HAWKESWOOD ECOLOGY
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PRELIMINARY ECOLOGICAL APPRAISAL

LAND AT PONT RHYD-Y-CYFF,

MAESTEG, BRIDGEND.

ON BEHALF OF

JEHU LTD

April 2020

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Third Party Disclaimer

We confirm that in preparing this Report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, prevailing site conditions and the degree of manpower and resources allocated to the project.

All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

Protected species surveys are recognised as having a ‘shelf life’ of two years maximum. Surveys older than this are unlikely to be accepted by a Local Planning Authority or Natural Resources Wales as viable documentation.

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SUMMARY

Hawkeswood Ecology carried out a Preliminary Ecological Assessment (PEA) on land at Pont Rhyd-Y-Cyff, Maesteg, Bridgend. The red line site includes agriculturally improved grassland which is heavily grazed, woodland and hedgerows. It is bounded to the south and east by a river and a tributary stream.

The grazed pasture has little biodiversity value, however the woodland and hedgerows contain mature trees that may support features suitable for roosting bats. In addition they are also suitable habitat for dormice which has been recorded approximately two miles from the Site.

The riverside woodlands and hedgerows represent UK Biodiversity action Plan Priority Habitats, and although the woodlands are not designated as ancient they support a tree and ground flora that suggests they are of some age. The hedgerows are relict and consist of rows of trees and mature shrubs.

Recommendations are made in relation to the possible presence of protected species on Site and further survey for bats, dormice, otter and possibly further habitat survey are necessary to properly assess the impacts of the proposed development at this stage.

The development is confined to the agriculturally improved grassland areas and as such direct impacts on both the wooded habitats and protected species may be limited. There will be indirect impacts however and as such further survey is required to properly assess the impacts of the development on both habitats and protected species.

Currently, further survey is necessary to properly assess the ecological impacts of the proposed development.

1 INTRODUCTION

1.1 Hawkeswood Ecology was instructed to carry out a Preliminary Ecological Appraisal (PEA) on land at Pont Rhyd-Y-Cyff, Maesteg, Bridgend, approximate central Grid Reference SS 87032 88692, on behalf of Jehu Ltd. It is proposed to develop parts of the Site for residential purposes.

1.2 The Site is dominated by grazed pasture with wooded boundaries. It is bounded to the east and south by watercourses, to the west by the main Bridgend Road and to the north by the urban development of Llangynwyd and Pont Rhyd-Y-Cyff.

1.3 The objectives of the survey are:

- To ascertain the habitats and species present within the Site;
- To assess the ecological and nature conservation value of the Site;
- To assess the potential ecological impacts of the proposed works;
- To provide recommendations to mitigate the proposed works.

1.4 The Preliminary Ecological Appraisal was carried out on 16th March 2020.

2 SURVEYOR EXPERIENCE

2.1 The surveyor and report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. Eric has been an active member of the Brecknock Bat Group since 1999 and been involved in a number of long running surveys within the county. He extensive experience of protected species survey and is a Natural Resources licensed bat ecologist (S085546-1) and licensed to undertake dormouse survey. He has been a professional in the nature conservation field for thirty one years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.

3 METHODOLOGY AND CONSTRAINTS

Desktop Study

3.1 The South East Wales Biodiversity Records Centre (SEWBReC) was asked to provide records of Protected and Priority Species, Other Species of Conservation Concern, Locally Important Species, Invasive & Non-Native Species, Designated Sites and Phase I habitat for a search radius of 2 kilometres from the Site.

Preliminary Ecological Assessment

3.2 The Preliminary Ecological Assessment (PEA) consisted of a walk-over survey of the proposed Site taking into account features within and adjacent to it. Habitats were categorised according to the Phase 1 Habitat Survey guidelines (JNCC, 2010) and annotated onto a map (Figure 1). Plant assemblages were described using the DAFOR scale of cover abundance (Appendix 1) and each habitat was recorded using Target notes (Appendix 2); a species list of plants identified during survey is given in Appendix 3 and photographs are given in Appendix 4.

Constraints

3.3 The survey was undertaken relatively early before peak grassland flowering season and as such it is possible that some flowering species may not have been evident. However, given the nature of the pasture present it is considered that an accurate evaluation of the Site's value for biodiversity was possible.

4 DESK TOP STUDY FINDINGS

Protected and Priority Species

4.1 SEWBReC reported 917 records of Protected and Priority species in the search area. Relevant species reported from the 2 kilometre search area, those which could occur on or over the Site, since 2000 are included in Table 1 below. No records are reported from the Site itself. Relevant species are listed below along with their conservation status (Abbreviations used are detailed in Appendix 5).

