

Ecological Impact Assessment



Project: Land to the North of Crabtree Walk, Merthyr Tydfil

Instructed by: WDL Homes

Reported by: Ecological Services Ltd
10 Mount Pleasant, Llanelly Hill, Abergavenny, Monmouth NP7 0NT
Reported by

Author	Date	Version
Ash Harris	2nd March 2021	V1

Contents

1. Introduction

- 1.1 Site Description
- 1.2 Surveyor Experience

2. Legislation

- 2.1 Habitats
- 2.2 Species

3. Review of Ecological Survey Work

4. Impact Assessment

- 4.1 Ecological Feature - Wildlife Protection Zone
- 4.2 Ecological Feature - Badger
- 4.3 Ecological Feature - Reptiles
- 4.4 Ecological Feature - Nesting Birds
- 4.5 Ecological Feature - Great Crested Newt
- 4.6 Ecological Feature - Bats

5. Enhancement Measures

- 5.1 Provision of Bird Nesting Opportunities
- 5.2 Provision of Bat Roosting Opportunities
- 5.3 Reptile Enhancements
- 5.4 Soft Landscaping

6. Management Responsibilities

Appendix

Habitat Map

Site Layout

Directional Cutting & Temporary Fencing Location

1. Introduction

Planning consent is being sought for a housing development within a parcel of land to the north of Crabtree Walk, Trefechan. The site measures approximately 2.8ha in size and is centred at SO 03424 09076. The development proposals will look to create 45 houses with associated infrastructure and utilities.

In order to undertake a full appraisal of the proposed development and the potential impacts and significance of impacts upon the habitats and species within the development site and adjacent habitats, an Ecological Impact Assessment (EclA) has been undertaken. An EclA helps provide a clear and methodical way to identify, quantify and evaluate the potential significant effects of a proposed plan or project.

This EclA builds upon the initial phase 1 survey report completed by Ecological Services in 2019. The development proposals have progressed since the phase 1 report was written and more detailed recommendations can now be made. The phase 1 report by Ecological Services provides information on the habitats within the proposed development site. The document will provide baseline information for any future monitoring works

1.1 Site Description

The proposed development site consists of five fields with a variety of habitats within them, a habitat map is available in Appendix 1. Habitats on site include semi improved grassland, bracken scrub, a small area of broadleaved woodland, scattered trees, dry stone walling and tree lines along some boundaries. The development site wraps around two detached properties and single lane access track. The development plans have progressed since the phase 1 survey in 2018 and now include Caerllwyn Bungalow and grounds. The site slopes downwards from north to south.

The site is immediately surrounded by residential housing to the north, east and south. Open upland and a golf course are present to the west of the site boundary. It is understood that some land to the west of the site may also be grazed common land.

1.2 Surveyor Experience

Aislinn Harris is a full member of Chartered Institute of Ecology and Environmental Management (CIEEM). Aislinn is an ecologist with 12 years experience undertaking a wide range of flora and fauna surveys. All survey work is undertaken following JNCC Phase 1 Survey Guidelines and CIEEM Guidelines for Preliminary Ecological Appraisal (2nd Ed 2017). Aislinn is a licenced bat ecologist (S085699-1) with a wide variety of experience undertaking bat activity surveys..

2. Legislation

The **Habitats Directive (Directive 92/43/EEC)** aims to ‘*contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States*’. The Directive requires the establishment and conservation of a network of sites within each member state which protect the rarest flora and fauna found across Europe. A number of species and habitats are listed in Annex 2 of the directive for which areas can be designated as a SAC. The aims of the Habitats Directive are transposed into British Law through the **Conservation of Habitats and Species Regulations 2017**.

The **Wildlife and Countryside Act (1981)** as amended provide the legislation framework and protection for SSSI. A SSSI is designated by a statutory nature conservation body such as Natural Resources Wales (NRW) for its make up of flora, fauna, geological and / or physiographical features. Each SSSI should have a citation which describes the site and its special features.

