



**LAND AT PLYMOUTH HOUSES, TWYNYRODYN,  
MERTHYR TYDFIL**

**PRELIMINARY ECOLOGICAL APPRAISAL**

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## Land at Plymouth Houses, Twynyrodyn, Merthyr Tydfil

### Ecological Appraisal

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## **NON-TECHNICAL SUMMARY**

An ecological appraisal was undertaken of land at Plymouth Houses, Twynyrodyn, Merthyr Tydfil, South Wales. The work included assessments of the habitats, the presence of protected sites, the potential for protected species to be present and assessments of any potential impacts on those habitats, sites and species present.

The site lies within a wholly urban area and is comprised of a field shelter, garden and associated infrastructure. There are a number of mature trees on the site.

Whilst it is possible that there may be a small population of reptiles within the site, it is likely to be low numbers only due to the managed nature of the majority of the site and its urban location.

The onsite trees are of moderate potential for roosting bats; however due to the size and nature of the trees, there is always the chance that there may be cavities that are not visible to surveyors. Any damage to the trees has either healed over or faces upwards and fills with water, all of which lowers the potential of the feature to support roosting bats. As such, it is thought that further surveys are not considered necessary providing that work is undertaken in line with a method statement and under ecological supervision.

All works to vegetation must be undertaken outside of the breeding bird season (March-September) unless the vegetation is checked by a suitably qualified ecologist for the presence of nests.

There are likely to be low populations of reptiles on the site. All works must be undertaken in line with the method statement appended to this report.

There is no evidence of any invasive or non-native species on the site. Should any non-native invasive species be found on site, all works will cease and an appropriate method statement from a qualified contractor will be sought.

## **1 INTRODUCTION**

### **1.1 OBJECTIVE**

The objectives of this report are to:

- collate and analyse existing ecological information relating to the site;
- identify the habitats present on site;
- identify the presence of protected sites;
- identify the potential for protected species to be present on site;
- using the information gathered to determine whether there will be any impacts (both positive and negative) on the protected sites, species and habitats present;
- provide recommendations for further survey as necessary; and
- suggest outline mitigation and enhancement ideas and principles

### **1.2 METHODOLOGY**

#### **Phase 1 habitat survey**

To achieve the objectives set out above, the following actions were taken:

- Field based assessments in respect of
  1. Habitats; and
  2. Protected species

The assessment has been undertaken by ecological feature rather than by section i.e. each subject is discussed and assessed separately and summarised in conjunction with the others.

### **1.3 SITE DESCRIPTION**

Photographs are at Appendix A.

The development site is located to the south west of Milbourne Terrace and its junction with Bro Dawel (Figures 1 & 2) in Merthyr Tydfil, South Wales.

The site extends to approximately 0.1ha and is the garden of Plymouth Houses. The habitats on the site are amenity grassland (lawn) surrounded by mature trees over a very sparse shrub layer. Please note, a number of trees have been removed over the years since the aerial view was taken, as such the aerial view does not give an exact picture of the site.

There is a metal (corrugated aluminium sheet) field shelter on the site used to house a pony. The site is bounded by close boarded fencing and block walls.

The site is located within a wholly urban environment surrounded by domestic houses, gardens and associated infrastructure.

Figure 1 - aerial view of the proposed development site (arrowed red)



Figure 2 – detailed view of the proposed development site (approximate extent outlined red)



#### **1.4 PROPOSED DEVELOPMENT**

Currently plans for the site are to erect four residential dwellings along with a new access. To facilitate the development, a number of trees will need to be removed. Please see page 5.

#### **1.5 STUDY AREA**

The field survey looked at the development area itself and up to 50m from the site boundaries.

#### **1.6 PLANNING FRAMEWORK**

The proposed development will be undertaken wholly under the auspices of the Town and Country Planning Act 1990 (as amended).



## **2 REGULATORY FRAMEWORK**

### **2.1 INTERNATIONAL**

European Union legislation requires 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 is 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 certain species being given legal protection over and above that given by national legislation.

### **2.2 NATIONAL (UK)**

The Wildlife and Countryside Act 1981 (as amended) allows sites to be designated as Sites of Special Scientific Interest (SSSI) for one or all of the following categories:

- Flora;
- Fauna;
- Habitat; and
- Geological importance.

European designated sites are automatically designated as SSSIs prior to their designation.

The relevant legislation includes:

- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended);
- The Conservation of Habitats and Species Regulations 2017;
- The Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Wild Mammals (Protection) Act 1996; and
- The Protection of Badgers Act 1992.

Biodiversity Action Plans (BAPs) are tools which are used to monitor, manage and enhance those habitats and species which are of significance to an area or organisation, The United Kingdom BAP lists a number of priority habitats and species which are of conservation concern.

Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended) requires all public bodies to have regard wherever possible to conserving biodiversity. Section 42 of the Act requires that a list of habitats and species of Principle Importance for the Conservation of Biological Diversity in Wales be produced.

## **2.3 NATIONAL (WALES)**

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.

Planning Policy Wales Edition 10, December 2018 and Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government, September 2009) set out the protection given to wildlife (sites, habitats and species) by the planning system operational in Wales.

## **2.4 LOCAL AND REGIONAL**

The proposed development is wholly within the Merthyr Tydfil County Borough Council area of responsibility. Therefore, all policies adopted by the Council will apply.

## **2.5 PREVIOUS SURVEYS**

There are no known surveys of this site.

### **3 PROTECTED SITES**

#### **3.1 STATUTORILY DESIGNATED SITES**

There are no statutorily designated sites designated for their bats on or adjacent to the proposed development site (within 150m). As a result, designated sites will not be mentioned further in this report.

There is a Site of Important for Nature Conservation (SINC) within 2km of the site, however, all work will be undertaken within the confines of the site and as a result will not impact any of the features the site is designated for. As such, this site will not be mentioned further in this report.

