

Merthyr Developments Ltd

**LAND AT THE FORMER
ST TYDFIL'S HOSPITAL,
MERTHYR TYDFIL**

**PRELIMINARY
ECOLOGICAL ASSESSMENT**

Report issued 29th July 2019

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Land at the former St Tydfil's Hospital: Ecological Survey & Assessment

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Land at the former St Tydfil's Hospital: Ecological Survey & Assessment

1 INTRODUCTION

- 1.1 Barry Stewart & Associates, Consultant Ecologists were commissioned by the Merthyr Developments Ltd on 20th June 2019, to carry out a preliminary ecological assessment of land at the former St Tydfil's Hospital site in Merthyr Tydfil, a 1.88ha site proposed for redevelopment. The assessment site boundary, shown by the dashed black line on figure 1, lies near the centre of Merthyr, being bordered to the east by Thomastown Park Recreation Ground and to the west by the Old Cemetery off Upper Thomas Street. The site has a central Ordnance Survey grid reference of SO05160643 and is situated within the administrative borough of Merthyr Tydfil.
- 1.2 This report presents the findings of an Extended Phase 1 Habitat Survey and assesses the significance and impact of the proposed scheme on ecological features identified during surveys, carried out on 26th June 2019 by Barry Stewart.
- 1.3 The only previous survey of the site we are aware of is a bat that was undertaken by Rob Colley in 2014. The present survey provided sufficient baseline ecological data to allow scoping opinions to be produced in respect of protected and habitats and species. It also aims to provide the developer with guidance to minimise impacts, identifies opportunities for mitigation and recommends best practice protocols for dealing with common issues. This document will also, if necessary, form a basis from which may be drafted a future ecological site management plan together with appropriate method statements where necessary.

2 PHASE 1 HABITAT SURVEY

2.1 Survey Methodology

Vegetation Survey

The vegetation types present within the site were assessed by Barry Stewart using methodology based on that described in the Handbook for *Phase 1 habitat survey – a technique for environmental audit* (Nature Conservancy Council, 1990.). The results of the survey are presented at figure 1 and descriptions of each habitat type are given below. Species lists were compiled in the form of target notes (TN) in order to describe particular features of interest. These lists are reproduced at appendix 1 but key and noteworthy species are detailed in the relevant sections of the report.

The text below uses vernacular names for the vascular plants recorded during the surveys, the scientific names of which are given at appendix 1. It is more conventional to use italicised scientific names of lower plants, including bryophytes (mosses and liverworts) and lichens, which are used preferentially in the main text, although vernacular names are also provided at appendix 1, where these exist:

The field survey was carried out on 26th June 2019.

The survey encompassed the whole of the 1.88ha assessment site. Where possible, stands of vegetation and habitats have been described and evaluated using the National Vegetation Classification (NVC), widely used by Natural Resources Wales and other wildlife

organisations as well as ecological consultants to provide a scientific basis for the description and evaluation of habitats. Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act 1981 and indicators of important and uncommon plant communities. Searches were also carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act 1981, namely Japanese Knotweed *Fallopia japonica*, Indian Balsam *Impatiens glandulifera* and Giant Hogweed *Heracleum mantegazzianum*.

2.2 Survey Results

The total numbers of species of the main plant taxonomic groups recorded during the survey are shown at table 1 and a full list of all records is at appendix 1.

Table 1: Species totals for taxonomic groups recorded during the survey:

Taxonomic group	Total species
Vascular plants	113
Bryophytes (mosses & liverworts)	24
Bacteria	1
Birds	8
Invertebrates	8

2.2.1 WOODLAND AND BOUNDARIES

Extensive stands of mature parkland trees and shrubs were found to border the entire eastern boundary of the site, with more formal parkland trees and shrubs bordering the central part of the western boundary, as illustrated on figure 1 (photo 8). The adjacent park woodland supported a rich diversity of canopy species with species noted at **TN08** including Ash, Goat Willow, Hazel, Hornbeam, Sycamore and White Willow. The field layer of this adjacent land was not surveyed, though displayed moderately diverse with Atlantic Ivy, ferns and bryophytes being prominent components. Only adjacent to the upper car park at **TN07**, did this woodland encroach onto the application site as a small green wedge. The tree and shrub species noted here were Ash, Field Maple, Hazel, Holly, Horse-chestnut, Snowberry and Sycamore. The field layer was somewhat impoverished with woodland species limited to common species such as Atlantic Ivy, Broad-leaved Willowherb and Nipplewort.

A small number of mature planted trees and shrubs were recorded in the south-western part of the site shown by **TN03** (photos 1 & 5), immediately adjacent to the derelict hospital buildings. These included an ornamental birch, Holly, Lawson's Cypress, Sycamore and a Weeping Willow. The associated ground flora in this area supported a range of predominantly native species that comprised ruderals and disturbed poor semi-improved grassland at **TN02**, with components including Creeping Bent, Lesser Trefoil, Ribwort Plantain, Selfheal, White Clover and Yorkshire-fog.

The assemblage of trees and shrubs represented in the areas described above do not correspond to any of the National Vegetation Classification (NVC) community descriptions,

though there is an affinity to W10c *Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland, *Hedera helix* sub-community.

2.2.2 UNDERSCRUB AND TALL-HERB VEGETATION

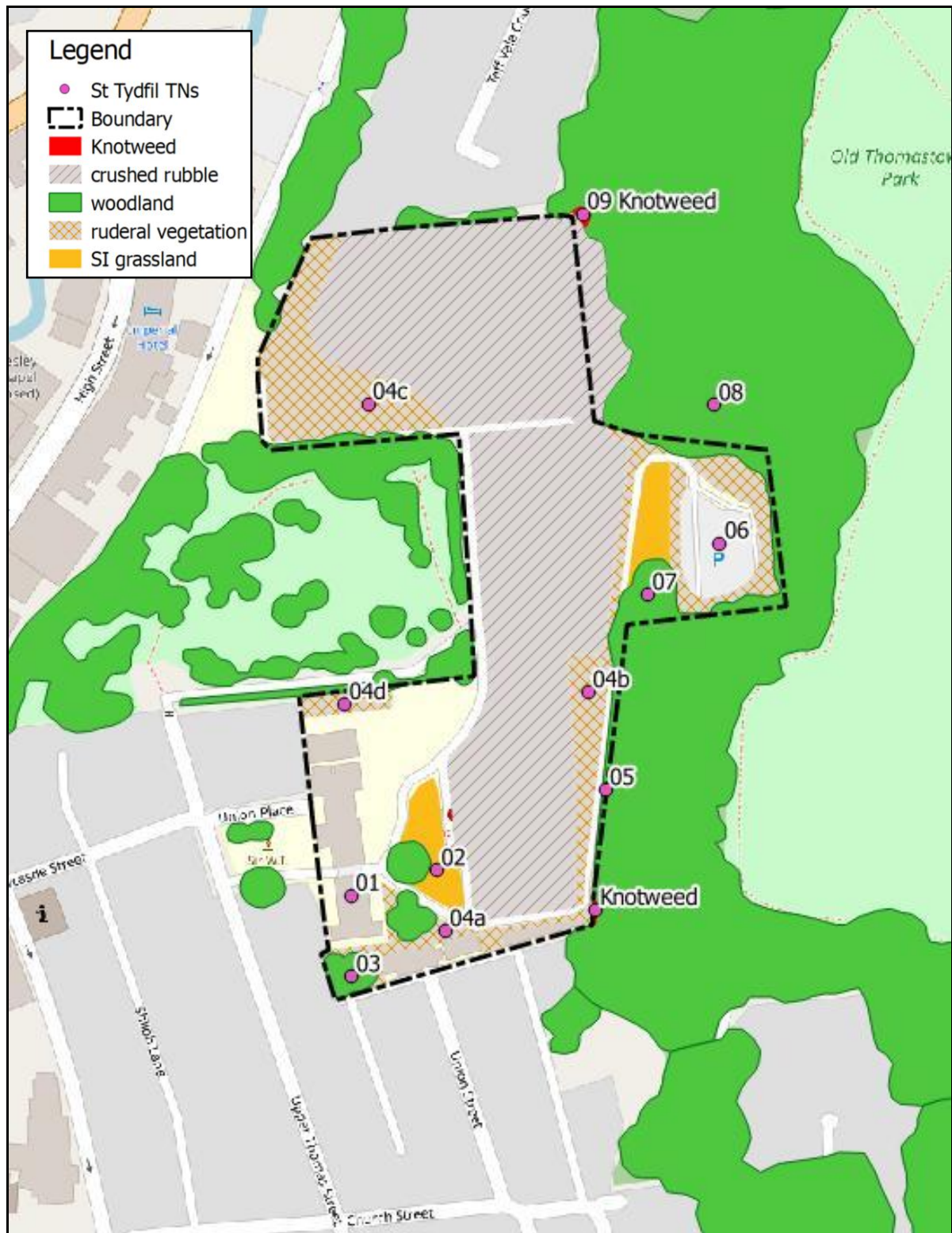
No invasive alien species such as Japanese Knotweed were found within the application site boundary during the survey, though this species was noted at two locations immediately adjacent to the site, as marked by the red shading on figure 1, the most significant stand shown by **TN09** in the north-east. The south-eastern stand is situated on top of the retaining wall, which lies within the park boundary

2.2.3 RUDERAL VEGETATION

The bulk of the application site comprised unvegetated land (photos 1, 2 & 3), following extensive demolition, subsequent processing and stock-piling of crushed building rubble on site. Sparse cover of vegetation was, however apparent at scattered locations across the site, with the main areas of colonising vegetation represented by the orange cross-hatch shown by **TN04a**, **TN04b** and **TN04c** on figure 1. In total, 74 ruderal species were recorded growing in demolished areas of the application site. The only species recorded with any degree of frequency included *Bryum dichotomum*, Bramble, Butterfly-bush and Red Valerian. A few species of local interest were noted, these being Fern-grass, Rat's-tail Fescue, Small Toadflax, Smooth Tare and Thyme-leaved Sandwort.