The **Environment (Wales) Act 2016** is a wide reaching piece of legislation which seeks help improve the management of Wales’ natural resources into the future. The Act sets out a Wales wide approach to planning and managing its natural resources at a national and local level in a sustainable manner. One main requirement for all public bodies, such as local councils, is to maintain and enhance biodiversity where possible within their duties.

2.1 Habitats

Statutory Designations

No statutory protected sites lie within or directly adjacent to the proposed development site. The Brecon Beacons National Park is located approximately 100m to the north of the northern edge of the proposed development site.

Non Statutory Designations

The Cilsanws Common South Site of Importance for Nature Conservation (SINC) lies directly adjacent to the western edge of the proposed development site.

2.2 Species

Great Crested Newt

Great crested newts (*Triturus cristatus*) are a European protected species and are protected under the Conservation of Habitats and Species Regulation 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Deliberate taking or destroying of eggs,
- Damage or destruction of a breeding site or resting place.

Great Crested Newts are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a great crested newt.

Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulation 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, bechstein, noctule, brown long eared, common pipistrelle, soprano pipistrelle, greater horseshoe and lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which ma

Nesting Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981) as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird

Enhanced protection is afforded to species listed on Schedule 1 of the Act, this additional protection makes it an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Reptiles

Reptile such as the slow worm, common lizard, adder and grass snake are protected under the Wildlife and Countryside Act 1981(as amended). They are protected from killing, injuring and sale. In Wales sand lizard, smooth snake, adder, grass snake, slow worm and common lizard are listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;
- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on schedule 6 of the Wildlife and Countryside Act 1981 as amended.

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general there is usually a main sett which the family will use the most. There are then annex, subsidiary and or outlier setts which depending on family structures and environmental pressures may be used at different times of the year. As female badgers tend to have their cubs over winter the disturbance and damage of badger setts is prohibited between December and June inclusive.

3. Review of Ecological Survey Work

A suite of ecological survey work has been completed to support the proposed development. A list of the survey reports is below:

- *Extended Phase One Ecology Survey; Land at Trefechan, Merthyr Tydfil* by Ecological Services Ltd dated February 2021
- *Biodiversity Strategy* by Ecological Services Ltd dated 29th October 2019
- *Bat Activity Survey; Caerllwyn Bungalow, Trefechan V2* by Ecological Services Ltd dated 10th February 2021.
- *Bat Transect Survey* by Ecological Services Ltd dated 8th February 2021
- *Ground Based Assessment of Trees to Support Roosting Bats* by Ecological Services Ltd dated 8th February 2021

The phase 1 survey was completed in August and October 2018. The survey found the habitats on site had the potential to support nesting birds and reptiles. The potential presence of great crested newt (GCN) and badger within the site boundary are thought to be highly unlikely but as their presence cannot be ruled out, precautionary measures during on site works were recommended. The report also recommended a buffer between the development site and adjacent SINC to the west.

Additional work was requested by the Merthyr Tydfil County Borough ecologist to support the planning application. A summer and autumn bat transect survey were completed within the site boundary in 2019. The development boundary also changed to include Caerllwyn Bungalow and grounds. A bat scoping survey of the building was completed in January 2020. One bat activity survey was completed on the 25th August 2020 and a static bat detector was deployed within the outbuildings on the property for 10 days from the 12th to the 22nd August 2020.

A detailed ground based assessment of all trees to be lost as part of the development work has also been completed. An assessment of all trees within the site boundary was made during the initial site visit in 2018. However further details were requested on trees to be lost as part of the development works. It is our understanding that no major works to retained trees will be required.

The Biodiversity Strategy is now superseded by the details within this report and is no longer relevant to the planning application. **The EclA document builds upon all survey findings and work completed to support the proposed planning application.**

4. Impact Assessment

The role of a EclA is to address significant effects which the project may have. For the purpose of this assessment significant impacts will be those that affect legally protected sites and species within and directly adjacent to the proposed development site.

The EclA process presents a hierarchy of approaches to ensure a project of plan lowers its potential impacts. The works should seek to

- **AVOID** - Consider options to avoid any potential harm to an ecological feature,
- **MITIGATE** - If negative effects are unavoidable, measures should be implemented to minimise and reduce potential effects,
- **COMPENSATE** - If negative effects are still likely to be experienced despite measures to reduce impacts being implemented appropriate compensatory measures should implemented.
- **ENHANCEMENT** - Works should always seek to provide net benefits for biodiversity to help meet the section 7 requirements of the Environment Act (Wales) 2016.