### **4 PHASE 1 HABITAT SURVEY**

#### **4.1 SUMMARY**

A number of habitats were recorded on and around the survey area. These included:

- Amenity grassland (garden)
- Scattered trees
- Building

The potential for a number of protected species was recorded, including habitats suitable for:

- Bats
- Birds
- Reptiles

#### **4.2 BACKGROUND**

The Phase 1 habitat survey was carried out to assess the existing habitats, identify any protected habitats or species that may be present, determine the impact of the proposed works on them, and identify any mitigation measures that may be necessary. This was done by undertaking both a desk study and field survey.

The survey was undertaken on 17<sup>th</sup> June 2019 by Beth Evans of BE Ecological Ltd.

Phase 1 habitat survey is a way of recording the basic habitat data to form a baseline level of knowledge of the ecology of a site and provide recommendations for future surveys if considered necessary.

## **4.3 METHODOLOGY**

### **4.3.1 Data Search**

The South East Wales Biodiversity Records Centre (SEWBRc) were formerly requested to supply a Bat and Roof-nesting Birds (BARB) survey for the site [Ref: 0190-270]. The survey to provide; bat records within a 2km buffer, roof nesting birds within 150m buffer plus a list of all Special Areas of Conservation (SAC) and sites of Special of Special Scientific Interest (SSSI) designated for bat species within a 10km site buffer.

A BARB was requested as initially the full brief was not given to BE Ecological Ltd. The original brief was to assess the trees for their potential for protected species. However, a BARB is considered appropriate due to the fact that the habitats of potential ecological interest included within this survey are those likely to support bat and bird species. The site is small and is comprised of domestic garden and hard standing and subject of the usual domestic management; the site is also within a wholly urban area being surrounded by domestic properties, gardens and infrastructure despite its close proximity to an area of woodland.

### **4.3.2 Field survey:**

Experienced surveyors from BE Ecological Ltd carried out a habitat assessment and mapping exercise in June 2019 using the Phase 1 habitat survey technique. Nomenclature follows Stace (1997)<sup>1</sup>.

## **4.4 CONSTRAINTS**

There were no constraints to the survey.

## **4.5 RESULTS**

### **4.5.1 Habitats**

The following habitats were found on the site:

#### **4.5.1.1 Building**

The only building to be affected is a flimsy timber framed corrugated metal field shelter situated to the north of the site. This building has three elevations only and has been used to house a small pony. The building is extremely exposed to the elements and no evidence of bats or birds was found in this location.

The existing house will be retained in its entirety. The house is in good order and well maintained. The removal of the trees is a necessity due to the fact that they have been declared as dying. There is no additional lighting proposed for the site, the third party vegetation will be retained, so connectivity will still be maintained to

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<sup>1</sup> Stace, C (1997). *New Flora of the British Isles* (2nd Ed.). Cambridge University Press

the woodland beyond and there are no works proposed to the main house. As such it is thought that further survey effort is not considered necessary.

#### *4.5.1.2 Amenity grassland*

This habitat is found across the site. The grass has a relatively short sward and has been regularly maintained either by grazing or mowing until the current planning application was submitted.

#### *4.5.1.3 Scattered trees*

There are a number of scattered trees within the site boundary scheduled for removal, species include mature sycamores, cherry laurel and mature holly. Some of the trees have TPO's, however, the client has informed us that the tree report states that a number of these are not safe and should therefore be removed.

The trees to be removed will be discussed further in the bat section below.

There is a line of trees to the north east and the west of the site, however these are behind the walls and close board fencing and are not within the client's ownership or part of the application site. Observations from within the clients ground did not note any obvious bat roosts facing the site. The site will have no additional lighting and replanting will be undertaken.

## 4.5.2 Protected species assessment

### 4.5.2.1 Bats- legislation

#### *CONSERVATION OF HABITATS & SPECIES REGULATIONS 2017*

The Conservation of Habitats and Species Regulations (2017) provides safeguards for European Protected Species (those listed under Annex IV Habitats Directive). With regards to bats, this makes it an offence to:

- 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

#### *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 at a roost
- Intentionally or recklessly obstruct access to a roost

#### *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.

#### 4.5.2.2 Bats (trees only) – methodology

The tree inspections were undertaken in accordance with current best practice. 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 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;

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

| 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 |
| Moderate   | A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection and conditions                       |
| 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. |
|--|--------------------------------------------------------------------------------------------------------------------|

#### 4.5.2.3 Bats-data search

There are 79 records of bats within 2km of the development site. Species include, common pipistrelle, soprano pipistrelle, brown long-eared bat, Daubentons bat, noctule bat, Chiroptera (unknown bat) and myotis sp. The majority of records refer to bats in flight.

The closes roosting record is within the roof of one of the neighbouring properties (56m from the development site). The roost refers to a single pipistrelle bat.

#### 4.5.2.4 Bats-ground based tree assessment results

| Tree number | Photograph                                                                         | Description                                                                               | Category                                                                                                                                               |
|-------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           |   | Beech, approximately 15m. No obvious features for roosting bats, relatively smooth barked | Low No further surveys necessary. Tree to be section felled. Tree to be section felled in accordance with method statement and ecological supervision  |
| 2           |  | Beech, approximately 18m. No obvious features for roosting bats, relatively smooth barked | Low. No further surveys necessary. Tree to be section felled. Tree to be section felled in accordance with method statement and ecological supervision |