Other features supporting ruderal vegetation included the top car park, shown by **TN06** (photo 7), and the retaining wall **TN05** (photo 4), adjacent to the track that leads up to the car park. Leaf fall and the lack of use have enabled bryophytes and a suite of drought-tolerant plants to colonise the tarmac of the car park. Though found to be extensively colonised by bryophytes, most notably *Bryum capillare* and *Calliergonella cuspidata*, vascular plants were also well-represented with locally frequent Herb-Robert, Nipplewort and Wall Lettuce. The retaining wall was well colonised with locally frequent Atlantic Ivy, Bramble, Dog-rose, Herb-Robert, Himalayan Honeysuckle, Red Valerian and Wall Lettuce. Other wall flora was recorded on the walls of the derelict hospital buildings (photos 5 & 6), but other than Atlantic Ivy, interest was limited to low frequencies of widespread wall species such as Maidenhair Spleenwort, *Tortula muralis* and Wall-rue.

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Figure 1: Vegetation Survey

3 PROTECTED AND SIGNIFICANT FAUNA

3.1. Badger

Badgers (*Meles meles*) are opportunistic omnivores, taking a range of fruits, nuts and cereals. In Britain, earthworms are the single most important prey item. Varied habitats, with a range of natural and semi-natural features, support the greatest numbers of animals. Woodland is usually chosen for main setts and areas of improved grazing are important sources of earthworms.

Badgers live in social groups, comprising 2-25 animals (average 6). The group defends a territory of 10ha to 300ha (average 50ha, depending on habitat quality). Such territories are stable over time and contain adequate food resources and underground shelters known as setts.

Setts comprise a series of tunnels and chambers in which badgers rest and breed. Woodland is favoured for sett sites and typically they are dug on south facing slopes, in free-draining soils. Different types of sett can be recognised:

- the main sett is in continuous use (in some cases for several hundred years) and is used for breeding
- annexe setts are close to main setts (usually <150m) and smaller. They are used infrequently as an alternative to the main sett (perhaps by individuals temporarily excluded because of breeding activity in the main sett)
- subsidiary and outlier setts are used sporadically, typically have one or two holes, and may be located anywhere in the territory.

The Badger and its underground sett are protected under various Acts of Parliament, most importantly the Protection of Badgers Act 1992. The Badger is also included on schedule 6 of the Bern Convention. It is illegal to kill or injure any badger or to intentionally or recklessly damage, destroy or obstruct access to a sett. Any development work to be carried out within the vicinity of a sett requires a licence to be obtained in advance from Natural Resources Wales. As a general rule, the use of machinery would not be permitted or licenced within 30m of an active sett during the "close season" which extends from December to June inclusive.

Survey methods

During the surveys, such field signs as setts (the underground breeding/resting holes of badgers), latrines (dung pits, often used as territory-markers), footpaths (identified by footprints, hairs caught on wire fences) and feeding areas (identified by characteristically disturbed/uprooted ground) were sought in all parts of the assessment site and within a 30m buffer around them.

Survey results

The assessment site provides no foraging opportunities for Badgers and no evidence was found that suggested any setts were on, or close to the assessment site.

3.2 Otter

Otter (*Lutra lutra*) breeding and resting sites are protected from damage and destruction under the Wildlife & Countryside Act 1981 and the EC Habitats Directive 1992. Otter is a designated feature of the Afon Tywi SAC.

No formal survey for Otters was undertaken as part of this assessment. Due to the lack of permanent water courses on or immediately adjacent to the site and the lack of feeding opportunities, it is considered very unlikely that the site is of significance to this species.

3.3 Bats

All British bats, and their roosts (occupied or not) are protected by i) The Conservation of Habitats and Species Regulations 2010. This legislation implements the EC Habitats and Species Directive in the UK, and ii) the Wildlife and Countryside Act Schedule 5 (as amended by the Countryside and Rights of Way Act 2000).

Developments which compromise the protection afforded to a European Protected Species require a licence from Natural Resources Wales, as stipulated in the Habitats and Species Regulations. The granting of a licence will be conditional on

- i) an agreed "works methodology", designed to minimise impact on the bat(s),
- ii) agreed "mitigation", to ensure the provision of alternative roost potential at/near the development.

Where planning permission is sought, the Local Planning Authority will need to know, at application stage, what methodology/mitigation is being proposed: this is to

- i) avoid changes in planning designs, post planning permission,
- ii) ensure that LPAs comply with regulation 3(4) of the Habitats Regulations, and
- iii) allow Natural Resources Wales to properly advise the Local Planning Authority.

These protections can be summarised as

- prohibiting the taking, killing or injuring of a bat,
- damaging or destroying a roost (occupied or not),
- obstructing access to a roost; and
- disturbing in-roost bats.

The Environment (Wales) Act 2016 requires all public authorities/bodies to have regard for the conservation of biodiversity e.g. when considering planning applications. There is a particular requirement to address those species and habitats targeted by the UK Biodiversity Action Plan, in pursuance of which the Welsh Government have listed Common and Soprano Pipistrelles, Noctule, Brown Long-eared, Greater and Lesser Horseshoe, Barbastelle and Bechstein bats at Section 7 of the Act as *Species of Principal Importance for Conservation of Biological Diversity*. Implementation of this responsibility varies across authorities but, typically, some LPAs ask for "bat accommodation" as a routine requirement, and some require survey data to be passed to a Local Records Office.

The survey by Colley (2014) reported *'There is no multi-animal bat-roost use of the buildings. There was no (e.g. single/ male/non-breeding) other bat-roost during the course of the survey, and no evidence was found (including at April internal/external search) to suggest such use.*

No bat-related constraint to the demolition of these buildings is identified.

...the 2014 assessment & survey reports indicates a site that has undergone a dramatic and rapid change, from a secure and maintained site to a heavily vandalized, near derelict, site; the observed April-July 2014 pace of this change has been extremely rapid...

...The site as described in April 2014 clearly no longer had the attraction of additional heating, the roofskin bat-roost opportunity had been subject to damage/destruction, and some buildings were so completely open to weather-penetration as to be unusable by bats. The April assessment found no evidence of any bat-use but concluded that sufficient roofskin and wall-cavity opportunity remained for such use not to be discounted.

By the time of the late June visits, the removal (theft) of roof claddings and general all-site vandalism/dilapidation had removed almost all such roost-opportunity, and no roost-use was found.

Use of the wider area by generalist/opportunist Common pipistrelles is reported at the 2014 surveys, and some early-evening (i.e. within 30 mins of "expected" emergence time) single-animal occurrences suggest that there is some roost-use at the wider area. To address this species' presence at the wider area, and to recreate the roost opportunity inferred from the 2011 report and described at the April 2014 assessment, it is recommended that roost opportunity for this species is incorporated into any new build that might eventually be proposed at the site.

Notwithstanding all of the above, it is noted that the 2014 surveys were conducted at a time of year when (all species) maternity colonies can be expected to be extant: even with the described derelictions at the site, it is recognized that some opportunity for single animal roosting might persist at the site if the daily damage/destruction at the remnant buildings is halted, and such use by post-maternity colony dispersed singletons cannot be discounted.

Against the possibility of dispersal-roosting individuals adopting a late-season roost opportunity at-site, it is recommended that a precautionary "course of action" methodology is posted at-site, to be followed in the event of a bat being encountered during works.'

It was apparent the 2019 habitat survey, that further degradation of the remaining buildings shown by photos 5 & 6 had occurred and in the light of the findings in 2014, we support the original conclusion by Colley that no bat-related constraint to the demolition of these buildings is identified, though recommend that a preliminary roost assessment should be undertaken prior to any further demolition works take place.

3.4 **Birds**

Whilst on site nesting and feeding opportunities for birds are very limited, adjacent park woodland & scrub, together with residential buildings and gardens all provide nesting sites and refuge for a wide range of bird species and some marginal usage of the site was noted. It is likely that disturbance from the demolition works will have further reduced the likelihood of nesting in the few remnant features around the margins of the site during 2019.

Protected Birds

No fully protected species (i.e. those listed at Schedule 1 of the Wildlife and Countryside Act, 1981) are known or suspected of breeding within the assessment site. Potential habitat for Barn Owl *Tyto alba* is found in the old buildings on site, but factors such as exposure from damaged roofing, high levels of disturbance and the urban location all suggest use of the building by these birds is very unlikely. No evidence of feathers, pellets or faeces was found

in the entrance areas inspected. A full internal inspection was not undertaken for H&S reasons.

The sparse, but diverse ground flora in the open areas of the site provide limited foraging for a small number of ground-feeding species. Of the eight species noted, all were low concern species and Jackdaw *Corvus monedula* was the only species recorded in double figures.

High Priority Birds

Section 7 'a', and/or Birds of Conservation Concern Red List 'b' species which might on occasions be expected to use the site include:

- ^{ab} Dunnock *Prunella modularis*
- ^{ab} Starling *Sturnus vulgaris*
- ^{ab} Song Thrush *Turdus philomelos*
- ^b Mistle Thrush *Turdus viscivorus*
- ^{ab} House Sparrow *Passer domesticus*

Amber List Birds

Species additional to the above included on the Birds of Conservation Concern Amber List, which have a low likelihood of occurring within the assessment site include Tawny Owl *Strix aluco*, Swift, *Apus apus* and House Martin *Delichon urbicum*.

Collectively the limited features on site are likely to be of low local significance.

3.5 Reptiles

Six native reptile species occur in Britain: the Adder *Vipera berus*, the Barred Grass Snake *Natrix helvetica*, the Smooth Snake *Coronella austriaca*, the Sand Lizard *Lacerta agilis*, Common Lizard *Lacerta vivipara* and the Slow-worm *Anguis fragilis*. The Smooth Snake is not found in Wales and Sand Lizard is restricted to recent reintroduction sites.

Barred Grass Snakes are most commonly associated with wet habitats and frequently feed on aquatic animals such as frogs.

