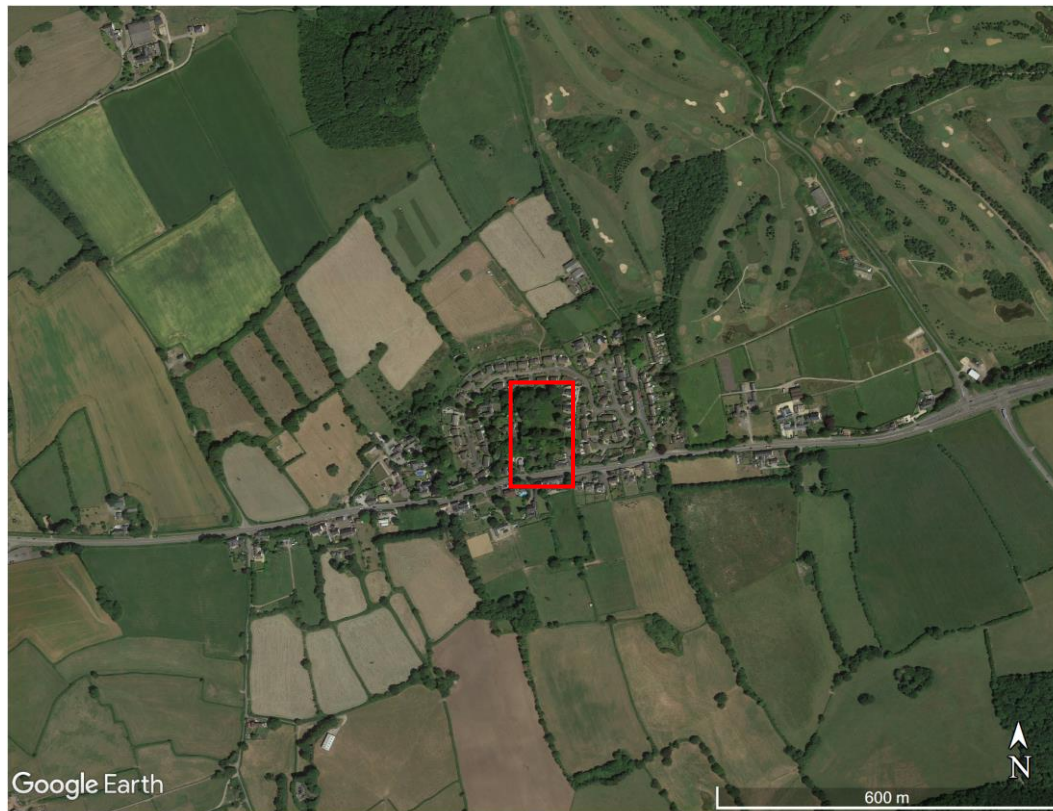
Boiler room / garden store

This is a very small single storey brick built structure under a flat roof at the northern end of the house. There is no roof space in this structure.

Garage / store

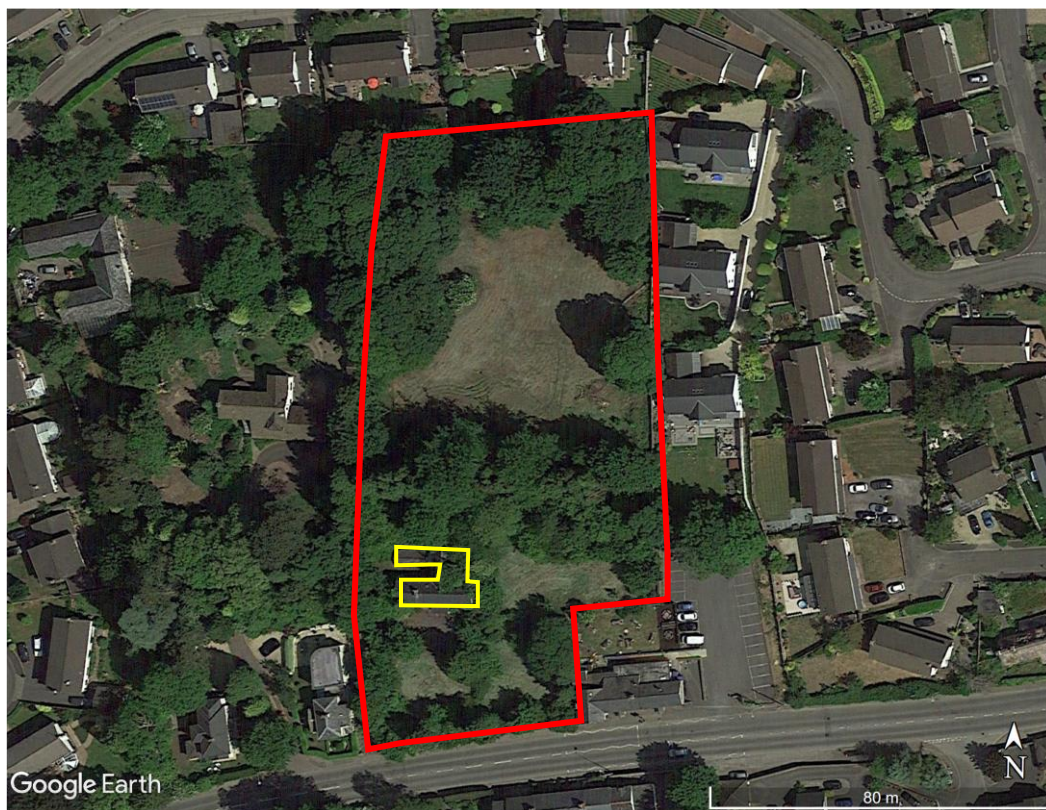
This is a single storey brick built structure under a pitched slate roof the ridge of which is oriented east – west. The roof is open but lined with bitumen felt.