|   |                                                                                     |  |                                                                                                                                                                                                                                                          |                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 |   |  | Sycamore, approximately 18m. No obvious features for roosting bats, relatively smooth barked. Evidence of historic limb removal/pruning/damage, however the previous wounds show evidence of inclusion (repair) and as a result no cavities are present. | Low No further surveys necessary. Tree to be section felled. Tree to be section felled in accordance with method statement and ecological supervision |
| 4 |  |  | Sycamore, approximately 18m. No obvious features for roosting bats, relatively smooth barked. Evidence of historic limb removal/pruning/damage, however the previous wounds show evidence of inclusion (repair) and as a result no cavities are present  | Low No further surveys necessary. Tree to be section felled in accordance with method statement and ecological supervision                            |

|   |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                            |
|---|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 5 |   | Sycamore stump. Stump does not appear to be hollow. One small hole noted in right hand limb. Limb faces upwards and would quickly fill with water. Unlikely to support bats.                                                                                                                                                                                                                           | Low No further surveys necessary. Tree to be section felled in accordance with method statement and ecological supervision |
| 6 |  | Sycamore, approximately 18m. No obvious features for roosting bats, relatively smooth barked. Evidence of historic limb removal/pruning/damage, however the previous wounds show evidence of inclusion (repair) and as a result no cavities are present. There is a single snapped limb in the canopy. The snap is an upward snap and again likely to fill with water and not be suitable for roosting | Low No further surveys necessary. Tree to be section felled in accordance with method statement and ecological supervision |

|          |                                                                                     |  |                                                                                                                                                                                                                                                                                  |                                  |
|----------|-------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|          |                                                                                     |  | bats.                                                                                                                                                                                                                                                                            |                                  |
| 7        |   |  | Laurel, approximately 3m, trunk, diameter approximately 0.2m, relatively thin stemmed, smooth barked, no evidence of bats or obvious potential roosting features.                                                                                                                | Low- no further surveys required |
| 9 and 10 |  |  | 9 appears to be an old holly tree (may be non-native). Approximately 3m, trunk diameter approximately 0.2m. Smooth barked, thin stemmed, no obvious potential roosting features or signs of bats. 10 is again a holly tree, approximately 2m, 0.1m diameter, no obvious features | Low- no further surveys required |

|    |                                                                                    |                                                                                                                     |                                        |
|----|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 8  |  | Oak, approximately 3m, diameter 0.2m. Smooth bark, thick stemmed, no obvious features suitable for bat use.         | Low- no further surveys required       |
| 11 |                                                                                    | Apple tree, outwith development boundary. No obvious features for bats. This tree will be retained in its entirety. | Retained- no further surveys required. |

Bats are likely to use the western and southern boundaries of the site for foraging and commuting. These areas are behind the close board fencing (outside of client's ownership) and will be retained in their entirety. Please note, close up pictures have features have not been provided due to their great height and location. Binoculars were used to observe the features present within the trees. There will be no additional lighting to the site.

#### 4.5.2.5 Bats (buildings)

The onsite house is to be retained in its entirety. It was noted that comments from the local planning authority ecologist suggested that bats that may be roosting within the house may be affected by the onsite trees. It is considered that the trees are of a distance far enough from the house that, while they may be used as a foraging resource, they are unlikely to be the only form of shelter for any bats that might roost within the house, retained vegetation will continue to provide a foraging and commuting resource in the short term as well as suitable connective habitat whilst new planting will provide it in the long term.

The house is already lit across the whole north western elevation and southern corner of the building. There are security lights on the house elevation itself and coach lights on the porch. In addition to this, there is bollard lighting from the main house and all along the driveway to the north west.

There are also skylights in the roof of the extension between the house and the most likely flight line (figure 3). The area lined red in figure 3 below is considered to be the most likely flight line due to the fact that it is the only fully vegetated flight line that leads to the wider landscape (patch of woodland). If bats are relying on shelter and darkness, this would seem the most obvious route. Flying north, east or west would result in bats flying into lit and exposed areas. The roof of the house (most likely roost areas) extends to the south east and the adjoining property; none of the potential roost spaces within these buildings will be lost to the development.



Figure 3: Skylight location arrowed red; most likely flight line, lined red

There is no roof void within the building. The roof is relatively well sealed, however, there are a small number of gaps beneath lifted slates. The client has stated that the

application does not have anything to do with the main house and that the trees will need to be removed this winter even if planning consent is not granted.

There will be no additional lighting to the site and new planting will be undertaken throughout the development. In addition to this, the trees have been labelled as a hazard to public health.

Please note, the site is no way as sheltered as the aerial photography suggests. The site is light and airy. Trimming of the trees, and the falling of various trees during bad weather has resulted in a much less dense site that the aerial photography suggests.



**Figure 4- distance of canopy from house: red line= approximately 8m, yellow line= approximately 26m; blue line= approximately 15m**

The onsite building to be affected (metal field shelter) is extremely exposed to the elements and is unlikely to provide the stable conditions required for day roosting bats. Whilst it is possible that bats may use this structure for night roosting, there are no known roosts of the species (horseshoe bats) that it is likely to be suitable for. Besides the above, all aspects and areas of the building were able to be inspected and no evidence of any bats was found throughout.

#### 4.5.2.6 Reptiles

##### Legislation

The four more common reptile species mentioned above are protected by the Wildlife and Countryside Act 1981 (as amended) against killing, injury and sale.

Smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are not found in this area, having very specific geographical distribution within Britain, and so will not be referred to in this report despite the higher legislative protection afforded to them.

#### 4.5.2.7 Reptiles- results

The site provides some habitat for all the common species of reptiles, particularly grass snake (*Natrix natrix*), slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*). It is less likely that adder (*Vipera berus*) would use the site.

It should be assumed that low numbers of reptiles will use the site. The number of reptiles likely to be present will be lowered due to high levels of disturbance, due to the fact that there are solid boundaries surrounding the site and due to the fact the grass has been grazed or mown up until recently. A method statement will be followed and reptiles allowed to disperse into neighbouring habitat..