The Adder and Slow-worm are typically associated with drier, heathland habitat and the Common Lizard is found in a wide range of habitats.

All these species are cold blooded, and need to bask in sunlight. Such basking opportunities are readily found on south-facing slopes, and habitats such as free-draining railway embankments and old quarry workings are characteristically good sites.

Schedule 5 of the Wildlife & Countryside Act 1981 provides varying levels of protection for these species. The Smooth Snake and Sand Lizard are afforded complete protection and the other four species are protected in respect of killing, injuring and sale.

The Sand Lizard is a UK Biodiversity Action Plan Priority Species, and on the basis of historical records and current re-introduction experiments it is also included as a *Species of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016.

Survey methods

No systematic survey using artificial refugia was carried out, but a general examination and assessment of the survey site was undertaken in order to identify and assess features which might provide potential reptile habitat.

Survey results

The adjacent dense canopy park woodland and recently cleared ground are features unlikely to support a reptile population. Whilst it is not possible to discount the possibility of occasional reptiles accessing the site from nearby parkland or gardens, it is considered the application site has very limited potential for reptiles and further survey is considered unnecessary.

3.6 **Amphibians.**

Six native amphibian species occur in Britain: the Common Frog *Rana temporaria*, the Common Toad *Bufo bufo*, the Natterjack Toad *Bufo calamita*, the Smooth Newt *Triturus vulgaris*, the Palmate Newt *T. helveticus* and the Great Crested Newt *T. cristatus*. All amphibians have aquatic egg and larval stages and are therefore dependent on water for successful breeding. Eggs are laid in suitable ponds during the spring and the larvae (tadpoles) remain in the water for several weeks or months. Adults of each of these species typically spend 6-9 months on land in invertebrate-rich feeding areas and in over-winter hibernacula.

The Wildlife & Countryside Act 1981 provides varying levels of protection for these species. The Great Crested Newt is afforded complete protection under schedule 5 of the Act. Any development work to be carried out within an area where this species occurs requires a licence obtained in advance from Natural Resources Wales.

The Great Crested Newt is a *Species of Principal Importance for Conservation of Biological Diversity* under section 7 of the Environment (Wales) Act 2016 and is also a UK Biodiversity Action Plan Priority Species.

Survey methods

Areas of suitable habitat for breeding amphibians were sought during the site visit.

Survey results

No suitable breeding habitat for amphibians was identified within the assessment site, though it is possible that occasional individuals of Common Frog, Common Toad and Palmate Newt may use terrestrial habitats for feeding or refuge, as adjacent gardens may have ponds in which these species can breed.

3.7 **Hedgehog**

Hedgehog is included as a *Species of Principal Importance for Conservation of Biological Diversity* under Section 7 of the Environment (Wales) Act 2016 and animals could visit the assessment site occasionally to forage and seek cover (e.g. in marginal vegetation) and may find refuge during the winter period in rank vegetation and in soil banks.

The site has almost no potential to provide cover and foraging for this species.

3.8 **Other Protected and Significant Fauna**

The site does not support suitable habitat for other protected species or *Species of Principal Importance for Conservation of Biological Diversity* under Section 7 of the Environment (Wales) Act 2016 or UK Biodiversity Action Plan Priority Species. These species include, for example, Brown Hare *Lepus*, Dormouse *Muscardinus avellanarius*, Water Vole *Arvicola terrestris* and Marsh Fritillary butterfly *Eurodryas aurinia*.

4 ECOLOGICAL ASSESSMENT

4.1. Assessment criteria

Impact significance has been assessed for each of the features using a three-stage process: An assessment of ecological value; an assessment of the magnitude of the likely impacts of the proposals; and a determination of impact significance based on a combination of ecological value and magnitude of impact.

Ecological Value

Each feature has been classified according to its nature conservation value using the examples provided in Table 4.1.

Table 4.1. Assessment of Ecological Value

Value	Examples
International	Internationally designated or proposed sites such as Ramsar Sites, Special Protection Areas, Biosphere Reserves and Special Areas of Conservation, or otherwise meeting criteria for international designation. Sites supporting populations of internationally important species.
National	Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria, National Nature Reserves (NNRs), Nature Conservancy Review (NCR) Grade 1 sites, viable areas of key habitats within the UK Biodiversity Action Plan. Sites supporting viable breeding populations of Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements.
Regional	Sites containing viable areas of threatened habitats listed in a regional Biodiversity Action Plan, comfortably exceeding Site of Importance for Nature Conservation (SINC) criteria, but not meeting SSSI selection criteria. Sites supporting viable populations of Nationally Scarce species or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.
County	Sites meeting the criteria for a county or metropolitan area designation (such as SINC), which may include amenity and educational criteria in urban areas. Ancient semi-natural woodland. Designated Local Nature Reserves. Sites containing viable areas of any key habitat type identified in the Local Biodiversity Action Plan (LBAP). Sites supporting viable breeding populations of species known to be county/metropolitan rarities e.g. featuring in county 'red data book' or LBAP, or supplying critical elements of their habitat requirements.

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District	Undesignated sites, or features considered appreciably to enrich the habitat resource within the context of the Borough or District, or included in the Borough or District LBAP. Amenity and educational functions will be recognised in urban areas. Sites with viable breeding populations of species listed as rare in the District or Borough LBAP or supplying critical elements of their habitat requirements.
Local	Undesignated sites, or features appreciably enriching the habitat resource within the context of the Parish or neighbourhood (e.g. a species-rich hedgerow).
Unimportant	Low-grade and widespread habitats

Magnitude of Impact

The magnitude of each predicted impact has been assessed on a scale of High, Medium, Low and Minimal according to the criteria provided in Table 4.2.

Table 4.2. Criteria for determining magnitude of impacts

Magnitude	Criteria
High	Loss of about 50% or more of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of >50% of the site area.
Medium	Loss affecting 20-49% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 20-49% of the site area.
Low	Loss affecting 4-19% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 4-19% of the site area.
Minimal	Loss affecting up to 4% of the site area. Other effects (e.g. disturbance or damage arising from pollution) including indirect impacts having an adverse impact equivalent in nature conservation terms to a loss of 4% of the site area.
Potential Net Gain	Mitigation will seek to increase the extent of existing habitats or replace lost habitats with larger areas of suitable habitats. Such areas will be established and, where significant species are to be displaced, will be in a state ready for colonisation prior to any proposed habitat disturbance.

Significance of Impact

Table 4.3. illustrates how significance has been assigned to the impact, based on a combination of the value of the feature being assessed. This has been expressed on a five-point scale ranging from Severe to Negligible as shown below.

Table 4.3. Criteria for determining significance of impacts

Impact Magnitude	Ecological Value						
	Inter-national	National	Regional	County	District	Local	Un-important
High	Severe	Major	Major	Major	Moderate	Minor	Minor
Medium	Major	Major	Moderate	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Minor	Minor	Negligible	Negligible
Minimal	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Negligible
No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact

4.2 Assessment of significance of impact on plants and habitats**4.2.1 STATUTORY SITES****Protected Sites**

There are no Special Protection Areas (SPA) or Special Areas of Conservation (SAC) designated within the 2km search zone from the assessment site. The closest Site of Special Scientific Interest (Cwm Glo SSSI) is located 1.3km to the west (shown by yellow dashed polygons on figure 2). Provided that run-off from the site during the construction operation complies with NRW consents and does not enter any water-course that might ultimately connect to any internationally or nationally protected sites in the area, the ecological impact is assessed to be

NO IMPACT (International or UK/National ecological significance, No impact magnitude)