Figure 1 – location of the proposed Bolston House development site (outlined red)



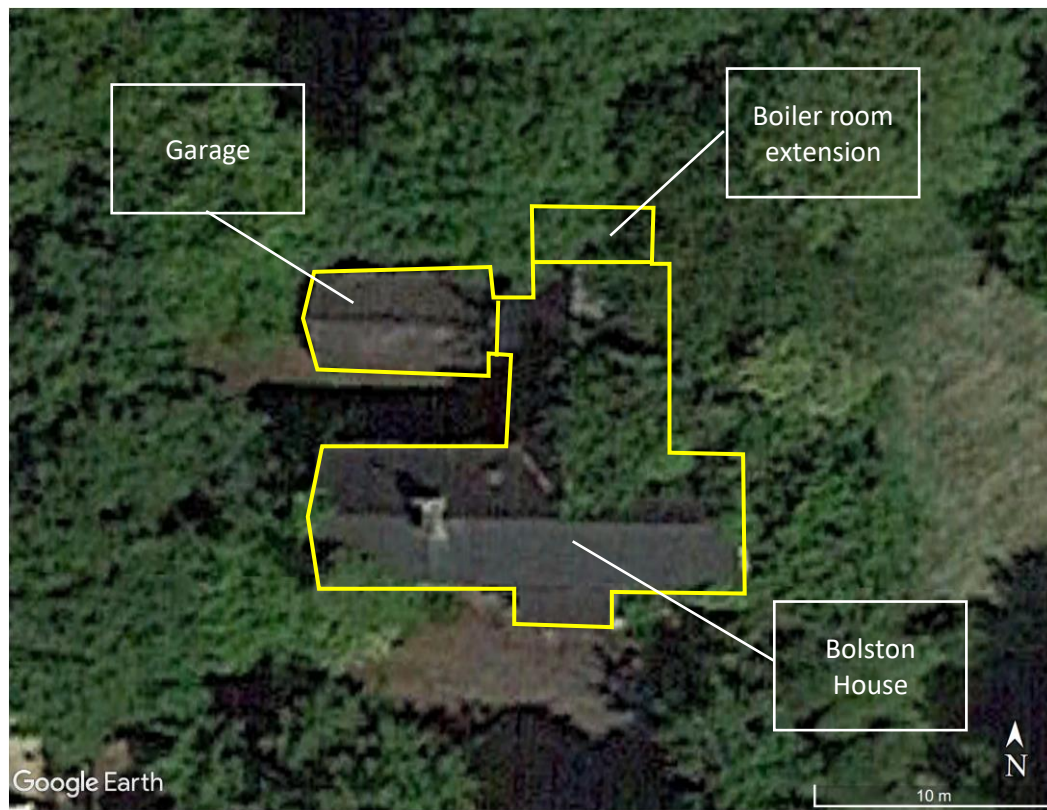
(Image courtesy of Google Earth)

Figure 2 – overview of the proposed Bolston House development site (house outlined yellow)



(Image courtesy of Google Earth)

Figure 3 – detail of Bolston House (house and garage outlined yellow)



(Image courtesy of Google Earth)

1.3 SURVEYOR INFORMATION

The building inspection was undertaken by Hugh Dixon (NRW license number: S0895281-1). Hugh has held an all counties bat survey licence in Wales since 2008. He also holds a level 2 survey licence for all counties in England (licence number: 2015-15256-CLS-CLS)), undertaking numerous bats surveys for commercial and voluntary purposes, dealing with a wide range of species and situations. Hugh has held CCW / NRW and Natural England development licences for a range of species and designed and implemented mitigation and monitoring.

Assisting Hugh with the activity surveys were Beth Evans (NRW licence number: S087972/1) who has worked with Hugh for over 6 years and Nicholas Bunn who has worked with Hugh on various bat surveys for over 2 years. Assistance was also provided by Michael Rogers, Peter Doody, Aled Warwick and Frank Peake who are all training for their survey licences.

2 ECOLOGY

2.1 BATS

British bats are small flying nocturnal mammals that feed exclusively upon insects. There are 17 species resident in Britain, ranging in size from the small pipistrelle species up to the larger noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*) and greater horseshoe bat (*Rhinolophus ferrumequinum*). Bats are active from April through to October and hibernate when insects are in short supply in the winter months. Bats emerge from hibernation in late March - early April and move into their transition / intermediary roosts. Female bats will move to maternity sites by the beginning of May and will give birth to a single baby between June and early July. The baby is reared solely by the mother and is weaned and independent by end of August. After breeding, bats move to transition / intermediary roosts and females will visit males at mating roosts. During the autumn, bats feed voraciously to gain weight for the hibernation ahead.

Although traditionally trees, caves and rock faces were used by roosting bats and are still used, many different structures are used nowadays by bats, which take advantage of readymade (man-made) roosts. Structures used frequently include bridges, ice-houses, pill-boxes, disused railway tunnels, houses and barns etc. Bats have home ranges which vary from species to species; from just 3-4km from the roost for the smaller bats while the larger noctule may fly 20km or more. Threats to bats include habitat destruction and the severance of commuting routes, use of agricultural pesticides, intensification of farming methods and deliberate persecution by man. Bats have few natural predators; however, the domestic cat is probably the most efficient predator.

3 LEGISLATION AND POLICIES

3.1 CONSERVATION OF HABITATS & SPECIES REGULATIONS 2019

European Union legislation required that member states designate sites for the protection of habitats and species included in the annexes of both Council Directive 92/43/EC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). This legislation was implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) ("the Habitat Regulations"). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs) and the protection of particular species. Offences under this legislation include:

- Deliberately (or recklessly in Scotland) capture, injure or kill a bat
- Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence)
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

It should be noted that whilst the UK is no longer a member state, the protection enacted under the Conservation of Habitats and Species Regulations 2017 will continue to apply in UK law through the Conservation of Habitat and Species (amendment) (EU Exit) Regulations 2019 and the European Withdrawal Act 2018.