#### 4.5.2.8 Breeding birds

In Britain, all naturally occurring avian species are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs, and it is an offence to:

- Intentionally kill, injure or take a wild bird;
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

In addition, birds listed on Schedule 1 of the Act, such as the Red Kite (*Milvus milvus*), are afforded further protection, and it is an offence to:

- Intentionally or recklessly disturb the bird whilst nest building or while at (or near) a nest with eggs or young; and
- Disturb the dependant young of such a bird.

#### 4.5.2.9 Breeding birds- data search

There are 18 records of birds within 150m of the development site. Species include jackdaw, magpie, house sparrow, wren, herring gull, pied wagtail, great tit, starling and swift.

#### 4.5.2.10 Breeding birds- results

There was no evidence of breeding birds within the building or the trees on the site at the time of writing. Species noted onsite include blackbird and blue tit.

It should be assumed that breeding birds will utilise the boundaries and trees on the site. However, at the time of survey, no nests were observed within any of the onsite vegetation. Any tree removal or pruning must be undertaken outside of the breeding bird season (March-September) unless nests are found to be absent by a suitably qualified ecologist.

#### 4.5.2.11 Non-native invasive species

There was no evidence of non-native invasive species on the site.

#### 4.5.3 Other features

None.

### 5 CONCLUSION

Overall the site is of a generally moderate ecological value. Whilst it is possible that there may be a small population of reptiles within the site, it is likely to be low numbers only due to the managed nature of the majority of the site and its urban location.

It is BE Ecological Ltds opinion that the onsite trees are likely to be of low potential for roosting bats, however due to the size and nature of the trees, there is always the chance that there may be cavities that are not visible to surveyors. The damage to the trees has either healed over or faces upwards and fills with water, all of which lowers the potential of the feature to support roosting bats.

It is recognised that vegetation around a confirmed or potential roost site may have a positive impact on that roost e.g. provide shelter, provide a foraging resource or a commuting route. In this case, it is considered unlikely albeit possible that bats may be present within the house on the site, however, this house will be retained and any roost therefore will be left unimpacted. The most likely commuting route for bats leaving the house is along the line of trees linking the development site with the large area of woodland to the south and south east. The trees to the north west of the house are at the end of this commuting route; there is limited habitat connectivity beyond this. The trees are all mature and structurally unstable resulting in a need to remove them. Additionally, the canopies of the trees are very open and sparse (not as suggested by the aerial photography). It is therefore considered that while the loss of the trees to the development may result in a loss of foraging and roost sheltering habitat, the loss would also be likely to come about as a result of natural processes e.g. storm damage. It should be noted that the development will ensure replacement planting of trees, thereby resulting in continued ecological functionality of the feature in the future. There will also be continued shelter from

trees and vegetation in third party ownership adjacent to the site boundaries which will not be affected by the development.

As such, it is thought that further surveys are not considered necessary providing that work is undertaken in line with a method statement and ecological supervision. The Local Planning Authority ecologist has stated that in their view that some of the trees on site are of moderate potential. As such, in order to satisfy this opinion, the trees will be the subject of a climbing inspection prior to felling. All potential roosting features will be inspected by a licensed ecologist via rope access.

All works to vegetation must be undertaken outside of the breeding bird season (March- September) unless the vegetation is checked by a suitably qualified ecologist for the presence of nests.

## 6 RECOMMENDATIONS

A method statement to safeguard the unlikely presence of roosting bats in trees will be required (appended to this report). The trees will be climbed and inspected prior to felling.

A method statement to safeguard the presence of a small number of reptiles.

Should European Protected Species be identified on site, an NRW development licence will be required. This can only be sought on receipt of planning consent.

Habitats should be retained wherever possible with clearance minimised as far as possible.

The client has informed that there will be no additional lighting to the site.

Any lighting that may be added to the site will conform to the following guidance (2018) Guidance Note 08/18. Bats and artificial lighting in the UK: Bats and the Built Environment series. Bat Conservation Trust and Institute of Lighting Professionals: <https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lightingcompressed.pdf?mtime=20181113114229>

The following enhancements will be incorporated into the development:

3x integral bat box - one on 3 of the 4 houses  
[<https://www.nhbs.com/2fe-schwegler-wall-mounted-bat-shelter-pack-of-2>]

2x sparrow terrace – one on 2 of the 4 houses  
[<https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box>]

NB the bat boxes and the sparrow terraces are to be surface mounted. The bat boxes will be positioned as high as possible on the south eastern elevations of Plots 1, 2 and 3 (facing Plymouth House) so that they are on elevations with the least amount of windows. The sparrow terraces will be positioned as high as possible on the north western elevations of Plots 1 and 2.

New planting will be undertaken as compensation for the loss of onsite habitats. Please see planting plan 01A Plymouth House, Merthyr Tydfil and can be found at Appendix E. Details of size and age of planting can be found on this plan.

2x further gaps (13cm x 13cm) will be created hole in the existing western boundary fence to allow passage of hedgehogs around the site.

## 7 REFERENCES

Bat Conservation Trust (2016) *Bat Surveys - Good Practice Guidelines*. Bat Conservation Trust, London.

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.

EC Directive 92/43/EEC (The Habitats Directive) (1992). Annexes II and V.

Joint Nature Conservation Committee (2001) *Handbook for phase 1 habitat survey: A technique for environmental audit*. JNCC.

Joint Nature Conservation Committee (2003). *Herpetofauna Workers' Manual* JNCC  
Natural Environment & Rural Communities Act 2006: *Section 42 List of Species of Principal Importance for Conservation of Biological Diversity in Wales*. Welsh Assembly Government

Planning Policy Wales (2018).