The scope of the proposed development works has been reviewed and streamlined to ensure only works necessary are to be undertaken. Based on the finding of the phase 1 habitat survey, bat transect survey and bat activity survey of Caerllwyn Bungalow the development proposals the development proposals have the potential to negatively impact on

- Wildlife Protection Zone
- Badger
- Reptiles
- Nesting Birds
- Great Crested Newt
- Bats

4.1) **Ecological Feature - Wildlife Protection Zone**

A portion of the current habitat within the development site will be retained throughout the development works as a Wildlife Protection Zone (WPZ). The WPZ will be retained along the north and western boundary of the site and at its narrowest point will measure 5m in width from the edge of the development works to the site boundary. The WPZs will be

securely fenced off during the construction works and then subject to suitable management to retain them as wild areas for nature.

Potential Impacts

- Habitat loss within the remainder of the development site.

Measures to be Implemented

- All site contractors will be given a toolbox talk prior to work commencing on site. The tool box take will discuss the need for the wildlife protection zones and clearly explain the fencing must remain intact during the construction works and that no machinery or materials can be stored within the zones.
- A two stage vegetation cut will be undertaken across the wider construction site which encourage reptiles to naturally relocate into the WPZs. The two stage vegetation cut will be supervised by an ecologist to ensure the WPZs are not cut. Once the two stage vegetation cut and tree removal work has been completed the WPZ areas will be securely fenced off using heras fencing or similar for the duration of the development works.
- No machinery, site materials or site personal will be allowed into the WPZ without written agreement from the supervising ecologist.
- Replacement planting will be undertaken as shown on drawing 1909TMT.02 dated February 2021 by John Campion Associates.

4.2) Ecological Feature - Badger

The presence of dense bracken scrub within the site boundary prevented a thorough visual inspection of all areas of the site for the potential presence of a badger sett. No evidence of the presence of badger in the form of mammal paths, latrines or snuffle holes were noted anywhere within the site boundary. Whilst it is through highly unlikely that badger are present, a precautionary approach to site clearance works will be adopted.

Potential Impacts

- Damage or destruction of a badger sett
- Disturbance or injury to badger
- Badger become trapped in excavations or machinery used during construction works

Measures to be Implemented

- A toolbox talk will be provided to all site contractors undertaking vegetation clearance works and construction work on site. The toolbox talk will explain the protection afforded to the badger and potential negative impacts the work could have. Workers will be asked to remain vigilant for potential impacts and ways in which to avoid or reduce such impacts.
- An ecologist will supervise the vegetation clearance works on site. The ecologist will undertake a visual inspection of all vegetation areas as they are being cleared looking for evidence of badger or a badger sett. If a badger sett or evidence indicating the presence of a sett is found all work on site will cease. The supervising ecologist will seek advice from Natural Resources Wales (NRW) on how to proceed. This advice may be that all work cease until licence to close the badger sett is granted.
- All rubbish/materials will be collected and removed from site on a regular basis to prevent trapping and/or injury of wildlife.
- All site machinery and materials will be kept securely in a fenced site compound. The fencing of any storage compound will be designed and used to prevent badger gaining access into the machinery or stored materials. Construction compounds will be placed at least 10m away from the WPZs.
- Any excavations that have a depth in excess of 0.5m and that are left open over night will have a means of escape left for any mammals that may fall into them. A wooden board or equivalent will be left from the bottom to the top of the hole set at a 30° angle. This will allow a mammal to escape and avoid increased stress from being trapped.

4.3) Ecological Feature - Reptiles

The land within this site boundary consists of longer and shorter semi improved grassland, rubble piles / dry stone walling, woodland, bracken scrub and tall ruderal vegetation. The habitats within the site are thought to have potential for use by reptiles for **basking and foraging** during the months of **March to September inclusive**. The rubble / dry stone walling and tree roots are also thought to have hibernation potential for reptiles. The **hibernation season** runs from **November to February inclusive** but depends on temperatures at the time of year.