It is possible to undertake damaging activities under the auspices of a Protected Species Licence issued by Natural Resources Wales which provides a derogation from the Regulations, meaning that an otherwise illegal operation carried out under licence is lawful.

3.2 WILDLIFE & COUNTRYSIDE ACT 1981

The Wildlife & Countryside Act 1981 (as amended) is the legislation for England and Wales for nature conservation, making it an offence to:

- Intentionally or recklessly disturb a bat in or at a roost;
- Intentionally or recklessly obstruct access to a roost;
- Intentionally destroy, damage or otherwise disturb a roost (whether bats are present or not); and
- Intentionally or recklessly kill, injure or take (capture) a bat.

3.3 THE NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT, 2006

Section 40 of the NERC Act places a duty to conserve biodiversity on public authorities in England (and, for parts of the legislation, Wales). It requires local authorities and government departments to have regard to the purposes of conserving biodiversity in a manner that is consistent with the exercise of their normal functions such as policy and decision-making.

'Conserving biodiversity' may include enhancing, restoring or protecting a population or a habitat.

Section 41 requires the Secretary of State to publish and maintain lists of species and types of habitats which are regarded by Natural England to be of "principal importance" for the purposes of conserving biodiversity in England. These 56 priority habitats and 943 species are drawn from earlier lists of United Kingdom Biodiversity Action Plan Priority Species and Habitats. The Section 41 lists are needed by decision-makers in local and regional authorities when carrying out their duties under Section 40 of the Act.

A public authority can be a:

- local authority including a unitary, county, district, community, parish or town council
- government department or one of their executive agencies
- non-departmental government body
- NHS Trust
- utility company
- body carrying out functions of a public character under a statutory power

3.4 THE ENVIRONMENT (WALES) ACT, 2016

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to "maintain and enhance biodiversity" where it is within the proper exercise of their functions. In doing so, public authorities must also seek to "promote the resilience of ecosystems".

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

Other elements of NERC 2006 may still apply.

3.5 THE WELL BEING OF FUTURE GENERATIONS (WALES) ACT, 2015

The Well-being of Future Generations Act became law in April 2015 and is concerned with improving the social, economic, environmental and cultural well-being of Wales.

It will make the public bodies in Wales listed in the Act think more about the long-term, work better with people and communities and each other, look to prevent problems and take a more joined-up approach.

To help public bodies achieve the same vision, the Act puts in place seven well-being goals. Linked to the goals a set of National Indicators are currently under development to help measure whether we are achieving the goals including the Resilient Wales goal.

Resilient Wales' goal

'A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).'

The Well-being of Future Generations Act recognises the importance of nature and its biodiversity The resilient Wales' goal will help with nature recovery objectives in Wales.

The Act establishes a statutory Future Generations Commissioner for Wales to support the public bodies listed in the Act to work towards achieving the well-being goals.

The Act also establishes Public Services Boards (PSBs) for each local authority area in Wales. PSBs are tasked with improving the economic, social, environmental and cultural well-being of its area by working to achieve the well-being goals.

4 METHODOLOGY

The survey consisted of two parts:

1. Biological records data search;
2. Scoping survey / initial building inspection; and
3. Activity surveys:
 - Survey 1 - Dusk (emergence) survey;
 - Survey 2 - Dusk (emergence) survey; and
 - Survey 3 - Dusk (emergence) survey.

4.1 DESK STUDY

A desk study was undertaken as part of the Building Inspection involving gathering data from the South East Wales Biodiversity Records Centre (SEWBReC). The search included all submitted records on about all species of bats from within a buffer of 2km. Details of all sites within 10km notified for the presence of horseshoe bat species was also requested.

4.2 SCOPING SURVEY

4.2.1 BUILDINGS - EXTERNAL DAYTIME ASSESSMENT

The building was subject of an external inspection by a bat licensed ecologist on 5th February 2021 to assess the potential of the buildings to support bats. The assessment also aimed to identify any features that may be used by bats. The assessment was subjective and based primarily upon the buildings' structure, current use, location and the presence (or otherwise) of suitable roosting locations within them. The assessment involved a brief scan of the buildings' exterior from close range. The inspections included:

- checking the exterior of the structures for locations that appeared potentially suitable for use by bats as roosts or as access points to roosts further inside them; and
- closer inspection of such locations for bats and signs of use by bats.

4.2.2 BUILDINGS - INTERNAL DAYTIME ASSESSMENT

Following the external inspection, an internal daytime assessment was undertaken using a torch and where appropriate, an endoscope, ladder and binoculars to search all safely accessible internal voids (including roof spaces, cellars etc.) deemed to be potentially suitable for use by bats as roosts.

Internal inspections continue the assessment carried out previously of the external fabric of the building and also to look for direct evidence of bats within the building. Evidence may persist inside buildings, whereas weather will deteriorate any evidence on the outside of the building. Evidence of roosting bats includes:

- Live or dead bats;
- Bat droppings;
- Fur oil/urine staining;
- Characteristic scratches; and

- Noise made by bats.

4.3 GROUND BASED TREE ASSESSMENT

The trees on the site were subject of an assessment by a bat licensed ecologist on 5th February 2021 to assess their potential to support bats. The assessment also aimed to identify any features that may be used by bats for roosting purposes.

Tree inspections were undertaken in accordance with current best practice². Each tree or discrete group of trees was assessed from ground level to the canopy using close focusing binoculars and a high-powered torch. Potential roost features (PRFs) likely to be used by bats (see list below of features of interest) were noted and, where possible, were inspected using a torch and endoscope. Evidence of bat usage was also recorded where present. Each tree was recorded on a plan and scored, as detailed below.