Stace, C A (1997) *New Flora of the British Isles* (2<sup>nd</sup> Ed) Cambridge University Press

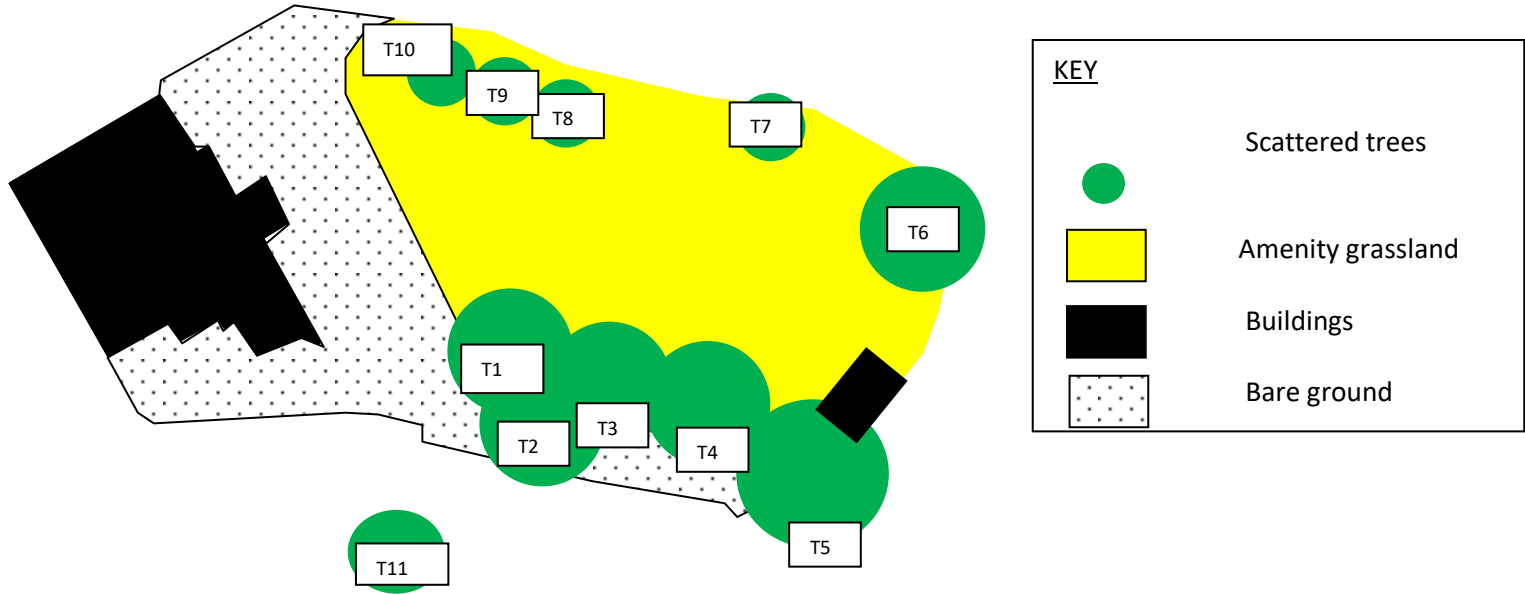
Strachan, R & Moorhouse, T. (2006). *Water Vole Conservation Handbook* (2<sup>nd</sup> Ed). Wildlife Conservation Research Unit, Oxford

The Conservation of Habitats and Species Regulations 2017.

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

The Wildlife and Countryside Act 1981 (as amended).

APPENDIX A- Existing site plan



Target Note

T5 and T6 = Trees have potential bat roosting features

## **APPENDIX A- SITE PHOTOGRAPHS**

Plate 1- photograph of amenity grassland



Plate 2- photograph of standard trees beyond close board fencing



Plate 3- photograph of field shelter



Plate 4- Photograph of boundary wall.



Plate 5- photograph of the north west elevation of the existing house



Plate 6- photograph of north east elevation



Plate 7- photograph of sky lights



Plate 8- photograph of relatively well sealed roof with small number of slipped slates



Plate 9- photograph of relatively well sealed porch



Plate 9- photograph of vaulted ceiling



Plate 10- Photograph of vaulted ceiling



## APPENDIX B - SITE CLEARANCE METHOD STATEMENT (REPTILES)

### Background:

1. Following a reptile habitat assessment, it was considered that the site has the potential to support a population of slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) and possibly grass snake (*Natrix natrix*). It is less likely that adder (*Vipera berus*) is present but possible. The presence of reptiles should therefore be assumed, hence the need for a Method Statement to ensure that works are carried out in such a way as to avoid harm to reptiles.
2. Once the areas for clearance have been identified, implementation of this method statement will avoid having to undertake a full reptile translocation exercise as animals can be pushed into safe areas using habitat denial and manipulation techniques.

### General comments:

3. Vegetation will be cleared from directly affected areas only e.g. areas to be built on, used for storage, be part of the construction site or forming part of any landscaping scheme.
4. Once cleared, the vegetation will be maintained as close to bare ground as possible either by spraying or ongoing repeated cutting using brush cutters with knife blades to ensure that there is no potential for reptiles to utilise the site after the initial clearance.
5. Reptile fencing will not be required as long as the bare ground / short vegetation habitat is maintained.
6. The grassland on the site may be cut at any time of year. Scrub should only be cut during the autumn and winter months to avoid breeding birds unless otherwise permitted following a check by a suitably experienced ecologist (see separate methodology).

### Method statement:

7. Vegetation will only be cut using brushcutters fitted with knife blades: the use of strimming cord will not be permitted.
8. Vegetation will be cut in three phases. The first phase will reduce the vegetation height to 150mm; the second will reduce it to ≈75mm; the third phase will reduce the height to as close to ground level as possible.
9. There will be a time delay of 24 hours between the first and second cuts.
10. Vegetation to be cut will be inspected for the presence of reptiles immediately prior to every phase of cutting unless the supervising ecologist states otherwise.