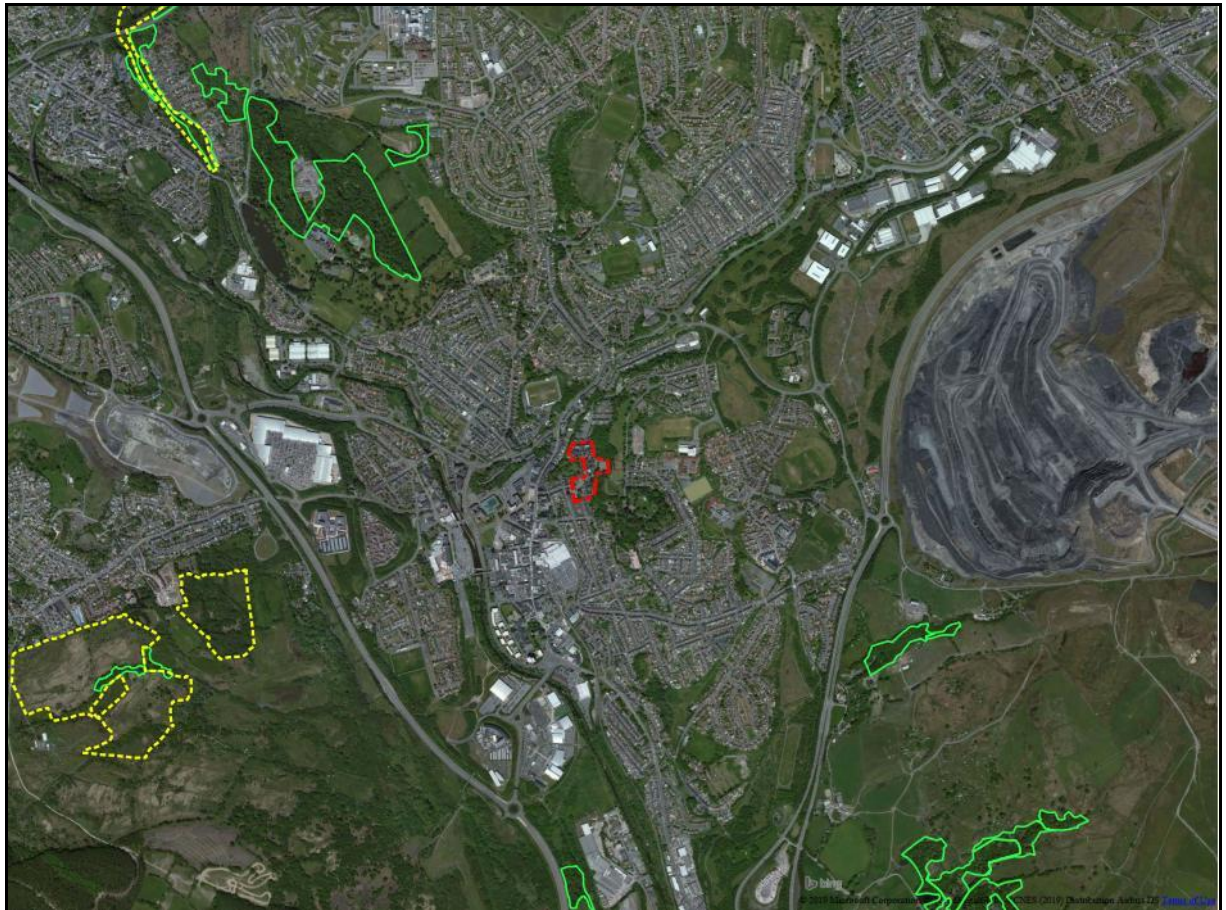
4.2.2 County Wildlife Sites

A series of **Sites of Importance for Nature Conservation (SINCs)** has been adopted by Merthyr Tydfil CBC in its Unitary Development Plan. The assessment site does not form any part of any county SINCs with the nearest SINC site being the Afon Taf SINC, being 415m to the west of the application site at its closest point. Cyfarthfa Park SINC is situated approximately 1km mark to the north. Details of both SINCs are reproduced at Appendix 4. Provided that run-off from the site during the construction operation complies with LA consents and does not enter any water-course that might ultimately connect to the SINC, no perceived threats from the proposed development have been identified. The assessment

site is not strategically positioned so as to provide a link to any local SINCs and no mitigation is considered necessary or proposed. Assessed ecological impact during the construction and phase and residual impact

NO IMPACT (County ecological significance, No impact magnitude)

Figure 2: Context of application site (red) with designated land: SSSIs yellow dashes and Ancient Woodland green lines.



4.2.3 Designated Ancient Woodland

The assessment site does not form part of any units of ancient woodland identified on the Forestry Commission Ancient Woodland Inventory 2011. Figure 2 shows that the closest ancient woodland lies over 880m to the north-west and 1.2km to the south-east. The assessment site does not break any linkages or connectivity between these sites and there are no perceived risks from the development. No mitigation is necessary or proposed.

Assessed ecological impact during the construction phase and residual impact

NO IMPACT (County ecological significance, No impact magnitude)

4.2.4 Tree Preservation Orders

Several trees retained within the application site have TPOs in place as shown on figure 3 (map supplied by Merthyr Tydfil CBC). It is our understanding that these trees will be

safeguarded and incorporated within the scheme. The trees are mostly non-native and have limited ecological value. No mitigation is necessary or proposed.

Figure 3: Locations of trees with Tree Preservation Orders in place (provided by MTCBC).



4.2.5 Habitats of European Significance

No Annex 1 habitats as defined in the EC Habitats Directive occur within the assessment site or are likely to be impacted by the proposed development.

4.2.6 Section 7 Habitats of Principal Importance and UK BAP Habitats

No *Habitats of Principal Importance for Conservation of Biological Diversity* listed under Section 7 of the Environment (Wales) Act 2016 and UK Biodiversity Action Plan Priority Habitats were recorded within the assessment site.

4.2.7 Local BAP Habitats and Species

No additional habitats and species of concern were recorded within the assessment site which are subject to actions in the Merthyr Tydfil Local Biodiversity Action Plan, nor will any be impacted by the proposed scheme.

Assessed ecological impact during the construction phase and residual impact

4.2.8 Protected Plant Species

No protected plant species were recorded within the survey site.

Assessed ecological impact during the construction phase and residual impact

4.2.9 Plants of European Significance

No plant species of European significance were recorded within the survey site.

Assessed ecological impact during the construction phase and residual impact

4.2.10 Section 7 and UK BAP Plant Species

No plants within these categories were recorded within the survey site.

Assessed ecological impact during the construction phase and residual impact

4.2.11 Non-designated Habitats and Plant Species

Poor Semi-improved grassland

The loss of approximately 1.7ha processed demolition rubble (amounting to approximately 95% of the site area) with sparse growth of pioneer ruderals is assessed as:

Significance of Impact during the site enabling and construction phases

MINOR ADVERSE (Unimportant ecological significance, High magnitude)

4.2.12 Protected and Significant Fauna

Badger

The assessment site provides no foraging opportunities for Badgers and no evidence was found that suggested any setts were on, or close to the assessment site.

Significance of Impact during the site enabling and construction phases

NEGLIGIBLE (UK/National ecological significance, No impact magnitude)

Otter

Due to the lack of a water course on or immediately adjacent to the assessment site and the lack of potential prey, it is judged that the proposed development will have no impact on Otters.

Significance of Impact during the site enabling and construction phases

NEGLIGIBLE (International ecological significance, No impact magnitude)

Bats

The survey by Colley (2014) reported '*There is no multi-animal bat-roost use of the buildings. There was no (e.g. single/ male/non-breeding) other bat-roost during the course of the survey, and no evidence was found (including at April internal/external search) to suggest such use. No bat-related constraint to the demolition of these buildings is identified.*

It was apparent the 2019 habitat survey, that further degradation of the remaining buildings had occurred and in the light of the findings in 2014, we support the original conclusion by Colley that no bat-related constraint to the demolition of these buildings is identified, though recommend that a preliminary roost assessment should be undertaken prior to any further demolition works take place.

Birds

No fully protected species (i.e. those listed at Schedule 1 of the Wildlife and Countryside Act, 1981) are known or suspected of breeding within the assessment site. The sparse, but diverse ground flora in the open areas of the site provide limited foraging for a small number

of ground-feeding species. Of the eight species noted, all were low concern species and Jackdaw *Corvus monedula* was the only species recorded in double figures. Collectively the limited features on site are considered to be of low local significance. Reduction in habitat availability may be offset by landscape plantings and the establishment of gardens within the site after it has been brought into beneficial use.

Significance of Impact during the site enabling and construction phases provided no nesting birds are disturbed:

Significance of Impact during the site enabling and construction phases

MINOR ADVERSE (Unimportant ecological significance, High magnitude)

Hedgehog

The site has almost no potential to provide cover and foraging for this species.

Potential significance of Impact during construction phase:

NEGLIGIBLE (Local ecological significance, No impact magnitude)

5. RECOMMENDATIONS AND MITIGATION

5.1 Ecological enrichment

Whilst the requirement for ecological mitigation at the site is low, there are opportunities for ecological enrichment and scope for attaining credits for BRE Environmental & Sustainability (BREEAM), such as standard enhancing site ecology credit (LE5). Options that would deliver ecological benefits include:

- Enhancement of edge habitats by means of increasing native scrub and tall herb species to provide a more graded wooded edge transition, most notably alongside tree-lined boundaries as well as within the proposed site layout,
- The inclusion of an ecologically sensitive planting scheme within the development area. Any planting scheme should include elements of native species that are known to have a high level of wildlife value and that are most appropriate to the local area such as Blackthorn, Silver Birch, Hawthorn, Hazel, Pedunculate Oak, Rowan and Goat Willow.
- The existing parkland corridor that lies adjacent to the entire eastern boundary will be maintained by default and will preserve existing connectivity with nearby woodland units and mature garden habitats. This will also provide wildlife access to the entire site and should be maintained as a dark corridor (i.e. safeguarded from light pollution) in order to provide a safe travel route for bats commuting along this edge feature and between habitat units within the local landscape.
- The provision of bat and bird boxes to increase opportunities for hole nesting fauna,

5.2 Grassland

The landscaping scheme for the site should include open, grassed areas, which, at least around their edges, should be planted with a suitable diverse plant species mix and be subject to a regime of infrequent mowing, maybe just once or twice per year. All arisings should be removed from all cuts. This will allow the establishment of areas which will have potential to support wildlife, including pollinating insects.

5.3. **Bats:** It was apparent during the 2019 habitat survey, that further degradation of the remaining buildings had occurred and in the light of the findings in 2014 and we support the original conclusion by Colley that no bat-related constraint to the demolition of these buildings is identified. However, we do recommend that further advice should be sought by a bat specialist before any further work on the remaining buildings is undertaken.

5.4. **Birds**

Bird boxes should be provided to increase opportunities for hole-nesting species, both in boundary trees and, where suitable, in new buildings. The development of landscape plantings and garden habitats will increase the opportunities for several bird species in the long term if appropriately implemented.

5.5 **General Recommendations:** Works must only be carried out during the appropriate seasons, in order to comply with current legislation and best practice principles (see Appendix 5).

6. **CONCLUSION**

Most of the 1.88ha assessment site supports little ecological interest and other than TPOs on a small number of retained trees, the site is largely free from ecological constraints. The overall ecological impact of the development is minimal though the site does provide opportunities for ecological enrichment. Maximising the benefits of adjacent mature parkland habitats, by enhancing the wildlife habitat and corridors that these boundaries currently provide will ensure the development contributes beneficially to this important urban green space near the centre of town.

Photo 1: Overview of southern part of site showing buildings & southern TPO trees



Photo 2: Overview of central part of site



Photo 3: TN4c Overview of northern part of site



Photo 4: TN5 Eastern retaining wall



Photo 5: TN01 Derelict hospital buildings (south building)



Photo 6: TN01 Derelict hospital buildings (main building)



Photo 7: TN6 Vegetation colonising top car park.



Photo 8: Cemetery Park boundary.