Features include:

- Knot holes;
- Rot holes;
- Woodpecker holes;
- Hazard beams (cracks/splits in major limbs);
- Other vertical or horizontal cracks and splits (e.g. frost cracks)
- Loose and partially detached bark;
- Tear outs
- Man-made holes;
- Cankers with cavities;
- Other hollows e.g. butt rots;
- Double leaders forming compression joints;
- Gaps between overlapping branches / stems;
- Gaps behind partially detached ivy with stem diameters in excess of 50mm; and
- Bat, bird and dormouse boxes.

In addition to features of interest, evidence of bats was searched for including:

- Live and dead bats;
- Bat droppings;
- Staining below PRFs;
- Characteristic scratches;
- Smell of bats and/or droppings; and
- Noise (squeaking) made by bats.

The trees inspected were graded according to Table 1 below and, where appropriate, identified on a plan.

Table 1 - tree classification (BCT 2016)

Tree grade	Category description
Negligible	Negligible habitat features likely to be used by bats
Low	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only some very limited roosting potential

² Bat Surveys for Professional Ecologists - Good Practice Guidelines (Collins, J (Ed). BCT, 2016

Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

4.4 ACTIVITY SURVEY

As the buildings provided bats with multiple suitable access points and roosting spaces, with evidence of bats in the form of a single old dropping, a full suite of activity surveys was recommended and commissioned to determine which species of bat were using the building, in what numbers and for what purpose. This is so that an adequate assessment of any potential impacts of the development on bats that might use the building can be made in line with current survey guidelines and best practice.

4.4.1 Dusk survey – 18.06.2021

A dusk emergence survey was carried out of the building utilising 5(no.) surveyors and an infra-red camera (S1 – S5; C1; locations shown at **Figure 4**) situated so as to be able to view all visible elevations and roof lines of buildings likely to be used by bats at the same time. All surveyors were equipped with Batlogger M or Batlogger M2 and / or Anabat Walkabout full spectrum bat detectors.

Figure 4 – surveyor locations Bolston House 18.06.2021



(Image courtesy of Google Earth)

4.4.1 Dusk survey – 09.07.2021

A dusk emergence survey was carried out of the building with 4(no.) surveyors and an infra-red camera (S1 – S4; C1) as shown at **Figure 5**. The surveyors were equipped with Batlogger M / Batlogger M2 and / or Anabat Walkabout full spectrum bat detectors.

Figure 5 – surveyor location Bolston House (25.07.2021)



(Image courtesy of Google Earth)

4.4.2 Dusk survey – 13.08.2021

A dusk emergence survey was carried out of the building with 3(no.) surveyors and an infra-red camera (S1 – S4; C1) as shown at **Figure 5**. The surveyors were equipped with Batlogger M / Batlogger M2 and /or Anabat Walkabout full spectrum bat detectors.

Figure 5 – surveyor location Bolston House (13.08.2021)



(Image courtesy of Google Earth)

4.5 TREE CLIMB AND INSPECT SURVEY

The trees recommended for climbing were climbed by Hugh Dixon, certified for tree climbing and aerial rescue as well as being licensed for bat work on 08.09.2021.

All features which could be used by bats were assessed for the presence of bats and the potential for bats to be present.

4.6 CONSTRAINTS

It was not possible to get a good view of the eastern side and gable end of Bolston House due to the dense vegetation present. However, the use of the infra-red camera in this location nullified this constraint and determined that bats were not using this part of the house, probably due to the dense vegetation obscuring the potential access points.

There may be records not yet submitted to, or digitised by, the local records centre.

There were no other constraints to the surveys.

5 RESULTS

5.1 DESK STUDY

5.1.1 Species

The data search identified records of day roosting soprano pipistrelle bats in Bolston House made during activity surveys in 2016. No population figures / numbers of animals were confirmed. Passes by brown long-eared, noctule, *Myotis* (possibly whiskered bat), serotine and lesser horseshoe bats were heard during the same surveys.

The species included in the records search results are listed at **Table 2**.

Table 2 – Bat species included in the records search

Common name	Scientific name
Unknown Bat	<i>Chiroptera</i>
Serotine	<i>Eptesicus serotinus</i>
Myotis sp	<i>Myotis sp</i>
Noctule	<i>Nyctalus noctula</i>
Pipistrellus Bat Species	<i>Pipistrellus</i>
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>
Pipistrelle agg.	<i>Pipistrellus pipistrellus agg.</i>
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
Long-eared Bat Species	<i>Plecotus</i>
Brown Long-eared Bat	<i>Plecotus auritus</i>
Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>

5.1.2 Designated sites

No statutorily designated sites notified for bats or including them as primary reasons for designation / notification were found within 10kms of Bolston House.

5.2 BUILDING SCOPING SURVEY

5.2.1 External assessment

Photos are at **Appendix A**.

There are numerous potential access points for bats on Bolston House via gaps under external timberwork and slates.

The garden shed has open doors and gaps under external timberwork.

5.2.2 Internal assessment






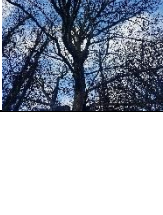
Evidence of bats in the form of droppings were observed all the roof spaces of the house and garage.

No evidence was observed in the flat roofed boiler room.

5.3 GROUND BASED TREE ASSESSMENT

A number of the mature trees on the site appeared to provide potential roost features; these are detailed at **Table 3** below. All other trees were classified as being of low potential and will not be considered further in this report.