Potential Impacts

- Damage or injury to hibernating reptiles,
- Damage or injury to commuting reptiles during the year

Measures to be Implemented

- All site contractors will be given a toolbox talk which covers the legal protection given to reptiles, what they look like, where they may be found and what to do if reptiles are found at any point during the works on site.
- Areas of natural vegetation currently present within the site boundary will be retained around the north and western boundary of the site as shown on the site plan provided within Appendix 2. Once the two stage vegetation cut and tree removal work has been completed these areas will be securely fenced off using heras fencing or similar for the duration of the development works. These areas will become Wildlife Protection Zones (WPZ) during and after construction works.
- No machinery, site materials or site personal will be allowed into the WPZ without written agreement from the supervising ecologist.
- A log of animals caught will be kept and shared with the county ecologist once clearance works have been completed.

Vegetation Clearance - Grassland & Scrub

- A two stage vegetation cut will be completed that is directional and naturally encourages reptiles to move the WPZ. The starting location of cutting and the direction in which works will progress is shown in Appendix 3.
- During the first stage cut the vegetation will be cut, using hand tools where possible or an adjustable flail attachment on a JCB, to a height of between 100-150mm. The cut material will be raked / collected and removed from the site boundary within 24hrs of being cut.
- Any reptiles present should naturally move away of their own accord due to the disturbance from cutting. However if any reptiles or other fauna are encountered during this operation they will either be carefully collected and moved to the WPZ or allowed to do so of its own accord.
- The second stage vegetation cut will commence once the first stage is completed to the satisfaction of the supervising ecologist. During the second stage cut all vegetation will be cut using hand tools where possible or an adjustable flail attachment on a JCB, to a height of between 50mm. Should any reptiles or other fauna be encountered they will be treated as above.

Woodland, Trees & Tree Roots

- Given the potential for nesting birds to use the tree canopies and reptiles to use the tree roots, the timing of the removal of trees is important. Any tree that requires removal as part of the development works will be removed in two stages.

- First stage - the trees to be removed will be cut down to a height of 50cm above ground level between the 1st September and 1st March. The brash will be removed from from the site or chipped.
- Second stage - the tree roots will be grubbed up using a toothed bucket of a JCB or an appropriate sized digger. The roots will be removed under ecological supervision and any reptiles found will be captured and moved to the retained habitat areas. The roots systems will be removed slowly and gently to allow any reptiles present to escape. All roots will then be removed from the proposed development site. The second stage cannot be completed during the winter months of October to February inclusive.
- Tree root removal will only take place after the two stage grassland cut. Cutting the grass before removing the root systems and reptiles which might have been present, will naturally encourage them to move from the area making them less likely to be using the tree roots.

Destructive Searching

- Once the grassland, scrub and tree removal work has been completed the ecologist will walk over the site and assess the potential of these areas to continue to support reptiles. If the ground is rocky or a thatch of vegetation remains targeted areas will be subject to supervised destructive searching.
- Any areas of ground that require destructive searching will be supervised directly by a suitable experienced ecologist. A JCB using a toothed bucket will gently remove the top 10cm of soil allowing any animals present to escape. The soil will be removed in strips and moved to the side. At the end of the day the soil will be tracked back into the ground to leave bare earth.
- If at any point reptiles are observed, the JCB will stop and the supervising ecologist will retrieve the animal. The reptile will then be put in a secure container and moved to the retained areas of vegetation within the site boundary.
- All rubble or dry stone walling within the site boundary will be removed between the months of 1st April and 30th September. This timing restrictions ensure that reptiles are active and likely to move away from the development site of their own accord.
- The removal of rubble or dry stone walling will be supervised by an appropriately experienced ecologist.
- Due to the size and weight of some of the materials within the site their removal will require the use of machinery such as a JCB or similar machine. Machinery drivers will be given a tool box talk on the potential presence of reptiles and what to do if

one is seen. The materials will be removed as gently as possible to allow any sheltering animals to escape.