Table 1: Protected and Priority Species

Common Name	**Most recent record**	**Nearest Record (m)**	**No of Records**	**Status**
Bats				
Brown Long-eared Bat	2013	1276	5	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)
Common Pipistrelle	2014	493	33	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)
Lesser Horseshoe	2018	2097	3	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)
Noctule Bat	2003	1863	1	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)
Soprano Pipistrelle	2008	1604	4	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)
Other Mammals				
Badger	2008	453	16	BA, Bern
Hare	2011	1312	2	S7
Hedgehog	2010	579	11	S7, Bern, LBAP
Otter	2016	493	1	EPS, HDir, WCA5, S7, Bern, CITES, RDB2 (UK)
Polecat	2006	1744	1	HDir, S7, Bern, LBAP
Roe deer	2014	739	1	NRW, Bern

Weasel	2009	1957	1	NRW, Bern, LBAP
Birds				
Bullfinch	2017	493	72	S7, WBR(RSPB), UKBAm(RSPB)
Dunnock	2015	493	65	S7, Bern, UKBAm(RSPB)
Fieldfare	2013	493	27	BDir22, WCA1.1, WBAm (RSPB), UKBR(RSPB)
House Sparrow	2017	493	56	S7, WBAm(RSPB), UKBR(RSPB)
Kingfisher	2017	493	26	BDir1, WCA 1.1, Bern, WBAm(RSPB), UKBAm(RSPB)
Lesser Redpoll	2012	493	36	S7, WBR(RSPB), UKBR(RSPB)
Lesser spotted woodpecker	2013	493	33	S7, Bern, WBR(RSPB), UKBR(RSPB)
Linnet	2017	493	53	S7, Bern, WBR(RSPB), UKB
Marsh tit	2015	493	25	S7, Bern, WBR(RSPB), UKBR(RSPB)
Redwing	2018	493	78	BDir22, WCA1.1, WBAm(RSPB), UKBR(RSPB)
Song thrush	2017	493	104	BDir22, S7, Bern, WBAm(RSPB), UKBR(RSPB)
Spotted Flycatcher	2017	493	38	S7, Bern, WBR(RSPB), UKBR(RSP
Starling	2018	493	55	BDir22, S7, Bern, WBR(RSPB), UKBR(RSPB)

Tree pipit	2015	926	14	S7, Bern, WBAM(RPB), UKBR(RSPB)
Willow tit	2015	926	3	S7, Bern, WBR(RSPB), UKBR(RSPB)
Yellowhammer	2004	493	2	S7, Bern, WBR(RSPB)
Fish				
Brown/sea trout	2005	Llynfi River	4	S7
Eel	2011	Llynfi River	3	S7, RDB1(UK)
Salmon	2001	Llynfi River	2	HDir, S7, Bern, RDB2 (UK)
Herpetofauna				
Common Frog	2010	493	4	HDir, WCA5, Bern, LBAP
Common lizard	2012	663	4	WCA5, S7, Bern
Common Toad	2013	493	3	WCA5, S7, Bern,
Slow worm	2016	1227	1	WCA5, S7, Bern
Invertebrates				
August thorn	2003	1276	7	S7
Beaded chestnut	2003	1276	1	S7

Blood vein	2017	493	14	S7
Brindled beauty	2017	865	6	S7
Buff ermine	2018	771	21	S7
Dot moth	2017	863	9	S7
Dusky brocade	2015	953	2	S7
Flounced chestnut	2017	955	12	S7
Garden tiger	2017	953	2	S7
Green brindled crescent	2003	1724	9	S7
Knot grass moth	2012	1276	4	S7
Mottled rustic	2013	823	2	S7
Oak hook-tip	2003	975	11	S7
Powdered Quaker	2016	1151	2	S7
Rosy minor	2003	1276	1	S7
Sallow	2003	1276	6	S7
Small pearl-bordered fritillary	2002	1565	3	S7, RDB1 (UK), LBAP

Small Phoenix	2017	1276	23	S7
Wall	2007	926	4	S7, RDB1 (UK)
White ermine	2018	579	2	S7
Vascular Plants				
Bluebell	2017	493	16	WCA8

Other Species of Conservation Concern

4.2 SEWBReC report 417 records of 'Other Species of Conservation Concern' of which many again are not relevant to the habitats on Site. Species likely to occur on the Site are listed below:

Common Name	**Status**
Coal Tit	Bern, LBAP (CON, POW), WBAm(RSPB)
Garden Warbler	LBAP (BRG, CON, POW), WBAm(RSPB)
Goldcrest	Bern, LBAP (CON, POW), WBAm(RSPB)
Green Woodpecker	Bern, LBAP (CLY, CON, DEN, FLI, GWY, PEM, POW, SNP), WBAm(RSPB)
Long-tailed Tit	WBAm(RSPB)
Redstart	Bern, LBAP (CON, GWY, POW, SNP), WBAm(RSPB), UKBAm(RSPB)
Willow Warbler	WBR(RSPB), LBAP (CON), UKBAm(RSPB)
Woodcock	BDir21, LBAP (CON, DEN, FLI, GWY, POW), WBAm(RSPB), LI(VC43), UKBR(RSPB)
Dipper	Bern, LBAP
Whitethroat	WBAm (RSPB), LBAP
Redstart	Bern, WBAm (RSPB), UKBAm (RSPB)
Orange-legged robberfly	RDBUK2

Species of Local Conservation Concern

4.3 SEWBReC reported 699 records of Species of Local Conservation Concern involving just over 174 species. Some of the bryophyte and invertebrate records represent species that could occur in parts of the Site, most particularly the wooded areas; however, many of the records are sparse and represent infrequent sightings.

4.4 Of the bird species reported some could occur on or passing over the Site, including mistle thrush, blackbird, goldfinch and greenfinch but many are not related to the habitats on Site and a number of plant species such as wood sorrel and yellow pimpernel occur on Site.

Designated Sites

4.5 Cwm Du Woodlands SSSI, an ancient sessile oak woodland with a rich ground flora lies approximately 300 metres to the north east on the opposite side of the Llynfi valley. Lletty Brongu and Ty'n-Y-Waun Sites of Importance for Nature Conservation (SINC) are within 200 metres of the Site. They are separated from the Site by a main road and a watercourse respectively.

4.6 Two Natural Resources Wales (NRW) Priority Areas, for Planted Ancient Woodland and Heathland and Grassland, are at a distance of approximately 1.5 kilometres to the west.

4.7 SEWBReC Data is confidential, in the case of further enquiry, Hawkeswood Ecology hold the biological data search results for a period of one year in accordance with the terms of supply.

5 FIELD SURVEY FINDINGS

Introduction

5.1 The survey area consists of mainly agriculturally improved grassland, relict hedgerows, woodland and scrub; there are also two issues feeding an area of the grassland which is probably now best described as species-poor semi-improved grassland. The Site supports mature woodland which bounds the Site to the south and east where the red line boundary is drawn along two watercourses, The Llynfi River and a small tributary. The relict hedgerows bound the Site to the north and now consist largely of mature trees and over-mature shrubs; along with the wooded line of a former mineral line bisecting the main field, these provide corridors for wildlife to commute and forage across the Site.

Grassland

5.2 Grassland is the dominant habitat on Site. All is agriculturally improved with perennial rye-grass abundant throughout and the Site is clearly heavily grazed although no animals were present at the time of survey. The grassland is on a 'plateau' with the Site falling to the east and south with steep wooded banks the watercourses. The whole area is subject to poor drainage which is evidenced by the presence of soft rush across the Site. The grassland at Target Note 1 is a heavily grazed agriculturally improved sward and species poor. It is dominated by grasses with perennial rye-grass abundant, red fescue locally abundant and Yorkshire fog, common bent and creeping bent frequent or locally frequent; soft rush was occasional across the grassland but locally frequent in damper areas. Broad-leaved herbs were sparse with few species present including locally frequent lesser celandine and occasionally occurring dandelion, creeping buttercup and ribwort plantain.

5.3 The grassland at Target Note 5 was notably wetter and fed by two small issues. This area was dominated by soft rush with frequently occurring creeping bent, locally frequent floating sweet-grass and tufted hair-grass occurring occasionally. There was frequent bare ground and limited number of broad-leaved species evident. These included lesser celandine, meadow buttercup, creeping buttercup, marsh thistle and marsh valerian. This grassland was considered to be species poor semi-improved grassland.

Woodland and Scrub

5.4 Mature woodland is present at Target Notes 8, 9 and 12 with developing woodland/mature scrub at Target Note 2. The area at Target Note 2 is an old railway line, possibly part of the former Dyffryn Llynfi and Porthcawl tramroad. It is approximately 15 metres in width bounded each side with mature trees. The centre portion is in part scrubbed over with woody scrub and semi-mature trees and bramble. It is grazed under and there are areas of closely cropped grass present throughout. Canopy species are ash and common oak with the shrub layer consisting of hazel, holly and hawthorn. The ground layer has been modified by heavy grazing and contains large areas of bare ground and litter; species present include creeping bent, red fescue, lesser celandine, creeping buttercup, common nettle and Yorkshire fog.