11. All vegetation cutting will be directional as detailed in Figure 5 below. This ensures that any animals present will be pushed from the site into adjacent retained habitats (scattered trees and garden/grassland habitat).



12.

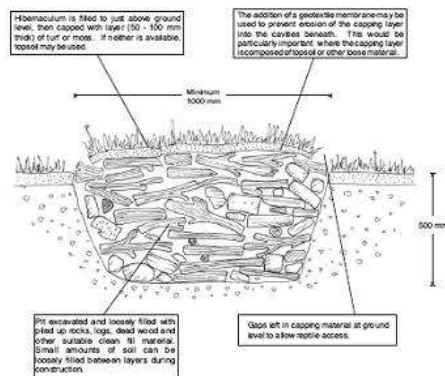
13. All arisings will be raked off and formed into habitat piles on unaffected land or removed from site for disposal.
14. After clearance, should the vegetation be allowed to regrow above 150mm high, it will be cut again as described in this method statement.
15. Hibernacula clearance may only take place during the reptile active season or when temperatures are consistently above 12 degrees.
16. Potential hibernacula will only be cleared while daytime temperatures are consistently over 12°C for a period of at least seven days prior as otherwise reptiles may be killed or injured as a result of inconsistent (low) temperatures (during the day and night) and/or low prey availability. Potential hibernacula will only be dismantled by hand unless the supervising ecologist gives the approval for machine dismantling.
17. If reptiles are observed within the clearance area during the works, a decision on how to deal with them will be made on site in light of the conditions on site at the time and the state of the animals themselves. One of the following options will be adopted:
  - It may be possible to leave the animals alone to find their own way into cover, depending on where they are seen, what they are doing and their apparent activity levels; or
  - Should conditions allow, capture and translocate the animals to a safe area immediately adjacent to the site, please see reptile receptor area (ref 592.02B)
18. Habitat enhancement measures will be provided in the form of a reptile receptor area location marked (ref 592.02B). The reptile receptor area will be left uncut.
19. The reptile receptor area will be created and fenced off from the development following the directional cut, fencing will follow that described as temporary fencing in Annex B of the design manual for roads and bridges volume 10, section 4, part 7- ha 116/05-nature conservation advice in relation to reptiles and roads and will be removed off site on completion of the development and the gardens reinstated.
20. A 13x13cm hole will be created in the western boundary adjacent to the retained garden area in the southern corner of the site.
21. Habitat (e.g. hibernation sites for other species especially amphibians) can be identified and avoided by following this method statement.
22. All vegetation and site clearance will be supervised by a suitably experienced ecologist.
23. Please note, should large numbers of reptiles be observed, an offsite receptor site will need to be agreed with the Local Planning Authority Ecologist.

**NOTE:** should it be required, a Natural Resources Wales development licence for European Protected Species is likely to take up to 30 working days to be issued following submission

## APPENDIX C - REPTILE HIBERNACULUM DESIGN

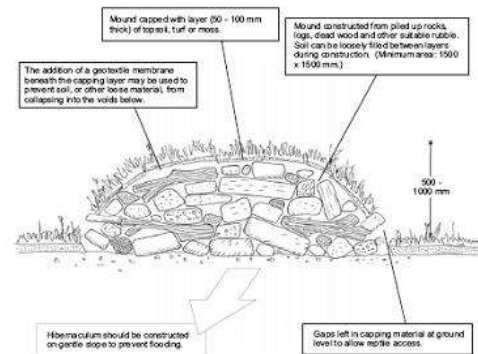
### *Hibernaculum on free-draining ground*

Where ground conditions allow, the hibernaculum should be incorporated into a shallow pit. This design is more likely to remain frost-free, and will be less obtrusive and thus unlikely to be subject to interference.



### *Hibernaculum on impermeable ground*

Where ground conditions are impermeable, then an 'above-ground' or mounded design should be utilised in order to prevent the hibernaculum from flooding. This design should also be used if it is not possible to excavate a pit for any other reason.



## APPENDIX D – METHOD STATEMENT- BATS IN TREES

Identify features suitable for bat use and inspect them via rope access and endoscopes.

Inspect for evidence of bats/use by bats where safe and practicable to do so.

PRF Inspection Surveys will be undertaken by a suitably qualified ecologist

- PRF Inspection Surveys will involve the use of tree-climbing (where trees are safe) or access equipment, e.g., cherry pickers, MEWPs or scaffolding towers (where trees are unsafe and cannot be climbed) to gain access to PRFs to assess in detail their likely suitability for bats and to look for evidence (live/dead bats, droppings, staining, odour).
- In order to carry out PRF Inspection Surveys it is good practice for the ecologist to hold a survey licence. In addition, when tree climbing is being employed, ecologists should be trained in tree climbing and aerial rescue and only work in pairs. If access equipment is being used, owner- or operatorspecific training may be required.
- A detailed internal inspection will be undertaken using torches, mirrors and endoscopes
- Climbing surveys can be undertaken at any time of year, however must take into account things such as nesting birds that may be present in features
- Tree climbing should be undertaken in good weather conditions for health and safety reasons

All tree climbing surveys will be undertaken in line with current best practice.

## SECTION FELLING

- Any parts of the tree containing bat roosting potential e.g. cavities in the trunk or splits in branches must be roped, sectioned and gently lowered to the ground, maintaining their current orientation as far as possible.
- Section felling/pruning cuts must avoid cross cutting in proximity to cavities/crevices/splits etc. Only cut through solid wood. In most cases bats prefer to move & roost upwards from the point of entry. Therefore the section above holes/splits is the most critical and most likely to be used by bats.
- Split limbs that are under tension may need to be wedged open to prevent their closure when pressure is released. (to avoid crushing any hidden bats).
- Any sections containing potential roost sites should be left in a safe location, close to the felled tree; for a minimum of 24hours frost free weather and more closely inspected before further works & disposal
- Make sure that all potential points of egress from the sectioned timber are left open, to ensure any bats hidden within can escape during the night.