Table 3 – results of visual assessment

Tree number	Species	Initial classification	Photos	Revised classification	Notes / recommendations
T32	Sycamore	Moderate			Dense ivy obscuring PRFs. CLIMB & INSPECT
T33	Sycamore	Low			
T43	Sycamore	Moderate			Rot holes and limb loss scars. CLIMB & INSPECT
T53	Horse chestnut	Moderate			Dense ivy obscuring PRFs; limb loss holes and scars. CLIMB & INSPECT
T54	Sycamore	Moderate			Rot holes and limb loss scars. CLIMB & INSPECT
T65	Sycamore	Moderate			Rot holes and limb loss scars. CLIMB & INSPECT

5.3.1 Summary

The buildings all have a high potential to be used by bats given the number of potential access points.

The previous use of the buildings by bats was confirmed by the presence of evidence of bats in the form of droppings which were observed in all of the buildings.

A number for the trees offer bats potential roost features which will need further investigation.

5.4 BAT ACTIVITY SURVEY

5.4.1 Summary

Due to the potential of the building to provide bats with roosting habitat and the identification of a soprano pipistrelle bat day roost during surveys in 2016, a series of activity surveys were recommended and commissioned to determine whether or not bats were using the building. The activity surveys were therefore recommended in line with current guidelines and best practice and undertaken.

5.4.2 Survey 1 - 18.06.2021

Table 4 - survey #1 information summary

Survey Type	Date	Timing	Sunset / Sunrise	Weather
Dusk	18.06.2021	21:10 – 23:00	21:25	Fine. 100% cloud; no rain; no wind. 19– 16°C

Overall levels of bat activity at the site were moderate, with soprano and common pipistrelle, lesser horseshoe, noctule and brown long-eared bats heard and / or seen.

A single soprano pipistrelle bat was seen to emerge from the eastern end of the garage 21:52. 2no. soprano pipistrelle bats were seen to emerge from the roof of the main house at 21:53. 2no. lesser horseshoe bats were heard in the garage at 21:57 with emergence later at approximately 22:15 from the eastern end of the garage building. All emergence points are shown at **Figure 5**.

Figure 5 – emergence points Bolston House 18.06.2021
(Soprano pipistrelle arrowed blue; lesser horseshoe arrowed red)



No other bats were seen to emerge from, return to or take any interest in any of the buildings during the survey.

5.4.3 Survey 2 – 09.07.2021

Table 5 - survey #2 information summary

Survey Type	Date	Timing	Sunset / Sunrise	Weather
Dusk	09.07.21	20:15 – 23:15	21:30	Fine. No cloud; dry; wind F0(1). 17 – 16°C

Common pipistrelle, soprano pipistrelle, noctule, lesser horseshoe and brown long-eared bats were seen and heard during the survey.

A single soprano pipistrelle was seen to emerge from the front elevation of the house at 21:37 and then return to a crevice behind an alarm box within 30 seconds of emerging (**Figure 6**). It did not reappear.

A single soprano pipistrelle was seen to emerge from the centre of the north facing pitch of the main house at 21:44 (**Figure 7**).

A single lesser horseshoe bat was seen to enter and immediately leave the eastern end of the garage at 22:10.

No other bats were seen to emerge from, return to or otherwise take any interest in any of the buildings during the survey.

Figure 6 – emergence points Bolston House 09.07.2021
(Soprano pipistrelle emergence arrowed blue. Re-entry arrowed red)



Figure 7 – emergence points Bolston House 09.07.2021
(soprano pipistrelle arrowed blue; lesser horseshoe arrowed red)



5.4.1 Survey 3 – 13.08.2021

Table 5 - survey #2 information summary

Survey Type	Date	Timing	Sunset / Sunrise	Weather
Dusk	13.08.21	20:30 – 22:30	20:41	Fine. 50% cloud; dry; no wind. 17 – 15°C

Common pipistrelle, soprano pipistrelle, lesser horseshoe and brown long-eared bats were seen and heard during the survey.

A single lesser horseshoe bat was seen to emerge from the eastern end of the garage at 20:55. (**Figure 8**).

No other bats were seen to emerge from, return to or otherwise take any interest in any of the buildings during the survey.


Figure 8 – emergence points Bolston House 13.08.2021
(Lesser horseshoe arrowed red)








5.5 TREE CLIMBING SURVEY

The trees recommended for climb and inspect surveys during the ground based assessment were climbed on 08.09.2021 by Hugh Dixon, certified for tree climbing and aerial rescue as well as being licensed for bat work.

None of the features observed from the ground in any of the trees proved to be suitable for bats.

Tree number	Species	Initial classification	Photos	Notes / recommendations	Revised classification
T32	Sycamore	Moderate		Dense ivy obscuring PRFs. CLIMB & INSPECT	Negligible

Tree number	Species	Initial classification	Photos	Notes / recommendations	Revised classification
T33	Sycamore	Low			Negligible
T43	Sycamore	Moderate		Rot holes and limb loss scars. CLIMB & INSPECT	Negligible - low
T53	Horse chestnut	Moderate		Dense ivy obscuring PRFs; limb loss holes and scars. CLIMB & INSPECT	Negligible - low
T54	Sycamore	Moderate		Rot holes and limb loss scars. CLIMB & INSPECT	Negligible - low
T65	Sycamore	Moderate		Rot holes and limb loss scars. CLIMB & INSPECT	Negligible - low

6 EVALUATION OF ECOLOGICAL FEATURES

It is confirmed that Bolston House is currently used for irregular day roosting purposes by soprano and lesser horseshoe bats.

6.1 SOPRANO PIPISTRELLE

In 2016, a single soprano pipistrelle bat was observed emerging from the western gable of the garage building and a total of 5(no.) soprano pipistrelle bats were observed emerging from 3 separate roost sites on the site, locations unconfirmed but assumed to be the main house.