5.5 The woodlands at Target Notes 8, 9 and 12 border the watercourses running along the south and eastern boundaries of the Site. That at Target Notes 8 and 9 are arbitrarily separated and do not have a clearly defined boundary. The woodland at Target Note 8 is best described as dry woodland and is present intermittently along the length of the wooded boundary. It is generally confined to the drier banks dropping from the grazed fields to the watercourses. The canopy is dominated by common oak and silver birch with a poorly developed shrub layer of holly, hawthorn and hazel; garden privet and berberis are also present. The ground flora is largely shaded out with large areas of bare ground and litter; bramble is abundant, bluebell, lesser celandine and pignut are locally frequent and herb Robert and hard fern occur occasionally. The woodland is open to grazing but is not heavily encroached.

5.6 The woodland at Target Note 9 is best described as wet woodland with a very wet woodland floor and a canopy dominated by alder with common oak, silver birch and goat willow occurring throughout. Along the Llynfi River, the woodland is subject to frequent inundation, but less so along the steep rocky banks of the tributary stream (TN 11) where much of the water is from drainage of the fields. Japanese knotweed and Himalayan balsam are frequent, particularly along the Llynfi corridor where Japanese knotweed forms dense stands along the river bank.

5.7 The shrub layer is sparse with holly, goat willow and hazel, honeysuckle is present throughout. The ground flora is poorly developed with large amounts of bare ground and litter; bramble is locally abundant, as are creeping buttercup, yellow flag, Himalayan Balsam and Japanese Knotweed; opposite-leaved golden-saxifrage is locally frequent. Broad buckler fern, soft rush, tufted hair-grass and common nettle occur occasionally and occasionally occurring species include creeping bent, great willow herb, floating sweet-grass, male fern marsh marigold and remote sedge. Wood sorrel and yellow pimpernel occur rarely and generally on the arbitrary boundary between woodland types.

5.8 At Target Note 12 the canopy is open with mature common oak, ash, alder and silver birch with a sparse shrub layer of hazel, holly and hawthorn. The ground flora is fenced against grazing with abundant bramble, locally frequent soft rush and lesser celandine and frequently occurring common nettle, creeping buttercup and ivy. Occasionally occurring species include hart's-tongue fern, honeysuckle, male fern, red campion and remote sedge. Himalayan balsam is abundant in this area.

Hedgerows and Mature Trees

5.9 The hedgerows on Site, Target Notes 3, 4 and 13, are redundant relict hedgerows and unmanaged. That at Target Note 3 forms a boundary of the Site against housing on Parc-Tyn-Y-Waun. It is on a bank and is now effectively a row of mature trees and over-mature shrubs. It is largely fenced against grazing but has a heavily shaded ground flora. Canopy species are common oak and ash with occasional *Mallus* species. The shrub species include holly, hazel and hawthorn with frequent berberis and cherry laurel. The ground flora is largely shaded out but Montbretia occurs throughout along with other garden escapes. Other species noted include lesser celandine, maidenhair spleenwort, bramble and hart's tongue fern.

5.10 The hedgerow at Target Note 4 is a continuation of TN3 and separates the two fields at the east of the Site. It is undergrazed and consists largely of mature trees with a few over mature shrubs; the bank is severely degraded by trampling and non-existent in paces. The ground flora is massively modified by agricultural processes and largely reflects the adjacent grassland. Canopy species are ash and common oak with occasional silver birch with occasional mature holly present. The ground flora is largely composed of grasses with common bent, Yorkshire fog and *Poa* species present along with frequent bare ground. Other species include occasional common yellow sedge, hard fern and foxglove.

5.11 There is a relict hedgerow at Target Note 13 which is largely subsumed by the woodlands at TN2 and 12. Canopy species are common oak and ash with an understory of holly and hazel. The ground flora largely reflects that of the adjacent wooded areas. There is an area of Japanese knotweed on the roadside verge adjacent to the hedge that appears to have been treated but is showing some regrowth.

5.12 At Target Note 7 is a row of mature common oak and ash that was formerly a hedgerow but is now heavily disturbed in places by works being undertaken at the northern part of the Site. This is most similar to the Hedgerow at TN 3 and was probably part of the pre-development hedgerow network that has since become abandoned.

Watercourses

5.13 The Site is bounded to the east and south by watercourses, The Llynfi River is at Target Note 10 and a tributary of it bounds the southern boundary at Target Note 11. The Llynfi River (TN10) is fast flowing with a rocky bed. It had recently been in spate at the time of survey and silt was deposited along the banks. Lesser celandine was locally abundant but the bankside vegetation was generally limited to dense stands of Japanese knotweed and Himalayan balsam.

5.14 The tributary (Target Note 11) runs for much of its course in a steep sided rocky gorge, to the western end of its course it is at a level of the adjacent ground and has spread into the neighbouring

land when in flood. It has a rocky bed and the rocky banks are dominated by *Pelia* liverworts and other bryophytes; hard fern is locally frequent. It has no specific aquatic vegetation and is heavily shaded by the adjacent woodlands.