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APPENDIX 1: Vegetation Survey Data

d = dominant

a = abundant

f = frequent

o = occasional

r = rare

l = locally (used as prefix to d, a & f)

p = planted

* = Bryophyte (moss or liverwort)

** = Lichen

[TN1] retained buildings

Atlantic Ivy	<i>Hedera hibernica</i>	lf
* Bird's-claw Beard-moss	<i>Barbula unguiculata</i>	o
Butterfly-bush	<i>Buddleja davidii</i>	r
* Green Yoke-moss	<i>Zygodon viridissimus</i>	r
Ivy-leaved Toadflax	<i>Cymbalaria muralis</i>	r
	<i>Asplenium trichomanes ssp.</i>	
Maidenhair Spleenwort	<i>quadrivalens</i>	o
* Rigid Beard-moss	<i>Didymodon rigidulus</i>	r
* Thickpoint Grimmia	<i>Schistidium crassipilum</i>	r
* Wall Screw-moss	<i>Tortula muralis</i>	o
Wall-rue	<i>Asplenium ruta-muraria</i>	o

[TN2] retained disturbed grassland area imm east of main buildings

birch	<i>Betula sp.</i>	r
Broad-leaved Dock	<i>Rumex obtusifolius</i>	lf
Common Mouse-ear	<i>Cerastium fontanum</i>	lf
Creeping Bent	<i>Agrostis stolonifera</i>	f
Creeping Buttercup	<i>Ranunculus repens</i>	o
Curled Dock	<i>Rumex crispus</i>	r
Greater Plantain	<i>Plantago major</i>	lf
Hedge Bindweed	<i>Calystegia sepium</i>	o
Lawson's Cypress	<i>Chamaecyparis lawsoniana</i>	r
Lesser Trefoil	<i>Trifolium dubium</i>	f
Ribwort Plantain	<i>Plantago lanceolata</i>	f
Selfheal	<i>Prunella vulgaris</i>	lf
Sycamore	<i>Acer pseudoplatanus</i>	r
White Clover	<i>Trifolium repens</i>	f
Yorkshire-fog	<i>Holcus lanatus</i>	ld

[TN3] walled area south of main buildings

Atlantic Ivy	<i>Hedera hibernica</i>	f
Bramble	<i>Rubus fruticosus agg.</i>	a
Common Vetch	<i>Vicia sativa subsp. segetalis</i>	o
False Oat-Grass	<i>Arrhenatherum elatius</i>	o
Foxglove	<i>Digitalis purpurea</i>	o
Hairy Tare	<i>Vicia hirsuta</i>	o
Holly	<i>Ilex aquifolium</i>	r

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Hybrid Bluebell	<i>Hyacinthoides x massartiana</i>	o
Large Bindweed	<i>Calystegia silvatica</i>	o
Meadow Buttercup	<i>Ranunculus acris</i>	o
Montbretia	<i>Crocsmia x crocosmiiflora</i>	o
Mugwort	<i>Artemisia vulgaris</i>	r
Weeping Willow	<i>Salix x sepulcralis nothovar. chrysocoma</i>	r
Wood Avens	<i>Geum urbanum</i>	o
Yorkshire-fog	<i>Holcus lanatus</i>	o
[TN4] marginal ruderals		
** a bacterium	<i>Nostoc commune</i>	o
Alder	<i>Alnus glutinosa</i>	r
Annual Meadow-grass	<i>Poa annua</i>	o
Atlantic Ivy	<i>Hedera hibernica</i>	o
Barren Brome	<i>Anisantha sterilis</i>	r
* Bicoloured Bryum	<i>Bryum dichotomum</i>	lf
Bilbao's Fleabane	<i>Conyza floribunda</i>	r
* Bird's-claw Beard-moss	<i>Barbula unguiculata</i>	o
Bittersweet	<i>Solanum dulcamara</i>	r
Black Medick	<i>Medicago lupulina</i>	r
Bramble	<i>Rubus fruticosus agg.</i>	lf
Butterfly-bush	<i>Buddleja davidii</i>	lf
* Capillary Thread-moss	<i>Bryum capillare</i>	o
Clustered Dock	<i>Rumex conglomeratus</i>	r
Colt's-foot	<i>Tussilago farfara</i>	r
* Common Cord-moss	<i>Funaria hygrometrica</i>	r
Common Liverwort	<i>Marchantia polymorpha subsp. ruderalis</i>	r
Common Nettle	<i>Urtica dioica</i>	o
Common Ragwort	<i>Senecio jacobaea</i>	o
Common Vetch	<i>Vicia sativa subsp. segetalis</i>	o
Common Vetch	<i>Vicia sativa subsp. segetalis</i>	o
Creeping Cinquefoil	<i>Potentilla reptans</i>	o
Creeping Thistle	<i>Cirsium arvense</i>	r
Cut-leaved Crane's-bill	<i>Geranium dissectum</i>	r
* Cylindric Beard-moss	<i>Didymodon insulanus</i>	o
Dotted Loosestrife	<i>Lysimachia punctata</i>	r
False Oat-Grass	<i>Arrhenatherum elatius</i>	o
Fern-grass	<i>Catapodium rigidum</i>	o
* Fern-leaved Hook-moss	<i>Cratoneuron filicinum</i>	r
Field Forget-me-not	<i>Myosotis arvensis</i>	o
Foxglove	<i>Digitalis purpurea</i>	r
Goat Willow	<i>Salix caprea</i>	r
Great Willowherb	<i>Epilobium hirsutum</i>	o
Greater Plantain	<i>Plantago major</i>	o
Grey Alder	<i>Alnus incana</i>	r
Hairy Bitter-cress	<i>Cardamine hirsuta</i>	r
hawkweed	<i>Hieracium sp.</i>	r
Hoary Willowherb	<i>Epilobium parviflorum</i>	r
* Hornschuch's Beard-moss	<i>Pseudocrossidium hornschuchianum</i>	r
Ivy-leaved Toadflax	<i>Cymbalaria muralis</i>	r

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Japanese Honeysuckle	<i>Lonicera japonica</i>	r
Knotgrass	<i>Polygonum aviculare</i>	r
* Lesser Bird's-claw Beard-moss	<i>Barbula convoluta</i> var. <i>convoluta</i>	o
Male-fern	<i>Dryopteris filix-mas</i>	r
* Nicholson's Beard-moss	<i>Didymodon nicholsonii</i>	o
Perennial Rye-grass	<i>Lolium perenne</i>	r
Petty Spurge	<i>Euphorbia peplus</i>	o
Prickly Sow-thistle	<i>Sonchus asper</i>	o
Rat's-tail Fescue	<i>Vulpia myuros</i>	o
Red Clover	<i>Trifolium pratense</i>	r
Red Fescue	<i>Festuca rubra</i>	o
Red Valerian	<i>Centranthus ruber</i>	lf
Redshank	<i>Persicaria maculosa</i>	r
* Redshank	<i>Ceratodon purpureus</i>	r
Rough Meadow-grass	<i>Poa trivialis</i>	o
Scarlet Pimpernel	<i>Anagallis arvensis</i>	r
Scented Mayweed	<i>Matricaria chamomilla</i>	o
* Silver-moss	<i>Bryum argenteum</i>	r
Small Toadflax	<i>Chaenorhinum minus</i>	o
Smooth Sow-thistle	<i>Sonchus oleraceus</i>	o
Smooth Tare	<i>Vicia tetrasperma</i>	r
Spear Thistle	<i>Cirsium vulgare</i>	r
* Swartz's Feather-moss	<i>Oxyrrhynchium hians</i>	r
Thale Cress	<i>Arabidopsis thaliana</i>	r
Thyme-leaved Sandwort	<i>Arenaria serpyllifolia</i>	r
Tufted Vetch	<i>Vicia cracca</i>	r
Upright Hedge-parsley	<i>Torilis japonica</i>	r
Upright Pearlwort	<i>Sagina filicaulis</i>	r
Wall Speedwell	<i>Veronica arvensis</i>	r
Wild Marjoram	<i>Origanum vulgare</i>	r
Wild Teasel	<i>Dipsacus fullonum</i>	r
Wood Avens	<i>Geum urbanum</i>	r
* Wrinkly Bird's-claw Beard-moss	<i>Barbula convoluta</i> var. <i>sardoa</i>	r
Yorkshire-fog	<i>Holcus lanatus</i>	o
[TN5] eastern retaining wall		
American Willowherb	<i>Epilobium ciliatum</i>	o
Atlantic Ivy	<i>Hedera hibernica</i>	lf
Bittersweet	<i>Solanum dulcamara</i>	r
Bramble	<i>Rubus fruticosus</i> agg.	lf
* Capillary Thread-moss	<i>Bryum capillare</i>	o
Common Nettle	<i>Urtica dioica</i>	o
Dog-rose	<i>Rosa canina</i> agg.	lf
Elder	<i>Sambucus nigra</i>	r
Great Willowherb	<i>Epilobium hirsutum</i>	f
Hawthorn	<i>Crataegus monogyna</i>	o
Hazel	<i>Corylus avellana</i>	lf
Herb-Robert	<i>Geranium robertianum</i>	lf
Himalayan Honeysuckle	<i>Leycesteria formosa</i>	lf
* Intermediate Screw-moss	<i>Syntrichia montana</i>	o