The numbers observed in 2021 were lower with a peak count of three bats seen on one occasion from 2 different roost sites, the emergence points being different to those seen in 2016. However, the number of bats and the number of emergence points from the buildings were different at every survey visit in 2021, indicating that the varying number of animals observed are using the building on an adventitious basis for non-maternity day roosting purposes.

CONFIDENCE LEVEL: HIGH

6.2 LESSER HORSESHOE

A peak count of two animals was observed using the garage building during the first survey visit in 2021 and single animals thereafter. No animals of this species were observed using the building in 2016. It is therefore considered that the garage building at Bolston House is being used on an occasional, possibly adventitious basis, by varying numbers of animals, probably no more than 2, for occasional non-maternity day roosting purposes.

CONFIDENCE LEVEL: HIGH

6.3 OTHER BAT SPECIES

While other bat species were seen and heard during the surveys, no other bat species were seen to take any interest in the buildings and therefore it is considered that no other bat species are using Bolston House for roosting purposes.

CONFIDENCE LEVEL: HIGH

6.4 WINTER USE

It is considered possible that pipistrelle species bats could use the building for hibernation purposes.

CONFIDENCE LEVEL: HIGH

6.5 ROOST LOCATIONS

6.5.1 Soprano pipistrelle

It is likely that pipistrelle species bats will remain within 2m of the roost access point. Therefore, likely roosting locations include:

- Fascia wall plates;
- Between felt roof lining and slates;
- Within roof timbers; and

These locations apply to both the house and garage.

CONFIDENCE LEVEL: HIGH

6.5.2 Lesser horseshoe

As lesser horseshoe bats hang free from roofs and roof timbers, and no animals were observed within the garage during any of the survey visits, it is likely that the animals were hanging from the roof in areas of the garage which could not be observed. Therefore, the most likely locations is above a boarded out section of the roof between the eastern end of the building and the main body of the garage.

CONFIDENCE LEVEL: HIGH

6.6 INCIDENTAL RECORDS

None.

7 CONCLUSION

All bats are **internationally** important as they are protected by European law. Therefore, any roost where they are found is of **high** ecological importance.

Within the context of the site and the proposed development, it is considered that all of the surveyed buildings are currently used by bats. Therefore, these are considered to be of **high** ecological importance to and for bats.

The garage and roof spaces of Bolston House are used by a varying number of lesser horseshoe and soprano pipistrelle bats for non-maternity occasional and/or adventitious day roosting purposes. This would be of a **moderate** ecological value at a **local (site)** level

Mitigation and a Natural Resources Wales development licence will be required prior to the removal of the roof and the refurbishment of the building.

Ecological supervision of elements of the project will be required.

8 IMPACTS OF DEVELOPMENT

8.1 PROPOSED DEVELOPMENT

It is proposed to demolish Bolston House, clear the site and redevelop it for domestic housing (drawing SP612 P02 (Planning) *Proposed Site Layout Plan*).

8.2 PREDICTED IMPACTS WITHOUT MITIGATION

As bats are confirmed as currently using the buildings, albeit not for maternity purposes, it is considered that there would be a **certain significant long term adverse impact** on bats.

8.3 MITIGATING THE IMPACTS

Mitigation will be required in advance of any development work commencing.

8.3.1 Temporary mitigation

Temporary mitigation will not be required as the permanent mitigation will be implemented in advance of any demolition works commencing.
The

8.3.2 Permanent mitigation

A dedicated standalone structure will be provided for use by bats. This will take the form of a structure measuring a minimum of 3m wide x 4m long with a floor to ridge height of approximately 3m, providing a total volume of around 28.8m³. The long axis of the building will be oriented north to south with the northern elevation facing the trees on the western boundary of the site (as per **Figure 8**).

There will be a letter box style access point for lesser horseshoe bats on the northern elevation no less than 600mm wide and 300mm high set in an external opening 600 x 450mm, the base of which will be angled at 45° sloping upwards front to back and lined with aluminium to prevent birds nesting and deter cats. The exterior of the entrance will be fitted with a storm lintel to prevent the worst of bad weather getting in.

A no more than 15mm gap along the eaves and gable ends will provide access for crevice dwelling species. Slots (150 x 30mm) will cut into the felt at no less than 1500mm centres immediately above the long elevation wall plates to provide access for crevice dwellers to the gap between the felt lining and slate roof.

The building will be of rendered block under a roof of slate over Type 1 bitumen felt on untreated (or tanalised) timbers. There will be a “hot box” at the southern gable end to provide a more sheltered and warmer roosting space for horseshoe bats within the roost.

Landscape planting around the structure will provide shelter to it.

There will be no lighting of the bat roost structure or any of the trees on the western boundary.

Figure 8 – location of mitigation bat roost and direction of entrance



8.3.3 Enhancements

Not applicable;

8.4 GENERAL

It should be noted that if at any stage of the project:

- 3 or more lesser horseshoe bats; AND / OR
- 5 or more soprano pipistrelle bats; AND / OR
- any number of any other bat species

are observed within any or all of the buildings, all works affecting those areas and / or bats will cease and not resume until such time as NRW has been consulted and the development licence suitably amended to suit the species and number of bats observed.

9 GENERAL RECOMMENDATIONS

9.1 LICENSING

It is considered that a Natural Resources Wales development license in respect of bats will be required.

A licence may only be applied for on receipt of a consented planning notice and discharge of relevant conditions. Wherever possible, Natural Resources Wales aim to turn licence applications round in 40 working days or less.

9.2 SUPERVISION

It will be a requirement that the removal of the roof of the house and garage is supervised by a suitably experienced and licensed ecologist.

An ecologist should be "on call" for the duration of the project and consulted in the event that bats are found during the other phases of the development.