5.15 There are two issues (Target Note 6) feeding the wetter grassland at Target Note 5, both support floating sweet-grass and brooklime, but are otherwise similar in vegetation to the surrounding grassland.

Other Habitats

5.16 The road frontage of the Site is formally managed amenity grassland. At the northern extreme of the Site is an area of disturbed land where works were proceeding at the time of survey.

Notifiable plant species

5.17 Japanese knotweed and Himalayan balsam were abundant along the watercourses and an area of Japanese knotweed was present on the main road verge. Montbretia was throughout the hedgerow at Target Note 3.

Fauna

5.18 A number of common bird species were noted during the survey and were associated with the Site and adjacent gardens, of these song thrush is on the Birds of Conservation Concern in Wales Amber list. A small tortoiseshell butterfly was also noted.

5.19 A large number of opened hazel nuts were noted in the woodlands at Target note 2 and 8. These were opened by squirrel and bank vole and a cursory inspection found none opened by dormice. The Site does contain suitable habitat for dormice however and the Site enjoys wooded connectivity to the wider area, principally along the Llynfi River corridor; this is addressed in Section 8, recommendations.

5.20 There are apparent opportunities for bats to roost in the mature trees present on Site with Potential Roost Features (PRFs) such as crevices, holes and substantial dead wood noted in many of them. Bats are also likely to forage across the Site and particularly along the woodland edge and damper grassland in the east of the Site.

5.21 Otters are likely to be present on the watercourses, particularly along the Llynfi River. There was no evidence at the time of survey and no footprints present in the deposited silt. Their presence along the river and adjacent woodland cannot be ruled out however and they have been recorded in the Llynfi valley.

5.22 Amphibians such as common frog and common toad may occur in the wetter areas of grassland however there is no suitable habitat for great crested newt on or near the Site. In addition, the fast flowing streams and main road isolate the Site from any suitable habitat for this species. The heavy grazing pressure across the Site makes it largely unsuitable for reptiles although the presence of small populations of common lizard and slow worm cannot be ruled out at the Site boundaries.

5.23 There was no evidence of badger, in the form of setts, latrines or paths, seen on Site. Again the isolation of the Site by the watercourses and built environment will make their presence unlikely.

There is no suitable habitat on Site for water voles. The presence of hedgehogs along the Site boundaries and woodland is probable.

5.24 The woodland and scrub on site will be used by breeding birds. Typical semi-rural species and woodland birds can be expected but it is unlikely the Site would support rare species due to its location. It may hold limited value for foraging species but this will be limited by its agricultural improvement.

6 RELEVANT LEGISLATION AND POLICIES

Birds

6.1 Part I of the Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions and in the absence of a licence) intentionally to kill, injure or take any wild bird, or intentionally to damage, take or destroy its nest whilst being built or in use, or to take or destroy its eggs. Consequently, even common birds such as blackbirds or robins, and their nests and eggs are protected in this way. Any works involving removal or other management of trees or shrubs must be undertaken outside the breeding bird season (March- August).

6.2 Further, section 1(5) of Part 1 of the W&C Act states any person intentionally disturbing any wild bird included in Schedule 1 whilst it is building a nest or is in or near a nest containing eggs or young or disturbs the young of such a bird is committing an offence and liable to a special penalty.

6.3 The Conservation of Habitats and Species Regulations 2017 (as amended) has strengthened the protection of wild birds and their habitats. The Regulations now serve "To help preserve, maintain and re-establish habitats for wild birds."

6.4 Under the amended Regulations, Local Planning Authorities (as well as national statutory conservation bodies such as Natural Resources Wales) are required to protect and create bird habitat.

European Protected Species

6.5 All UK bats, otters and the dormouse are protected under the Wildlife and Countryside Act 1981. Schedule 5 of this act makes it illegal to intentionally kill, injure or take these species. It is also an offence to intentionally damage or destroy their place of rest.

6.6 They are also protected under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended which requires the United Kingdom government to provide European Protected Species with strict protection.

6.7 The Habitats Directive is transcribed into England and Wales Law by The Conservation of Habitats and Species Regulations 2017, this legislation consolidates amendments made to the earlier 2010 act. This legislation states in Part 3, Protection of Species, paragraph 43(1) that a person who:
(a) deliberately captures, injures or kills any wild animal of a European Protected Species,
(b) deliberately disturbs wild animals of any such species,

I deliberately takes or destroys the eggs of such an animal, or
(d) damages or destroys a breeding site or resting place of such an animal,
is committing an offence.

6.8 Further, with regard to disturbance of EPS, Paragraph 43(2) that disturbance is an act which is likely to:
(a) to impair their ability—
(i) to survive, to breed or reproduce, or to rear or nurture their young, or
(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
(b) to affect significantly the local distribution or abundance of the species to which they belong.