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Ivy-leaved Toadflax	<i>Cymbalaria muralis</i>	o
Japanese Knotweed	<i>Fallopia japonica</i>	o
Red Valerian	<i>Centranthus ruber</i>	lf
* Rigid Beard-moss	<i>Didymodon rigidulus</i>	o
Rosebay Willowherb	<i>Chamerion angustifolium</i>	lf
Rusty Willow	<i>Salix cinerea subsp. oleifolia</i>	o
* Silky Wall Feather-moss	<i>Homalothecium sericeum</i>	o
Sycamore	<i>Acer pseudoplatanus</i>	o
* Tender Feather-moss	<i>Rhynchostegiella tenella</i>	o
* Thickpoint Grimmia	<i>Schistidium crassipilum</i>	r
Tree Cotoneaster	<i>Cotoneaster frigidus</i>	r
Wall Lettuce	<i>Mycelis muralis</i>	lf
* Wall Screw-moss	<i>Tortula muralis</i>	o
Wall-rue	<i>Asplenium ruta-muraria</i>	r
Western Red-cedar	<i>Thuja plicata</i>	r
Yorkshire-fog	<i>Holcus lanatus</i>	lf
[TN6] top car park		
Annual Meadow-grass	<i>Poa annua</i>	o
Bramble	<i>Rubus fruticosus agg.</i>	lf
* Capillary Thread-moss	<i>Bryum capillare</i>	lf
Cleavers	<i>Galium aparine</i>	o
Cock's-foot	<i>Dactylis glomerata</i>	o
Common Nettle	<i>Urtica dioica</i>	o
Dandelion	<i>Taraxacum agg.</i>	o
False Oat-Grass	<i>Arrhenatherum elatius</i>	o
Field Forget-me-not	<i>Myosotis arvensis</i>	r
Goat Willow	<i>Salix caprea</i>	r
Hawthorn	<i>Crataegus monogyna</i>	r
Herb-Robert	<i>Geranium robertianum</i>	lf
Ivy-leaved Toadflax	<i>Cymbalaria muralis</i>	o
Nipplewort	<i>Lapsana communis</i>	lf
* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	la
Red Fescue	<i>Festuca rubra</i>	o
Rosebay Willowherb	<i>Chamerion angustifolium</i>	o
Rough Meadow-grass	<i>Poa trivialis</i>	o
Smooth Hawk's-beard	<i>Crepis capillaris</i>	o
Smooth Sow-thistle	<i>Sonchus oleraceus</i>	o
Sycamore	<i>Acer pseudoplatanus</i>	r
* Thickpoint Grimmia	<i>Schistidium crassipilum</i>	o
Wall Lettuce	<i>Mycelis muralis</i>	lf
Wild Strawberry	<i>Fragaria vesca</i>	r
Wood Avens	<i>Geum urbanum</i>	o
[TN7] green woody wedge		
Ash	<i>Fraxinus excelsior</i>	f
Atlantic Ivy	<i>Hedera hibernica</i>	la
Bramble	<i>Rubus fruticosus agg.</i>	lf
Broad-leaved Willowherb	<i>Epilobium montanum</i>	o
Butterfly-bush	<i>Buddleja davidii</i>	o
Cock's-foot	<i>Dactylis glomerata</i>	o

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Columbine	<i>Aquilegia vulgaris</i>	r
* Common Feather-moss	<i>Kindbergia praelonga</i>	o
* Common Pocket-moss	<i>Fissidens taxifolius</i> var. <i>taxifolius</i>	r
Common Ragwort	<i>Senecio jacobaea</i>	o
Creeping Cinquefoil	<i>Potentilla reptans</i>	o
* Cylindric Beard-moss	<i>Didymodon insulanus</i>	o
False Oat-Grass	<i>Arrhenatherum elatius</i>	o
Field Maple	<i>Acer campestre</i>	r
Greater Bird's-foot-trefoil	<i>Lotus pedunculatus</i>	o
Hazel	<i>Corylus avellana</i>	f
Holly	<i>Ilex aquifolium</i>	o
Horse-chestnut	<i>Aesculus hippocastanum</i>	f
Nipplewort	<i>Lapsana communis</i>	o
Pampas-grass	<i>Cortaderia selloana</i>	r
Red Valerian	<i>Centranthus ruber</i>	o
Ribwort Plantain	<i>Plantago lanceolata</i>	o
rose	<i>Rosa</i> sp.	lf
* Rough-stalked Feather-moss	<i>Brachythecium rutabulum</i>	o
Snowberry	<i>Symphoricarpos albus</i>	la
* Swartz's Feather-moss	<i>Oxyrrhynchium hians</i>	o
Sycamore	<i>Acer pseudoplatanus</i>	f
Tutsan	<i>Hypericum androsaemum</i>	r
[TN8] adjacent park woodland to east		
Ash	<i>Fraxinus excelsior</i>	la
Atlantic Ivy	<i>Hedera hibernica</i>	la
Goat Willow	<i>Salix caprea</i>	o
Hazel	<i>Corylus avellana</i>	o
Hornbeam	<i>Carpinus betulus</i>	o
Sycamore	<i>Acer pseudoplatanus</i>	f
White Willow	<i>Salix alba</i>	r
[TN9] adjacent land to north-east		
Japanese Knotweed	<i>Fallopia japonica</i>	lf
<u>Incidental faunal observations</u>		
INVERTEBRATES		
White-tailed Bumble Bee	<i>Bombus lucorum</i> sens. lat.	1
Common Carder Bee	<i>Bombus pascuorum</i>	1
Buff-tailed Bumble Bee	<i>Bombus terrestris</i>	5
moth	<i>Cameraria ohridella</i>	p
moth	<i>Celypha lacunana</i>	1
Garden Grass-veneer	<i>Chrysoteuchia culmella</i>	1
Humming-bird Hawk-moth	<i>Macroglossum stellatarum</i>	1
Painted Lady	<i>Vanessa cardui</i>	1
BIRDS		
Jackdaw	<i>Coloeus monedula</i>	23
Woodpigeon	<i>Columba palumbus</i>	1
Blue Tit	<i>Cyanistes caeruleus</i>	3
Robin	<i>Erithacus rubecula</i>	1

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Magpie	<i>Pica pica</i>	1
Goldcrest	<i>Regulus regulus</i>	1
Collared Dove	<i>Streptopelia decaocto</i>	1
Wren	<i>Troglodytes troglodytes</i>	2
Blackbird	<i>Turdus merula</i>	1

APPENDIX 2:

INTERNATIONAL, NATIONAL AND LOCAL STATUTORY AND POLICY FRAMEWORK

updated from text compiled by David Clements

1. Nature conservation in the UK is affected by a complex framework of legislation and policy at the international, national, regional and local levels. This section of the strategy summarises current legislation and policy insofar as it affects the study area, and gives a brief outline of the statutory obligations and responsibilities within which the strategy must function.

2. The summary below deals only with legislation and statutory policy matters which are directly relevant to the study area. Other legislation and policy documents which have indirect relevance, or which could become relevant in the future, should be consulted where relevant.

3 **International Obligations**

- 3.1 There is increasing awareness and concern at the need to protect natural habitats and their biodiversity at both the global and the European scale. This has resulted in a number of important international conventions, directives and agreements in the period since about 1970, to which the UK has either become a signatory or has incorporated into national law. The most relevant of these are as follows:

EC Council Directive on the Conservation of Wild Birds, 1979 (The 'Birds Directive')

- 3.2 The Birds Directive (No. 79/409/EEC) applies to wild birds, their eggs, nests and habitats, and provides for the protection, management and control of all species of birds naturally occurring within member states. It requires the UK to take measures to ensure the preservation of sufficient diversity of habitats to maintain populations of all such birds at ecologically and scientifically supportable levels.
- 3.3 The habitats of certain rare and vulnerable birds (listed in Annex 1 of the Directive), and regular migratory species, are to be conserved by special measures including the identification, designation and protection of key areas of habitat. These designated areas are known as 'Special Protection Areas' or SPAs, and in the UK, are also required to be designated as SSSIs under domestic legislation.

EC Council Directive on the Conservation of Natural Habitats of Wild Flora and Fauna, 1992 (The 'Habitats Directive')

- 3.4 The Habitats Directive (No. 92/43/EEC) requires the UK to maintain and/or restore naturally occurring habitats, especially those which are deemed to be vulnerable and declining in Europe. It also requires the protection of many species of plants and animals which are similarly threatened and declining throughout their European range, therefore giving effect to both site and species protection objectives.
- 3.5 The Directive requires the UK to designate sites, on land and at sea, which will form part of a network of special sites within a broader, sensitively managed landscape. The designated sites, referred to as 'Special Areas of Conservation' (or SACs), together with the SPAs designated under the Birds Directive, form part of the EC 'Natura 2000' network of sites which are deemed to be of 'Community Interest', ie of significance in the pan-European context.
- 3.6 SACs may be selected for their importance as natural habitat types and/or as habitats for the rare and vulnerable species listed in Annexes I and II of the Directive. The UK Government was required to present a list of candidate SACs by June 1998, and has since gone through the process of refining and confirming the listed sites.
- 3.7 In the UK, the requirements of the Habitats Directive are implemented through the *Conservation (Natural Habitats etc) Regulations 1994*. All SACs are required to be notified as SSSIs under domestic legislation.

Convention on Biological Diversity, 1992 (The 'Rio Convention')

- 3.8 The Rio Convention on Biodiversity was one of several products arising from the *1st Earth Summit: a UN Conference on the Environment and Development* (UNCED) held in Rio de Janeiro in 1992.
- 3.9 The Rio Convention sets out an agreement between over 120 countries to investigate how the world's biodiversity - the entire range and variety of life on earth or any part of it - can best be conserved. It covers issues such as the sustainable use of environmental resources, the rehabilitation of degraded ecosystems and recovery of threatened species. Each of the participating nations is required to produce

a Biodiversity Action Plan (BAP) setting out its own national targets and initiatives for meeting the objectives of the Convention.

- 3.10 Other products from the Earth Summit included *Agenda 21* - a comprehensive programme of action needed throughout the world to achieve a more sustainable pattern of development into the next century and agreements on matters such as global climate change and the sustainable development of forestry. Within this context, local planning authorities in the UK are required to develop and adopt their own sustainable development strategies at the local level – 'Local Agenda 21' (LA21).
- 3.11 Local Agenda 21 is concerned primarily with wider actions to create and maintain the local quality of life and environment, providing an opportunity for communities to think through the priorities for their local area and to establish action plans to influence the direction of change. The development of nature conservation strategies and locally-applicable biodiversity action plans (LBAPs) form important elements of the LA21 process in so far as it affects the sustainable use of nature conservation and earth science resources.