4.4) Ecological Feature - Nesting Birds

Nesting birds have the potential to use the trees, scrub and denser vegetation for nesting purposes. Given the widespread bracken and overgrown nature of much of the proposed development site the site is unlikely to be used by ground nesting birds. However the supervised two stage vegetation cut to be implemented for badger and reptiles will address any ground nesting bird concerns. All wild birds are protected while nesting with some exceptions for certain pest species.

Potential Impacts

- Disturbance of the nesting birds.
- Loss of bird nesting habitat.

Measures to be Implemented

- Any tree and or scrub removal within the site boundary will be completed **outside of the bird nesting season of March to August inclusive**. If this is not achievable an ecologist must inspect any trees or ground vegetation with the potential for birds to be present, for active birds' nests prior to removal works beginning. If an active nest or activity indicating a nest might be present is identified a buffer zone of 5m around the nest must be observed until the chicks have fledged. Only then can the vegetation be removed.

4.5) Ecological Feature - Great Crested Newts

The habitat within the development site boundary appears superficially suitable for use by GCN during their terrestrial life stages. Whilst the closest record for presence is approximately 1.8km away, aerial maps show a pond approximately 500m away from site. Whilst the potential for GCN to be present within the site is thought highly unlikely, their presence cannot be entirely ruled out.

Potential Impacts

- Loss of terrestrial habitat
- Disturbance or destruction of a resting place,

Measures to be Implemented

- All contractors will be given a tool box talk that includes the protection afforded to GCN and the potential for their presence within the pond on site and mature vegetation. The toolbox talk will include what to do if GCN are found on site.
- As detailed in section 4.3 a supervised two stage vegetation clearance and destructive searching will be undertaken within the site boundary. Vegetation clearances works will be supervised by an appropriately licenced GCN ecologist. If at any point during works on site GCN are found, work will cease and the supervising ecologist will be contacted for advice on how to proceed. This advice could include that a development licence from Natural Resources Wales (NRW) will be sought prior to works recommencing on site.

4.6) Ecological Feature - Bats

No evidence of the presence of roosting bats has been found within the proposed site boundary. A summer and autumn bat transect survey have been completed within the development site. The transect surveys found overall a low level of bat activity during the summer with slightly more activity during the autumn and a greater variety of bat species recorded. Bats are also likely to forage across the site in small numbers throughout the year. The presence of commuting and foraging bats throughout the night is accepted.

Potential Impacts

- Disturbance of commuting and foraging bats.
- Temporary noise and lighting from construction works restricting movement across the site.

Measures to be Implemented

- All site contractors will be given a toolbox talk which covers the legal protection given to bats, what they look like, where they may be found and what to do if bats are found at any point during the works on site. Should bats be found, a suitably experienced ecologist will be contacted for advice which may include that work to that area stop and a licence is sought from NRW.
- No night time working will be undertaken as part of the development proposals.
- No lighting will be erected as part of the development proposals at any location within the site.
- Lighting within the residential footprint will be designed to ensure light levels along the northern and western boundary, along the WPZ, do not exceed 0.5 lux.

- All external lighting within residential properties fitted as part of the development works will be hooded and motion activated to ensure lighting is not left on over night.
- No external lighting can be placed within 2m of the bat boxes fitted to plots 28, 33, 34, 35, 36, 37, 38, 39, 40, 41 and 42.

5. Enhancement Measures

The Environment Act (Wales) 2016 places a duty on all competent authorities to ensure that biodiversity is not only conserved but enhanced. The proposed development works create potential features that can be improved for the benefit of biodiversity.

5.1 Provision of Bird Nesting Opportunities

All bird boxes will be integrated into the walls of each building as high as possible on the relevant elevations. No box will be installed below eaves level.

- 1 x Woodstone Build-in Open Nest Box will be provided on the north west elevation of units 45, 22 and 17,
- 1 x Woodstone Build-in Open Nest Box will be provided on the north east elevation of unit 8,
- 1 x Vivara Pro Woodstone House Sparrow Nest Box will be provided on the north elevation of the garage of unit 12,
- 1 x Vivara Pro Woodstone House Sparrow Nest Box will be provided on the west elevation of unit 9,
- 1 x Woodstone Build-in Hidden Nest Box will be provided on the north elevation of unit 15 and 16,
- 1 x Woodstone Build-in Hidden Nest Box will be provided on the north west elevation of unit 14 and 13,

A total of **12 bird nest boxes** will be provided within the new development. Each new bird box will be inspected by the supervising ecologist to ensure it has been fitted correctly. Photographic evidence of the boxes will be sent to the local planning authority ecologist once completed.