6.9 In the case of a development involving the loss or modification of a habitat which may affect an EPS the above legislation must be considered and it may be necessary to apply to Natural Resources Wales for a European Protected Species Derogation Licence EPSL.

6.10 The introduction of the Conservation of Habitats and Species Regulations 2017, has removed the defence of killing or injuring a protected species during a lawful operation, thus even in an instance where planning permission is granted, the presence of EPS must be considered and mitigated for prior to commencement of works. Under the above regulations, a derogation licence can only be given if three tests are satisfied:

- The action proposed is in the interest of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance to the environment;
- That there is not a satisfactory alternative;
- That the action proposed will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

6.11 Failure to satisfy the regulations and obtain an EPSL where required is likely to result in prosecution and can lead to severe fines of up to £5000 per animal and possible imprisonment.

6.12 Eight species of bat, otter and the dormouse are listed under section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. This is a list of species considered at threat within Wales and in need of conservation management to maintain and enhance population numbers.

6.13 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

Hedgehogs

6.14 Hedgehogs are protected under the Wildlife and countryside Act 1981 (as amended) as a Schedule 6 species and Wild Mammals Protection Act (1996) from capture, deliberate killing and cruel treatment.

Reptiles

6.15 All common reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) schedule 5, from deliberate injury or killing (Section 9(1)) and sale (Section 9(5)).

6.16 A Welsh Assembly Government licence is not required to handle or disturb slow worms but there must be proper consideration of the presence of these animals on Site and mitigating measures implemented to minimise any impacts on them.

Invasive Species

6.17 Japanese knotweed, Himalayan balsam and montbretia are listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); as such it is an offence to allow them to spread in the wild. Measures must be in place to prevent their spread as a consequence of any development operation.

TAN 5

6.18 Planning Policy Wales Technical Advice Note (TAN) 5, Nature Conservation and Planning, provides advice on how the planning system should contribute to biodiversity protection and enhancement. TAN 5 recognises the importance of biodiversity and the enjoyment of it. TAN 5 requires Local Planning Authorities (LPAs) to protect and enhance biodiversity during the planning process and to encourage sustainable developments. It also requires LPA's to ensure that protected Sites are properly accounted for within the planning system.

Securing Biodiversity Enhancements

6.19 The Chief Planning Officer sent a letter to LPAs (dated 23rd October 2019) following the refusal of the planning application. This letter has provided clarification on the Welsh Governments approach to Paragraph 6.4.5 of Planning Policy Wales 10 which sets out that "*planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity*".

6.20 The purpose of this letter was to clarify that in light of the legislation and Welsh Government policy outlined above, where biodiversity enhancement is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission. Biodiversity enhancement therefore will need to be included in any future planning application.

Bridgend County Borough Council LDP Policies ENV5 and ENV6

6.21 Both policies take account of the environmental impacts of development ENV5 relates to the Green Infrastructure and states that the Green infrastructure will be provided through the protection and enhancement of existing natural assets and the creation of new multi-functional areas of green space. Green infrastructure corridors will connect locations of natural heritage, green space, biodiversity or other environmental interest. They will be safeguarded through: 1) Not permitting development that compromises their integrity and therefore that of the overall green infrastructure framework; 2) Using developer contributions to facilitate improvements to their quality and robustness; 3) Investing in appropriate management, enhancement and restoration, and the creation of new resources.

6.22 Policy ENV6 is related to development and nature conservation. Proposals for development or redevelopment will be required to: 1. In the first instance, retain, conserve, restore and enhance wherever possible existing: a) Woodland; b) Trees; c) Hedgerows; d) Wetlands; e) Watercourses; f) Ponds; g) Green Lanes/Wildlife Corridors; h) Geological Features; i) Other Natural Features or Habitats. 2. Where this is demonstrated not to be possible, suitable mitigation or compensatory measures will be required to secure biodiversity including future management programmes. 3. Avoid or overcome harm to nature conservation assets and/or species of wildlife which may be either resident, in-situ or which can be demonstrated to have frequented habitats within the site on a migratory basis.

7. DISCUSSION AND IMPACT ASSESSMENT

7.1 The proposed layout for the development is shown in Figure 2 and consists of a residential development centred on the agriculturally improved grassland as described in Target Note 1 at the south of the Site. The adjacent woodlands, hedgerows and the former tramway route are retained but would be impacted to some extent by the proximity of the development. The damper field to the north is excluded. A formal pathway is envisaged through this area however, and this may impact upon drainage and the wetter grassland at Target Note 5 and issues at Target Note 6.