EC Directive on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1977 (The 'EA Directive')

- 3.12 The first EC Directive on Environmental Assessment (No. 85/337/EEC) was published in 1985 and was implemented in the UK primarily through the *Town & Country Planning (Assessment of Environmental Effects) Regulations 1988* and its various amendments. This required the UK to implement a formal framework for assessing the impacts of certain types of development on the environment, particularly where these are of a large or potentially damaging nature, before a decision is taken on whether or not they should proceed. This includes an assessment of the impact of the development on nature conservation and ecology.
- 3.13 The Directive was revised in 1997 (No. 97/11/EC) in order to clarify certain ambiguities in the original directive, whilst extending the range of projects that are now to be subject to formal Environmental Assessment, and this has been transferred into UK legislation via the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999* which came into force on the 14 March 1999.

The Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats)

- 3.14 The Berne Convention is designed to protect important populations of listed species and their habitats. Appendix I floral species which are required to be strictly protected against picking, collecting, possession, sale, etc. Appendix II places particular emphasis on migratory species and their breeding and resting sites. Listed species are required to be strictly protected against a range of activities including deliberate killing, disturbance, taking of eggs, trading, etc. Appendix III protects populations of animals against exploitation and requires their management to keep them out of danger.

The Bonn Convention on the Conservation of Migratory Species of Wild Animals

- 3.15 Appendix 1 of the Bonn Convention lists species considered to be in danger of extinction which require strict protection from any threat. Appendix II lists species generally of conservation concern which will benefit from international co-operation. Signatories are encouraged to draw-up agreements to restore / maintain species' conservation status by appropriate measures.

4 National Legislation and Policy Framework

- 4.1 The UK now possesses a complex framework of domestic legislation and Government guidance concerned with nature conservation and the protection of both habitats and species. The legislative approach has generally stemmed in the past from the protection of individual sites and species, but has more recently broadened into concern for the wider environment and towards integrated policies for sustainability and the conservation of all species.
- 4.2 The key strands of national legislation and policy are outlined below:

Wildlife and Countryside Act 1981 (amended by the Wildlife and Countryside (Amendment) Act 1985 and others)

4.3 This Act, which has been greatly amended by subsequent legislation, remains the central pillar of statutory nature conservation in the UK. It provides the statutory basis for the legal protection of a wide range of specified plants and animals, and sets out the current principles for the designation, administration and protection of National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs).

4.4 The provisions of the Wildlife & Countryside Act (or 'WCA') with respect to SSSIs have recently been revised and enhanced by the Countryside & Rights of Way Act 2000 (see below).

The Conservation (Natural Habitats etc) Regulations 1994 (The 'Habitats Regulations')

4.5 This Statutory Instrument formally transposes the requirements of the EC Habitats Directive into British Law.

Biodiversity - The UK Action Plan; Command 2428, 1994 (The 'UK BAP')

4.6 The Rio Convention (see above) recognised that action must be taken to halt the world-wide loss of animal and plant species, and their potential genetic resources. It was agreed that national plans would be drawn up by each of the participating nations.

4.7 The UK BAP sets out the following objectives:

'To conserve and where practical enhance:

- i) the overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems;
- ii) *internationally important and threatened species, habitats and ecosystems;*
- iii) *species, habitats and natural and managed ecosystems that are characteristic of local areas;*
- iv) *the biodiversity of natural and semi-natural habitats where this has been diminished over recent past decades.*

To increase public awareness of, and involvement in, conserving biodiversity;

To contribute to the conservation of biodiversity on a European and global scale.'

4.8 The UK Steering Group was subsequently set up to develop costed targets for key species and habitats, and to set out recommendations for achieving the objectives of the UK BAP. The findings and recommendations of this group are set out in *Biodiversity: The UK Steering Group Report* (UKSG), published in 1995.

4.9 The UK Steering Group, and its successor body the UK Biodiversity Group, have published costed action plans at the UK level for about 40 Priority Habitats and 400 Priority Species, together with shorter and less detailed statements for a further 100 or so Priority Species (UKSG 1995; UKBG 1998-99).

The Countryside and Rights of Way Act, 2000 (the 'CROW Act'), the Natural Environment and Rural Communities Act 2006 (the 'NERC Act') and the Environment (Wales) Act 2016

4.10 These Acts require all public bodies to have statutory regard to the purpose and objectives of the UK Biodiversity Action Plan and to encourage others likewise. The National Assembly for Wales, in association with CCW, published a list of habitats and species under section 74 of the CROW Act reviewed under section 40 of the NERC Act resulting in the section 42 list of *Species and Habitats of Principal Importance for Conservation of Biological Diversity*. In Wales, the Welsh Government has enacted the Environment (Wales) Act which takes over and reinforces the NERC Act which continues to apply in England. All public bodies are required to take steps, and to promote the taking of steps by others, to further the conservation of these listed habitats and species.

4.11 These Acts also reinforce the protection and administration of SSSIs, giving additional powers to the agencies and local authorities. Amongst the measures are:

- a duty on public bodies to secure positive management on land which they control or occupy;
- rights to refuse consent for damaging activities not previously subject to regulation;
- licence or rights-holders to be treated the same as owners/occupiers;
- agency-flexible compulsory purchase powers;
- restrictions on third party users;

- amendments to permitted developments rules;
- improved enforcement, etc.

4.12 Local planning authorities are now required to regard NERC section 42 habitats and species as material considerations within the planning and development process when assessing applications for planning consent.

The Protection of Badgers Act 1992

4.13 This Act brings together a series of Acts which were specifically designed to protect Badgers from persecution and other disturbance. It generally protects individual animals as well as their places of shelter (setts) and is generally interpreted to mean that it is an offence to carry out any hand works within 10m, and any mechanical works within 30m (40m if pile driving or other vibration is involved) of the closest sett entrance. Licensing is required from DEFRA or Natural Resources Wales for works within these exclusion zones and then only during the months of July to November inclusive. In general, licensing for main-sett closure is only granted on welfare grounds and not for commercial reasons.

5 Government Planning Guidance

5.1 Government guidance for planning authorities is set out in a series of planning guidance documents. These are intended to ensure consistency between local authorities in interpreting the law and in defining their responsibilities and powers regarding matters such as development control.

5.2 Wales has its own series of planning guidance documents. These take the form of a general policy statement document (*Planning Guidance (Wales): Planning Policy 1999*) which is supplemented by a series of *Technical Advice Notes* (TANs) which amplify the guidance with respect to key areas of detail. Many of the current documents make reference to nature conservation issues. The main strands are as follows:

Planning Guidance (Wales): Planning Policy (First Revision) 1999 ('PG(W):PP')

5.3 This sets out the broad principles for the operation of the planning system in Wales. The document contains general commitments to sustainable development, the protection of biodiversity and protection of the environment as a whole.

5.4 PG(W):PP indicates that local authorities should determine planning applications strictly in accordance with the policies contained in the current development plan, and should only do otherwise when there are significant material considerations which make this desirable. Development plans are required to have reasonably detailed policies with respect to nature conservation, and the document goes on to give guidance as to what these should cover.

5.5 Para 5.3.13 notes that '*both statutorily designated sites and other [ie locally] designated sites are important for the conservation of natural heritage, as are some non-designated areas and features which provide wildlife corridors*'. Development plans should '*ensure that relevant international, national and local conservation interests are properly provided for*' and that they should '*also be concerned with other land of conservation value, including wildlife sites in urban areas and the possible provision of new habitats*' (para 5.3.15).

5.6 The importance of protecting locally designated sites is acknowledged in the guidance, provided these are of 'substantive nature conservation value', have been assessed against formal criteria and are not unduly or unreasonably restrictive of development. Para 5.3.20 also states that the presence of a protected species is a material consideration when considering planning applications, and notes that applicants must conform with any statutory species protection provisions affecting the site concerned.

Planning Guidance (Wales): Technical Advice Note (Wales) 5: Nature Conservation and Planning 2009 ('TAN 5')

5.7 TAN 5 amplifies the broad provisions of PG(W):PP with respect to nature conservation and is the main source of current planning guidance for this subject in Wales. In summary, the guidance:

- sets out the Government's objectives for nature conservation and the framework for safeguarding our natural heritage under domestic and international law;
- describes the key role of local authorities and CCW;
- emphasises the importance of both designated sites and non-designated habitats for nature conservation;
- advises on the treatment of nature conservation issues in development plans;

- states development control criteria, particularly for SSSIs and sites with additional national and international designations;
- sets out the implications and implementation of the EC Habitats and EC Birds Directives.

6 **Other Wildlife Designations**

6.1 The Countryside Council for Wales and several non-governmental bodies, such as the RSPB and researchers specialising in particular floral or faunal groups, have produced lists of species which have suffered serious population declines or contractions in range. These designations are outlined below.

6.2 **Countryside Council for Wales List of Globally Threatened Plants**

Category A lists 16 species which are all more or less endemic to Europe, occur in fewer than 50% of European countries and have shown serious declines leading to extinctions at national level. Category B lists a further 6 species, all showing serious declines leading to national extinctions, but present in more than 50% of European countries. Category C lists a further 16 species which have suffered similar declines but which are not endemic to Europe.

6.3 **RSPB Birds of Conservation Concern**

Birds which have suffered serious population or range declines over the last 25 years have been highlighted by the publication of *Birds of conservation concern* (RSPB, 1995). The *Red List* broadly includes those species which have suffered at least a 50% decline in the last 25 years, and the *Amber List* those species which have suffered at least a 25% decline in the same period.

6.4 **BTO Breeding Birds of concern in the Wider Countryside**

This list (Crick *et al*, 1997) provides a further listing of species showing evidence of decline: the degree of urgency of threat to these populations is indicated by High or Medium Alert status.

6.5 **Red Data Birds**

The criteria used for the selection of species for inclusion onto the list of Red Data birds are given in Batten *et al* (1990, pp.3-7). In summary, consideration is given to

1. international significance of the British population,
2. scarcity as a British breeder,
3. declining breeding numbers,
4. restricted distribution in vulnerable sites or habitats,
5. species of special concern.

6.6 **Candidate Red Data Birds**

The list of Candidate Red Data birds includes those species which Batten *et al* (1990) considered may meet the criteria for inclusion onto the Red Data list within the next 25 years (from 1990).