5.2 Provision of Bat Roosting Opportunities

All bat boxes will be integrated into the walls of each building as high as possible on the relevant elevations. No box will be installed below eaves level. No box will be installed within 2m of a window or external light source.

- 1 x 1FR Bat tube (or similar design depending on stock availability) will be erected on the south facing elevation of units 28, 37, 38, 39 and 41,
- 1 x Build in Woodstone Bat Box (or similar design depending on stock availability) will be erected on the east facing elevation of units 33, 34 and 35,
- 1 x Build in Woodstone Bat Box (or similar design depending on stock availability) will be erected on the south facing elevation of unit 36,

- 1 x Build in Woodstone Bat Box (or similar design depending on stock availability) will be erected on the west facing elevation of unit 20,

A total of **10 bat boxes** will be provided within the new development. Each new bat box will be inspected by the supervising ecologist to ensure it has been fitted correctly. Photographic evidence of the boxes will be sent to the local planning authority ecologist once completed.

5.3 Reptile Enhancements

Four rubble piles will be created within the WPZs as shown on the plan TREF-15-04-02 by Think Urban. The rubble piles will mimic the sections of dry stone walling which will be lost as part of the development proposals. The rubble piles will mature at least 2m by 3m in size. The ground will be excavated to a depth of 0.5m and the rubble piled inside to a height of 1m. The earth removed as part of the excavation work will then be spread across the top and sides of the rubble piles to create a reptile hibernacula. The rubble piles will be created under direct ecological supervision.

Two sections of dry stone walling will be created as part of the landscaping proposals for the development site. Dry stone walling will be created as below:

- Section 1 - Walling created opposite plot 45 to the south west of site. Walling will measure at least 6m in length and 1.5m in height. The coping stones will be mortared in place but the remainder of the wall will be mortar free.
- Section 2 - Walling created to the south east of the public open space opposite plot 42. Walling will measure at least 10m in length and 1.5m in height. The coping stones will be mortared in place but the remainder of the wall will be mortar free.

5.4 Soft Landscaping within the Development Site

The WPZs will be retained as natural areas for use by wildlife in perpetuity. They will create a buffer between the residential footprint and wider natural landscape in the area. They will allow wildlife to commute across the landscape and around the development site.

Cilsanws Site of Importance for Nature Conservation (SINC) lies directly adjacent to the south west of the development site. The WPZ will help to reduce the pressure that an adjacent residential development works can have on a protected site.

- The WPZs will be at the very least 5m in width between the development site boundary and residential development footprint.
- A 1.8m high wood fence will be erected between the WPZ and residential development to ensure the WPZs are subject to less disturbance by residents. The fencing will be either lifted off the ground at least 13cm or have 13cm by 13cm gaps cut every 3m in the fence line
- A number of trees will be retained within the WPZs as shown within the landscaping plan.
- 2000m² of native species woodland planting will be undertaken within the WPZ as shown within the landscaping plan. A range of native trees and shrubs will be used that are sensitive to the upland location of the development.

- A management plan for the soft landscaping and grassland cutting within the WPZs will be required. The grassland within the WPZs must be cut in Spring and autumn only. These details will be included within the landscape management plan for the site. It is anticipated that this will be conditioned as part of any planning consent granted.

The soft landscaping within residential area will managed differently to the landscaping within the WPZs.

- The grassland areas will be subject to more intensive cutting regimes however strategic use of bulb planting across the larger grassland areas naturally encourages less intensive mowing in these areas creating a habitat mosaic which benefits a range of wildlife.
- At least 90m of native hedgerow planting will be created to the southeast of the site. A management plan of the hedgerow planting will be required to ensure it establishes into a mature hedge. Once established the hedgerow will be cut every 2 years during the winter month.
- At least 30 specimen trees will be planted within the residential area of the development site. Tree planting will help create green corridors across the site and soften the urban feel of the development site.
- All close board fencing must be lifted off the ground at least 13cm or have 13cm by 13cm gaps cut every 3m in the fence line.