7.2 Of the habitats indicated in the red line area, the wooded areas and mature trees in the relict hedgerows are of most biodiversity value in their own right. Apart from their own intrinsic value in terms of offering a foraging resource for insects and landscape value, they offer suitable features for roosting bats and potentially for transport for dormice. Certainly, the large numbers of hazel evident during the survey demonstrated that this important feature of dormouse diet is available freely across much of the wooded parts of the Site. Dormice have been recorded from woodland just over 2 kilometres to the south west and they are known from the Bridgend area. Given the viable network of woodland and hedgerows connecting the Site to other localities and the suitability of habitat on Site the presence of dormice cannot be ruled out.

7.3 The potential for the Site to support both breeding and foraging bats and dormouse will need to be more carefully considered and this is addressed in Section 8, Recommendations.

7.4 The woodland areas described at Target Notes 8, 9 and 12 can be described as UK Biodiversity Action Plan (BAP) priority Habitats. The woodland at TN 8 and 12 fulfils the criteria of a Lowland Mixed Deciduous Woodland and that at Target Note 9 of a Wet Woodland. Again, the woodlands also offer suitable habitats for breeding and foraging birds, bats and dormice.

7.5 The woodland At Target Note 2 can be considered to be secondary woodland developing on the old tramway and is arguably not fulfilling the criteria of Lowland Mixed Deciduous Woodland. It does support mature trees however, that are likely to be suitable for roosting bats and it provides connectivity across the Site allowing animals to cross the well grazed pasture. This line also supports well fruiting hazel and has potential to be used by dormice.

7.6 The relict hedgerows are of importance for their mature trees and as wildlife corridors. Although unmanaged for a considerable period of time, they continue to qualify as a UKBAP Priority

Habitat. As stated in paragraph 7.2, the value of the relict hedgerows is likely to be in their potential as a foraging and breeding resource for protected species.

7.7 The main impact in terms of habitat loss is restricted to the agriculturally improved grassland at the south of the Site, although the development of a formal pathway across the northern wet field is proposed. The grasslands are heavily grazed by sheep and do not offer a significant biodiversity benefit. A possible exception to this is the wet grassland described at Target Note 5. Should this area be developed, this area would benefit from a further habitat assessment at a more appropriate time of year, June or July, when the majority of grassland flowers are visible.

7.8 Potential for reptiles is considered to be very limited due to the current grazing pressure. The presence of common lizard and possibly slow worm cannot be ruled out at the Site boundaries, particularly along the northern boundary at target Note 3; however, the presence of large populations is not expected. Hedgehog may also occur, particularly in the wooded boundaries. The Recommendations are made in Section 8 to ensure that protected species are not harmed during the development.

7.9 Three species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were found within the red line boundary. These were Japanese knotweed, Himalayan Balsam and montbretia. These were mainly found in what will be retained habitats but there is an area of Japanese knotweed near to the proposed access point to the Site. If not properly planned, the removal or disturbance of these species may occur which would be in breach of the legislation.

7.10 Very few of the reported species of conservation concern and of local importance are likely to be directly affected by the proposals as outlined. Potential for indirect impacts are addressed in section 8, Recommendations.

7.11 The proposals to build a residential development will result in the direct loss of agriculturally improved grassland which is considered to be of low biodiversity significance. In itself, this is considered to be of **no significance** in a local or wider context, however, the immediately adjacent areas are consider to be of value to protected species and indirect impacts may be of **moderate** significance in a local context and **minor significance** in a wider context. At the current time, further survey is necessary to properly assess the Site significance for protected species.

7.12 The Site holds potential to support roosting and foraging bats and breeding and foraging and commuting dormice. Generally, direct impacts are likely to be of limited significance but further survey is necessary to properly assess the value of the Site and the significance of indirect impacts upon protected species. The presence of invasive species must also inform the final impact assessment as any spread of these species is likely to result in biodiversity loss.

8 RECOMMENDATIONS

Birds

8.1 Any works on trees and shrubs and vegetation clearance should be undertaken outside the accepted bird breeding season of March to August. If this is not possible, the affected areas will be searched by a suitably experienced ecologist prior to commencement of works. There is no licence for the destruction of active bird nests and nest translocations invariably fail. Any active nest found will be protected by a buffer zone until such time as it is no longer in use.

Bats

8.2 All of the woodland and hedgerow areas have the potential to support roosting bats. The proposals currently known to Hawkeswood Ecology are unlikely to have a significant direct impact on these areas but there will be limited impacts at the woodland edge and by removal of trees in the front roadside hedgerow and across the woodland at Target Note 2 to allow access across the Site. In direct impacts may include disturbance, light spill and increased predator pressure from domestic pets.

8.3 Further survey is considered necessary to assess the roost potential of the tress at Target Note 2 and on the woodland edge and hedgerows. An activity survey is also considered necessary to understand how bats are using the Site and to determine properly the impacts of the development upon them.