6.7 **Local Invertebrate Species**

Localised invertebrate species within Britain are defined as being recorded from 101 - 300 of the 10km squares in Britain since 1980. The definition covers both species which are patchily distributed throughout Britain and species that are confined to particular areas but generally distributed within these (Waring, 1993). Designations such as **notable a** and **notable b** are used to distinguish species of high and medium conservation concern.

6.8 **Plant species of Local Significance**

A list of rare and scarce plants in Glamorgan is published in the Bridgend Local Biodiversity Action Plan (and elsewhere). These lists indicate those species for which the county may have particular responsibility for their conservation. The Local Biodiversity Action Plan includes those species for which conservation action is being implemented.

Land at the former St Tydfil's Hospital: Ecological Survey & Assessment

APPENDIX 3

Best Practice Protocol for Tree Felling where Trees have the potential for supporting Roosting or Hibernating Bats

Mature trees with trunk/branch cavities and/or a covering of ivy are particularly valuable bird nesting and bat roost sites, and will be retained wherever possible; compensatory planting with appropriate species will be undertaken where felling is inevitable.

Where tree felling or lopping is planned, such work will only be carried out between August and February to avoid the bird-breeding season.

All bats are protected by the Wildlife and Countryside Act 1981. Bat tree-roosts are extremely difficult to identify, and it should be assumed that any mature native-species tree is an actual roost. Every effort should be made to avoid disturbance or damage to these trees during construction work. It is an offence under the Wildlife and Countryside Act to knowingly disturb bat roosts or hibernacula. To minimise disturbance to bat populations by the removal of trees the following protocol will be followed.

- As far as possible all trees having bat roost potential will be preserved. If it is necessary for trees to be removed, all felling operations will bear due regard to this protocol.
- If bats are found during tree work, then all work will stop and the Countryside Council for Wales and the local Bat Group must be informed immediately.
- If the tree trunk is smaller than 200mm diameter and if it has no dense ivy, suitable holes, loose bark, and no holes associated with the root system, then work can be carried out on the tree between August and February (ie avoiding the bird breeding season).
- To avoid disturbing nursery roosts, work will never be carried out between June and August inclusive.
- If the tree does have any of the above or has a trunk size greater than 200mm, it will be cut only in September and October when bats, including young of the year, are still mobile and able to fly-out. If cutting must take place at other times, summer is probably best as bats can be more easily seen, can fly away and may take young with them, thus enabling a better chance of survival.
- If felling were to take place during hibernation (November to March) the bats will be torpid, difficult to see and the whole roost may be lost as they will be unable to escape.
- Any timber cut will be left lying for at least 24 hours to allow bats the opportunity to escape.
- It is also important to consider to what extent the habitat that is being removed is available elsewhere locally. For example, if only one tree in twenty of similar age or structure is to be felled, then it is likely that the impact of the loss will be less important. If the tree to be felled is solitary and in an area with few or no mature trees, then the impact would be significant.

Where the loss of mature trees is unavoidable, compensatory planting with appropriate locally native species, preferably of local provenance, should be undertaken.

APPENDIX 4

Details of SINC's within 1km buffer of application site (supplied by Merthyr CBC Ecologist) :

Site	Summary - Reasons for Selection/Interest of site
Afon Taf	The major river in the county borough. cSINC includes areas of bankside habitats, particularly towards the south of the county borough where the river corridor is less industrialised than further north. Associated habitats are chiefly semi-natural woodland, including areas of ancient semi-natural oak (<i>Quercus</i> spp) and beech (<i>Fagus sylvatica</i>) woodland, and linear wet woodlands dominated by alder (<i>Alnus glutinosa</i>). There are also numerous neutral grasslands, scrub patches and bracken (<i>Pteridium aquilinum</i>) stands, as well as small areas of marshy grassland and tall herb vegetation. Notable features of the river course include cobble banks, which support localised plant species such as water chickweed (<i>Myosoton aquaticum</i>), bearded couch (<i>Elytrigia canina</i>) and giant fescue (<i>Festuca gigantea</i>). Other plant species of interest include yellow archangel (<i>Lamiastrum galeobdolon</i>), wood melick (<i>Melica uniflora</i>) and hairy brome (<i>Bromopsis ramosa</i>) in the woodlands and small cudweed (<i>Filago minima</i>), viper's-bugloss (<i>Echium vulgare</i>) and wild mignonette (<i>Reseda lutea</i>) in the neutral grasslands. Otter occurs throughout the length of the cSINC, and the river is known to be of value to a wide variety of birds, including kingfisher (<i>Alcedo atthis</i>), grey wagtail (<i>Motacilla cinerea</i>), sand martin (<i>Riparia riparia</i>) and dipper (<i>Cinclus cinclus</i>), as well as fish species including salmon (<i>Salmo salar</i>), brown trout (<i>Salmo trutta fario</i>) and bullhead (<i>Cottus gobio</i>). The river corridor is also important for a range of foraging bat species and for grass snake (<i>Natrix natrix</i>).
Cyfarthfa Park	Area of ornamental parkland within Merthyr Tydfil. The cSINC includes an area of semi-natural woodland and several enclosures of neutral grassland in the eastern half of the park. Also includes small areas of plantation woodland and scrub and several woodland ponds. The woodlands are of mixed composition; mainly pedunculate oak (<i>Quercus robur</i>), ash (<i>Fraxinus excelsior</i>), beech (<i>Fagus sylvatica</i>) and alder (<i>Alnus glutinosa</i>), with a ground flora including bluebell (<i>Hyacinthoides non-scripta</i>), giant fescue (<i>Festuca gigantea</i>), bearded couch (<i>Elytrigia canina</i>) and yellow archangel (<i>Lamiastrum galeobdolon</i>). The majority of the grassland enclosures support species-rich flowery grassland with common knapweed (<i>Centaurea nigra</i>), red clover (<i>Trifolium pratense</i>), yellow rattle (<i>Rhinanthus minor</i>), eyebright (<i>Euphrasia officinalis</i> agg) and common spotted orchid (<i>Dactylorhiza fuchsii</i>). Great crested newt (<i>Triturus cristatus</i>) has been translocated into the ponds of the site.

APPENDIX 5 PROTECTED and OTHER SIGNIFICANT SPECIES and HABITATS: Recommended Times of Work to avoid undue disturbance												
Feature	January	February	March	April	May	June	July	August	September	October	November	December
Bats and their breeding and resting sites (European Protected Species, WCA,1981, sch.5, NERC sect.42)				Limited disturbance to roosts permitted under licence but preferable in September & October					Felling under licence best done now. Felled trees of >20cm diameter must be left to lie on the ground for 24hrs to allow any bats to escape			
Otter and its breeding and resting sites (European Protected Species, WCA,1981, sch.5, E(W)A sect 7)									Disturbance to Otter sites limited to between Sept and Jan and is subject to licence from NRW			
Dormouse and its habitat (European Protected Species, WCA,1981, sch.5, E(W)A sect 7)			Disturbance subject to licence from NRW						Disturbance subject to licence from NRW			
Water vole habitat and places of shelter (WCA,1981, sch.5, E(W)A sect 7)			Disturbance subject to NRW approval						Disturbance subject to NRW approval			
Badger (Protection of Badgers Act 1992)								Work within 30m of a sett or annex permitted and sett closure permitted: all subject to NRW licence				
Hedgehog, Harvest Mouse, Brown Hare, Water Shrew (E(W)A sect 7)	Consult a qualified ecologist before carrying out any works in areas identified as supporting these species											
Red Kite and some other protected birds nests (WCA,1981, sch.1)	No disturbance at any time.											
All other Breeding Birds: nest sites (WCA,1981)	Vegetation clearance permissible		Avoid disturbance to potential nesting habitat during this period unless, immediately prior to commencement of works a qualified ornithologist certifies that no active bird's nests will be disturbed.						Vegetation clearance permissible			
Great Crested Newt and its breeding & hibernation sites (European Protected Species, WCA,1981, sch.5)									Disturbance of breeding or terrestrial habitat should only be carried out between September and January and is subject to licence from NRW			
Other newts frogs & toads (except Natterjack) (WCA,1981, sch.5, E(W)A sect 7) Breeding ponds								Disturbance of amphibian breeding ponds should only be carried out during August to January inclusive				
Other newts frogs & toads (except Natterjack) (WCA,1981, sch.5, E(W)A sect 7) Terrestrial habitat			Disturbance to potential terrestrial habitat should be preceded by a capture and translocate operation or 'destructive search'									
Reptiles (except Smooth Snake) (WCA,1981, sch.5, E(W)A sect 7)			Disturbance to potential terrestrial habitat should be preceded by a capture and translocate operation or 'destructive search'									
Marsh Fritillary butterfly (WCA,1981, sch.5, E(W)A sect 7)	Areas supporting Marsh Fritillaries must not be disturbed except after consultation and advice from NRW											
Other Protected & Significant Invertebrates (WCA, 1981, E(W)A sect 7) including Brown Hairstreak	Consult a qualified ecologist before carrying out any works in areas identified as supporting these species											
Habitats of Principal Importance for Conservation of Biological Diversity in Wales (E(W)A sect 7)	Habitats of Principal Importance should not be disturbed at any time of year without prior consultation with a qualified ecologist											
Important Hedgerows as defined in the Hedgerow Regulations, 1997	Important hedgerows may only be removed following the issue of a <i>Hedgerow Removal Order</i> or a valid planning consent issued by the local planning authority											
Uncultivated or semi-natural habitats subject to the Environmental Impact Assessment (EIA) (Agriculture) (Wales) Regulations 2007	Changes to qualifying habitats may only be undertaken after a favourable Screening Decision is given by the Welsh Government or an application for change of use has been approved											
KEY TO COLOURS						ABBREVIATIONS						
Avoid disturbance at any time						NRW	Natural Resources Wales (successor to the Countryside Council for Wales)					
Best time to carry out site work subject to advice and/or licence						WCA	Wildlife and Countryside Act 1981 (as amended)					
Most suitable times for works to take place						E(W)A	Environment (Wales) Act 2016					