9.3 TIMESCALES

All works to demolish Bolston House will preferentially be undertaken in the period October – March to ensure that horseshoe bats are not disturbed. In no event will any demolition or other work that may affect bats be undertaken prior to the completion of the permanent mitigation

However, if this is not possible and works can only be undertaken between April and September, as the buildings are not used for maternity purposes, exclusion of lesser horseshoe bats may be implemented. Therefore, at least one week prior to works commencing, the buildings will be subject of a detailed visual inspection by the named ecologist followed by an emergence survey; should lesser horseshoe bats be present, they will be discouraged from using the building by the placement of halogen lights situated so as to ensure that the entire roof space is lit with no shadows. The lights will be turned on one hour after sunset of the first day and remain on until one hour after sunrise. This will be repeated daily until it can be confirmed that the bat (or bats) have not returned to the roost.

It must be noted that the lights can only be turned on when the weather is suitable for bat flight i.e. over 10°C and with no wind or rain so that bats may fly unimpeded to alternative roost sites in the area.

If 5 or more lesser horseshoe bats are observed during either the visual inspection and / or the emergence survey, the building will be treated as a maternity roost, with no demolition possible until the following October.

9.4 LIGHTING

There must be no direct or indirect lighting of the bat mitigation structure.

Where it is necessary e.g. for health and safety reasons, any and all external lighting will be directed away from retained vegetation, hedges and boundaries, will be low level, movement sensitive and on timers to reduce adverse impacts on bat commuting routes and foraging habitats.

9.5 TIMBER MATERIAL DETAILS

Timber where bats can come into contact with it must be untreated. Where treated timber is required, tanalised timber should be used (with any excess residues brushed off prior to use). External surfaces of external timber work (e.g. bargeboards, soffits and fascias) may be painted.

There will be no in situ wood treatment. If it becomes necessary to do so, any chemicals used will only be as approved (<https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them#treating-timber-to-protect-against-insects-fungal-growth-or-weathering>)

9.6 ROOFING MATERIALS

There will be no use of breathable roofing membranes in any area where bats may come into contact with it. Only Type 1 bitumen felt will be used within the bat loft.

10 REFERENCES

Battersby, J. (Ed) & Tracking Mammals Partnership. (2005). *UK Mammals: Species Status and Population Trends. First Report by the Tracking Mammals Partnership*. JNCC/Tracking Mammals Partnership,

Collins, J (Ed). *Bat Surveys for Professional Ecologists - Good Practice Guidelines* (BCT, 2016).

Mitchell-Jones, A.J. & McLeish, A.P. (2004) *The bat workers' manual (3rd Edition)*. Joint Nature Conservation Committee.

Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. Natural England

Multi-Agency Geographic Information for the Countryside ('MAGIC') website:
www.magic.gov.uk

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

The Natural Environment and Rural Communities Act (2006) (as amended) (HMSO).

The Wildlife and Countryside Act 1981 (as amended) (HMSO).