## SOFT FELLING –

Some of the trees may be rotten. If this is the case, the arborist may recommend soft felling.

soft felling techniques are recommended for this kind of tree; the object of which is to bring the tree down in a more controlled manner to minimise any damage to potential roost sites/ features whilst allowing a more thorough inspection of the tree on the ground, before section cutting after a minimum of 24hours of frost free weather.

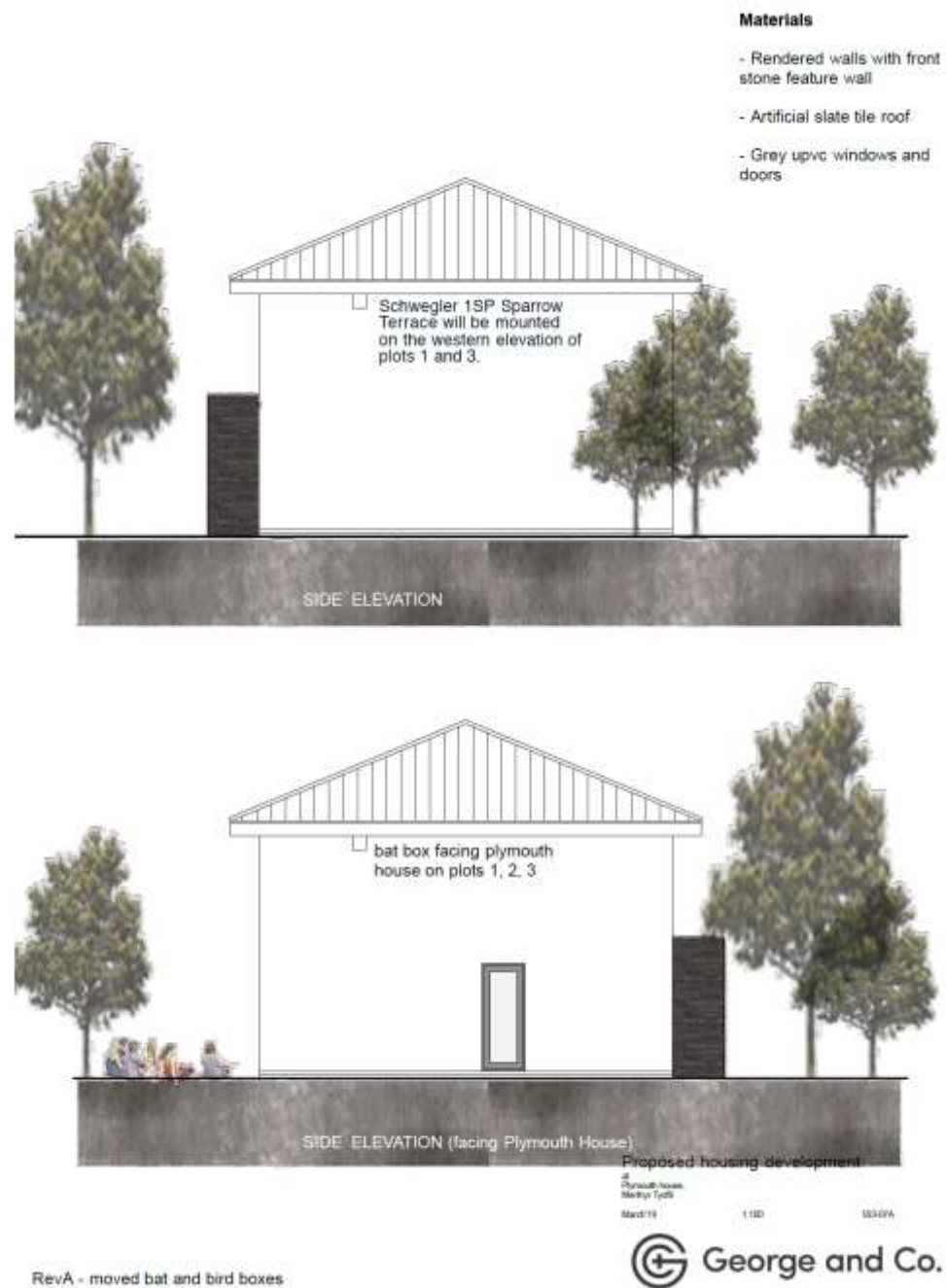
Different methods can be used to help cushion the impact of the tree hitting the ground. (Safety comes first).

For example:

- utilising the crown of the tree to cushion the fall
- felling the tree onto a pile of brash.
- using a winch to control the direction and rate of fall.
- using an excavator to push over small trees.

If at any point bats or evidence of bats are found, all works must cease, and NRW notified. Further survey effort and/or a European Protected Species Licence may be required prior to works recommencing.

## APPENDIX D – PROPOSED ENHANCEMENTS-



Please see DWG 592.02D for all enhancements across the site.