6. Management Responsibilities

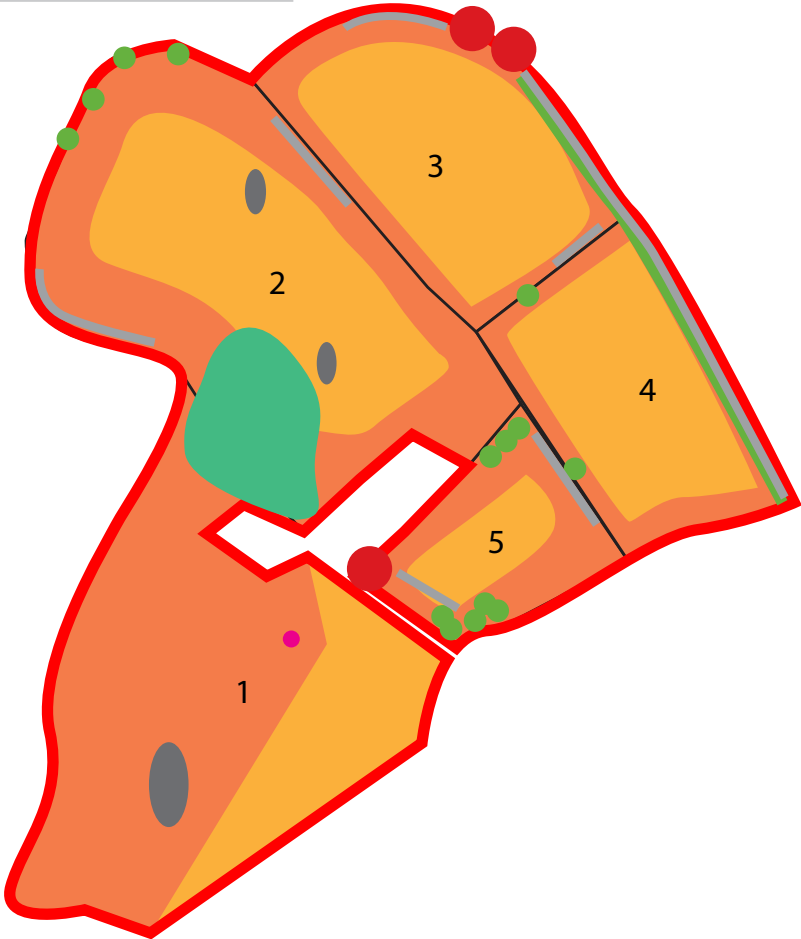
The proposed development site owner will have the responsibility to ensure the measures within this document are fully and continually implemented during the life time of the project. All site sub contractors must be fully inducted and made aware of the ecological constraints and required working methods.

Bibliography

- Biodiversity: Code of practice for planning and development¹ published by the British Standards Institute (BS 42020:2013)
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- European Communities (2000) MANAGING NATURA 2000 SITES The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC
- Ecological Services Ltd (2021) Bat Activity Survey
- Ecological Services Ltd (2021) Bat Transect Survey
- Ecological Services Ltd (2021) Ground Based Visual Assessment of Trees to Support Roosting Bats
- Ecological Services Ltd (2021) Extended Phase 1 Ecology Survey

Appendix 1 - Habitat Map

Date of Ecological Assessment
January 2019
Location of Ecological Assessment
Land at Trefechan, Merthyr Tydfil



Legend	
	Site Boundary
	Stone Wall
	Semi improved grassland
	Bracken Scrub
	Woodland
	Tree Line
	Moderate Bat Potential Tree
	Rocky Outcrop
	Scattered Tree
	Non Native Invasive Species

Appendix 2 - Site Layout

CRABTREE WALK, TREFECHAN, MERTHYR TYDFIL.



Appendix 3 - Directional Cutting & Temporary Fencing Locations