APPENDIX A - PHOTOGRAPHS

Plate 1 –front (southern) elevation



Plate 2 – side (eastern) elevation



Plate 3 – rear (northern) elevation



Plate 4 – side (western) elevation



Plate 5 – Roof space of northern extension



Plate 6 – Roof space of main attic



Plate 7 – Roof space of main attic



Plate 8 - Bat droppings in main attic space



Plate 9 – Garage roof space

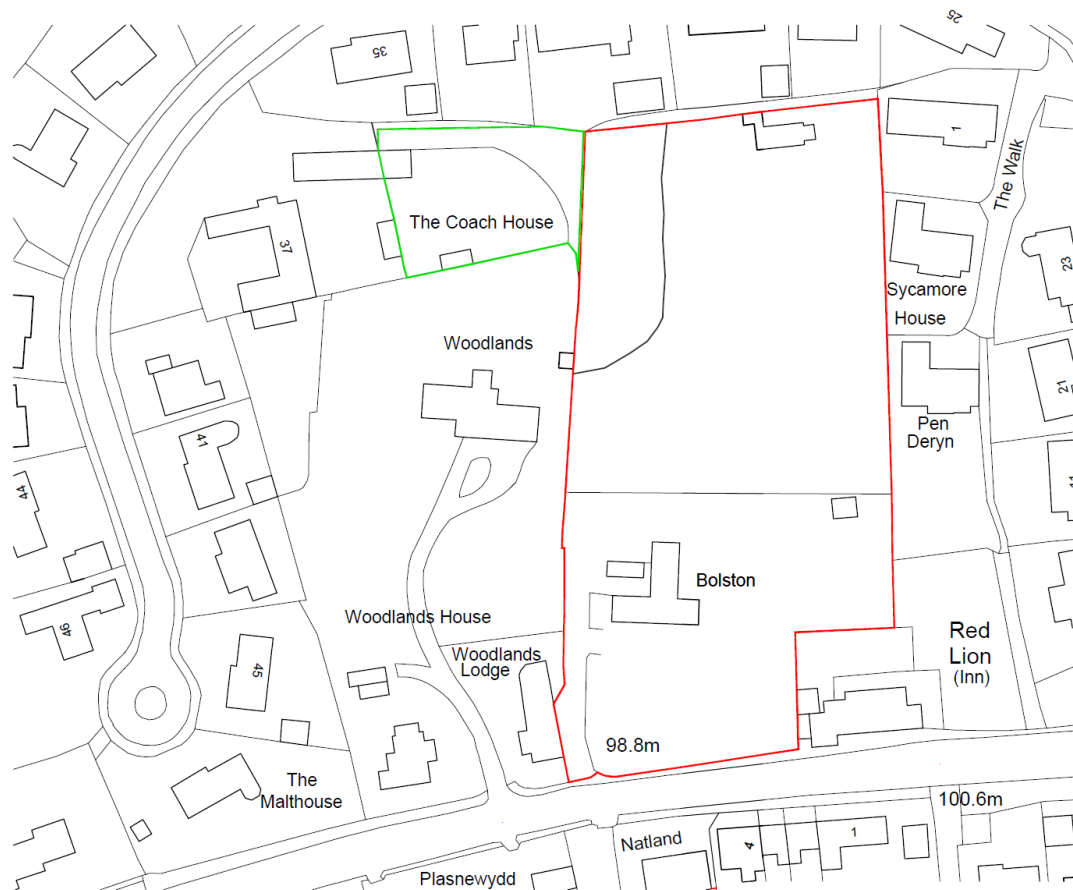


Plate 10 – area to west of garage



APPENDIX B – DRAWINGS

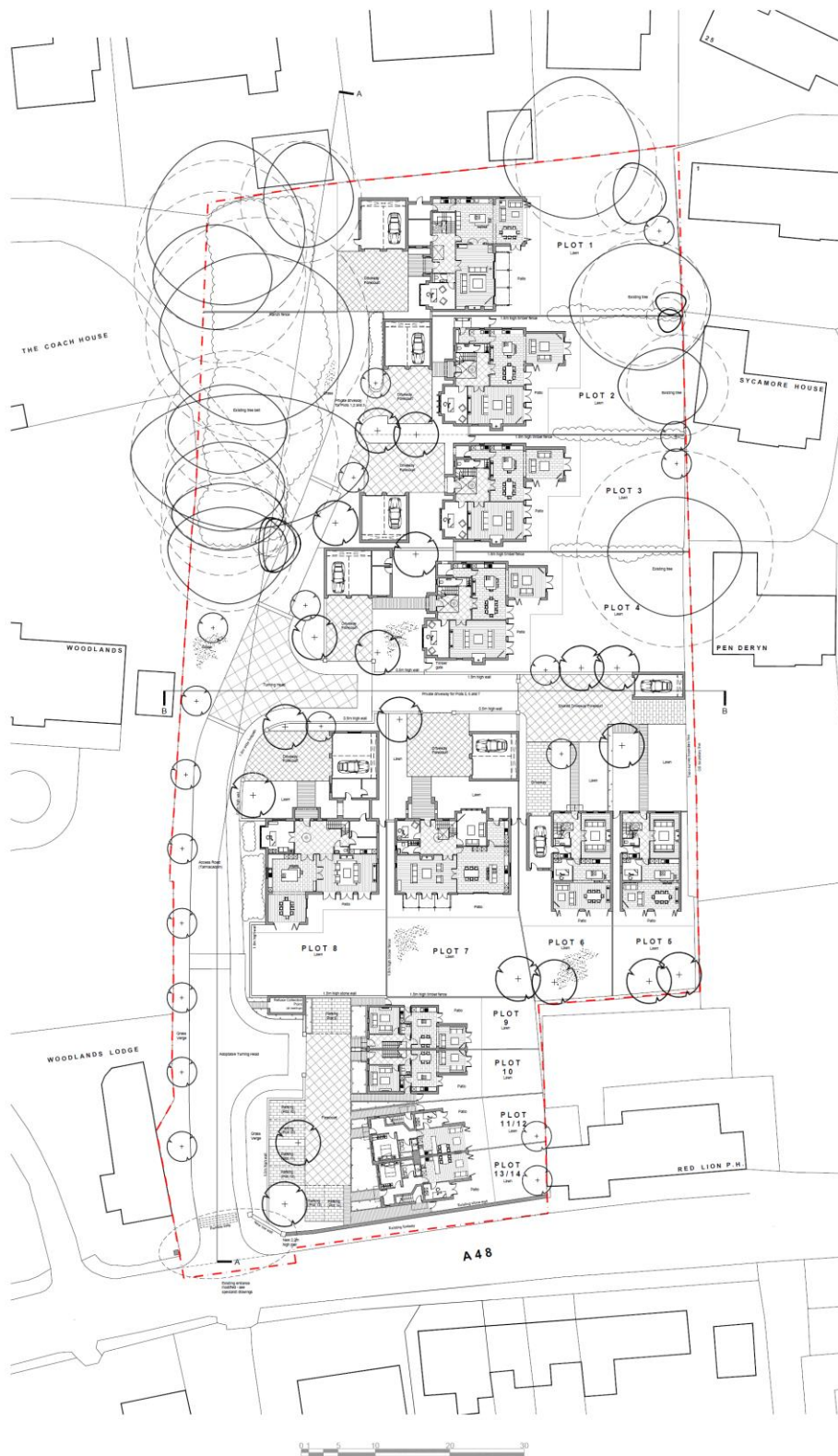
SP612 LRP100 V4 Site Location Plan



C. W. ARCHITECTS Ltd
Grosvenor House, 8 Park Grove, Cardiff CF10 3BN
Tel: +44 (0)2920 223123 Fax: +44 (0)2920 383367 E-Mail: office@cwaarchitects.co.uk

Project Name :	Bolston House, Bonvilston		
Project Ref :	SP612		
Drawing Title :	Land Registry Plan		Scale :
Drawing Number :	LRP100		1:1250 @ A4
Revision:	-	Drawn by: rb	Date: Nov 2020

SP612 – P02 Proposed Site Plan



CWA		C. W. ARCHITECTS Ltd	
		Grosvenor House, 8 Park Grove, Cardiff CF10 3BN	
		Tel: +44 (0)300 221121 Fax: +44 (0)300 221121 Email: cwa@cwaarchitects.co.uk	
Project Name:		Bolston House, Bonvilston	
Project Ref:		SP612	
Drawing Title:		Proposed Site Plan	
Drawing Number:		P02	
Revision:		PLANNING	Scale: 1:250 @ A1
Drawn by:		ds	Date: Nov 2021