[illegible]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Aluminum Shingles</b></p> <ul style="list-style-type: none"> <li>Aluminum Shingles comply with 2012 IRC Part 1100 and all subsequent amendments, unless explicitly noted for future potential amendments.</li> <li>Aluminum Shingles comply with 2012 IRC Part 1100 and all subsequent amendments, unless explicitly noted for future potential amendments.</li> </ul> <p><b>Asphalt Shingles</b></p> <ul style="list-style-type: none"> <li>Asphalt Shingles comply with 2012 IRC Part 1100 and all subsequent amendments, unless explicitly noted for future potential amendments.</li> </ul> | <p><b>Plumbing Gasoline</b></p> <ul style="list-style-type: none"> <li>Plumbing Gasoline is a flammable liquid and should be stored in a well-ventilated area, away from any open flames or heat sources.</li> <li>Plumbing Gasoline should be stored in a well-ventilated area, away from any open flames or heat sources.</li> </ul> <p><b>Plumbing Gasoline</b></p> <ul style="list-style-type: none"> <li>Plumbing Gasoline is a flammable liquid and should be stored in a well-ventilated area, away from any open flames or heat sources.</li> </ul> | <p><b>Plumbing Gasoline</b></p> <ul style="list-style-type: none"> <li>Plumbing Gasoline is a flammable liquid and should be stored in a well-ventilated area, away from any open flames or heat sources.</li> </ul> |
| <p><b>Asphalt Shingles</b></p> <ul style="list-style-type: none"> <li>Asphalt Shingles comply with 2012 IRC Part 1100 and all subsequent amendments, unless explicitly noted for future potential amendments.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                              | <p><b>Plumbing Gasoline</b></p> <ul style="list-style-type: none"> <li>Plumbing Gasoline is a flammable liquid and should be stored in a well-ventilated area, away from any open flames or heat sources.</li> </ul>                                                                                                                                                                                                                                                                                                                                        | <p><b>Plumbing Gasoline</b></p> <ul style="list-style-type: none"> <li>Plumbing Gasoline is a flammable liquid and should be stored in a well-ventilated area, away from any open flames or heat sources.</li> </ul> |

|  |                                                                                            |
|--|--------------------------------------------------------------------------------------------|
|  | Proposed tree and large shrub planting (dashed brown line shows estimated ultimate spread) |
|  | Proposed planting area                                                                     |
|  | Proposed hedge planting                                                                    |
|  | Grass areas: to be seeded with Geminal Seeds A24 grass seed mix                            |
|  | Proposed bulb planting                                                                     |
|  | Existing trees/vegetation to be removed                                                    |

| Reference | Ref. | Author | Publication Title                                            | Publication Date |
|-----------|------|--------|--------------------------------------------------------------|------------------|
| 1         | 1    | Alm    | Alm, J. (1996) The impact of the Internet on the book market | 1996, 15, 1      |
| 2         | 2    | Alm    | Alm, J. (1997) The impact of the Internet on the book market | 1997, 16, 1      |
| 3         | 3    | Alm    | Alm, J. (1998) The impact of the Internet on the book market | 1998, 17, 1      |
| 4         | 4    | Alm    | Alm, J. (1999) The impact of the Internet on the book market | 1999, 18, 1      |
| 5         | 5    | Alm    | Alm, J. (2000) The impact of the Internet on the book market | 2000, 19, 1      |
| 6         | 6    | Alm    | Alm, J. (2001) The impact of the Internet on the book market | 2001, 20, 1      |
| 7         | 7    | Alm    | Alm, J. (2002) The impact of the Internet on the book market | 2002, 21, 1      |
| 8         | 8    | Alm    | Alm, J. (2003) The impact of the Internet on the book market | 2003, 22, 1      |
| 9         | 9    | Alm    | Alm, J. (2004) The impact of the Internet on the book market | 2004, 23, 1      |
| 10        | 10   | Alm    | Alm, J. (2005) The impact of the Internet on the book market | 2005, 24, 1      |
| 11        | 11   | Alm    | Alm, J. (2006) The impact of the Internet on the book market | 2006, 25, 1      |
| 12        | 12   | Alm    | Alm, J. (2007) The impact of the Internet on the book market | 2007, 26, 1      |
| 13        | 13   | Alm    | Alm, J. (2008) The impact of the Internet on the book market | 2008, 27, 1      |
| 14        | 14   | Alm    | Alm, J. (2009) The impact of the Internet on the book market | 2009, 28, 1      |
| 15        | 15   | Alm    | Alm, J. (2010) The impact of the Internet on the book market | 2010, 29, 1      |
| 16        | 16   | Alm    | Alm, J. (2011) The impact of the Internet on the book market | 2011, 30, 1      |
| 17        | 17   | Alm    | Alm, J. (2012) The impact of the Internet on the book market | 2012, 31, 1      |
| 18        | 18   | Alm    | Alm, J. (2013) The impact of the Internet on the book market | 2013, 32, 1      |
| 19        | 19   | Alm    | Alm, J. (2014) The impact of the Internet on the book market | 2014, 33, 1      |
| 20        | 20   | Alm    | Alm, J. (2015) The impact of the Internet on the book market | 2015, 34, 1      |
| 21        | 21   | Alm    | Alm, J. (2016) The impact of the Internet on the book market | 2016, 35, 1      |
| 22        | 22   | Alm    | Alm, J. (2017) The impact of the Internet on the book market | 2017, 36, 1      |
| 23        | 23   | Alm    | Alm, J. (2018) The impact of the Internet on the book market | 2018, 37, 1      |
| 24        | 24   | Alm    | Alm, J. (2019) The impact of the Internet on the book market | 2019, 38, 1      |
| 25        | 25   | Alm    | Alm, J. (2020) The impact of the Internet on the book market | 2020, 39, 1      |
| 26        | 26   | Alm    | Alm, J. (2021) The impact of the Internet on the book market | 2021, 40, 1      |
| 27        | 27   | Alm    | Alm, J. (2022) The impact of the Internet on the book market | 2022, 41, 1      |
| 28        | 28   | Alm    | Alm, J. (2023) The impact of the Internet on the book market | 2023, 42, 1      |
| 29        | 29   | Alm    | Alm, J. (2024) The impact of the Internet on the book market | 2024, 43, 1      |
| 30        | 30   | Alm    | Alm, J. (2025) The impact of the Internet on the book market | 2025, 44, 1      |

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