Dormouse

8.4 Suitable habitat and connectivity to that habitat from the surrounding areas, exists on Site for dormice. Direct and indirect impacts on dormice would be similar to those described above for bats. Further survey to assess presence or likely absence of dormice is recommended.

Otter

8.5 Prior to commencement of works, a survey of the watercourses and adjacent woodlands will be undertaken to assess if otters are using those areas of the Site for lying up or breeding purposes. If otters are found measures will be introduced to ensure that the legislation is not infringed. In this instance, a derogation licence may need to be obtained.

Hedgehog

8.6 The use of close board fencing can isolate areas of garden, particularly impacting on hedgehogs. If the use of such fencing is proposed, boards cut will be cut out to give a minimum 15x15cm gap at the bottom, or more preferably be fitted to leave a minimum 15cm gap at ground level for the length of the fence.

Reptiles

8.7 The presence of reptiles on the Site cannot be discounted but due to the relative isolation of the Site from good reptile habitat by the watercourses and main road only small populations would be expected should any be present at all; the grazed pastures do not offer suitable habitat for reptiles. Clearance of ground vegetation at the field edges should be undertaken in such a direction as to push any animals that may be present towards the hedgerows and woodland. Even so, should reptiles be found during clearance a suitably qualified Ecologist will be called to Site to advise on how best to continue.

General Recommendations

8.8 The woodland areas, hedgerows and mature trees should be retained. They should be protected during construction according to specifications outlined in BS 5837:2012 Trees in relation to design, demolition and construction.

8.9 The Woodland and hedgerows should be protected by the provision of close boarded fencing (but see paragraph 8.6). An appropriate buffer zone should also be considered to prevent dumping of garden waste or other domestic rubbish.

8.10 The proposed footpath through the northern field may impact on the wetter grassland at Target Note 5. It is recommended that the path line should be sited near to the line of trees at Target Note 7 and the issues feeding the grassland are not blocked but allowed to drain through.

8.11 No external lighting should be placed on the properties adjacent to the woodland, any lighting should be on a timer and be placed no higher than three metres and pointing to the ground. It must not illuminate the woodlands.

8.12 Should the area of target Note 5 be proposed for development, or the path cannot be diverted from it, a further habitat assessment should be undertaken in June/July, the peak flowering time for grassland species.

8.13 An area will be identified where chemicals and building materials can be safely stored to prevent pollution incidents occurring. Storage areas will be clearly identified and bunded against potential pollution incidents that may affect the adjacent woodlands and watercourses.

8.14 Measures will be in place to prevent sediment laden water escaping the Site during the construction works and entering the Llynfi River or tributary.

Biodiversity enhancements

8.15 Integral bat and bird boxes are recommended for use in the new construction. Bat tubes and bird boxes on the new building at a location to be agreed with the Ecologist when detailed plans are available. Typical examples are shown in Figure 2. The locations of bat and bird mitigation will be such that they are not vulnerable to attack from cats. The boxes should be in positions where cats cannot gain access and there should be no suitable perching sites local to the boxes where cats can attack emerging bats.

8.16 Further recommendations may be made following the conclusion of the recommended further surveys.

Invasive species

8.17 Japanese knotweed, Himalayan balsam and montbretia have been identified on Site. A control plan will be produced to demonstrate how these species will be managed during construction and how their spread will be prevented. These plants should be destroyed on Site if they are to be disturbed by the development operations or taken in secure transport for destruction off-site at a licensed premises.

9 CONCLUSIONS

9.1 The construction zone is mainly impacting agriculturally improved grassland which is heavily grazed. There will be impacts on the adjacent wooded areas that may support protected species. There for further surveys are recommended, these are:

- Preliminary Roost Assessment on mature trees at Target Note 2 and on the woodland edge and in the hedgerows. Further surveys, with a climbing survey or observations most likely being necessary following this preliminary assessment;
- Bat activity surveys throughout the activity season to assess what level of use and how the Site is utilised by foraging bats;
- Dormouse survey of the wooded areas to ascertain if dormice are present or if their absence can be assumed;
- Otter survey of the watercourses and woodlands prior to commencement of any works.

9.2 If the wet grassland at target Note 5 is affected, a further habitat survey of that area in June/July is recommended.

9.3 If the measures outlined in the recommendations are implemented, there are no significant ecological reasons to prevent the development proceeding pending the outcomes of the recommended further surveys.

10 BIBLIOGRAPHY

Nature Conservancy Council, 1990, (2010 revision), *The Handbook for Phase 1 Habitat Survey – a technique for environmental audit,* JNCC

The Conservation of Habitats and Species Regulations, 2017, HMG.

The Wildlife and Countryside Act 1981 (as amended).

The Environment Act (Wales) 2016

FIGURE 1:
PHASE 1 HABITAT MAP

Figure 1: Phase 1 Habitat Survey map

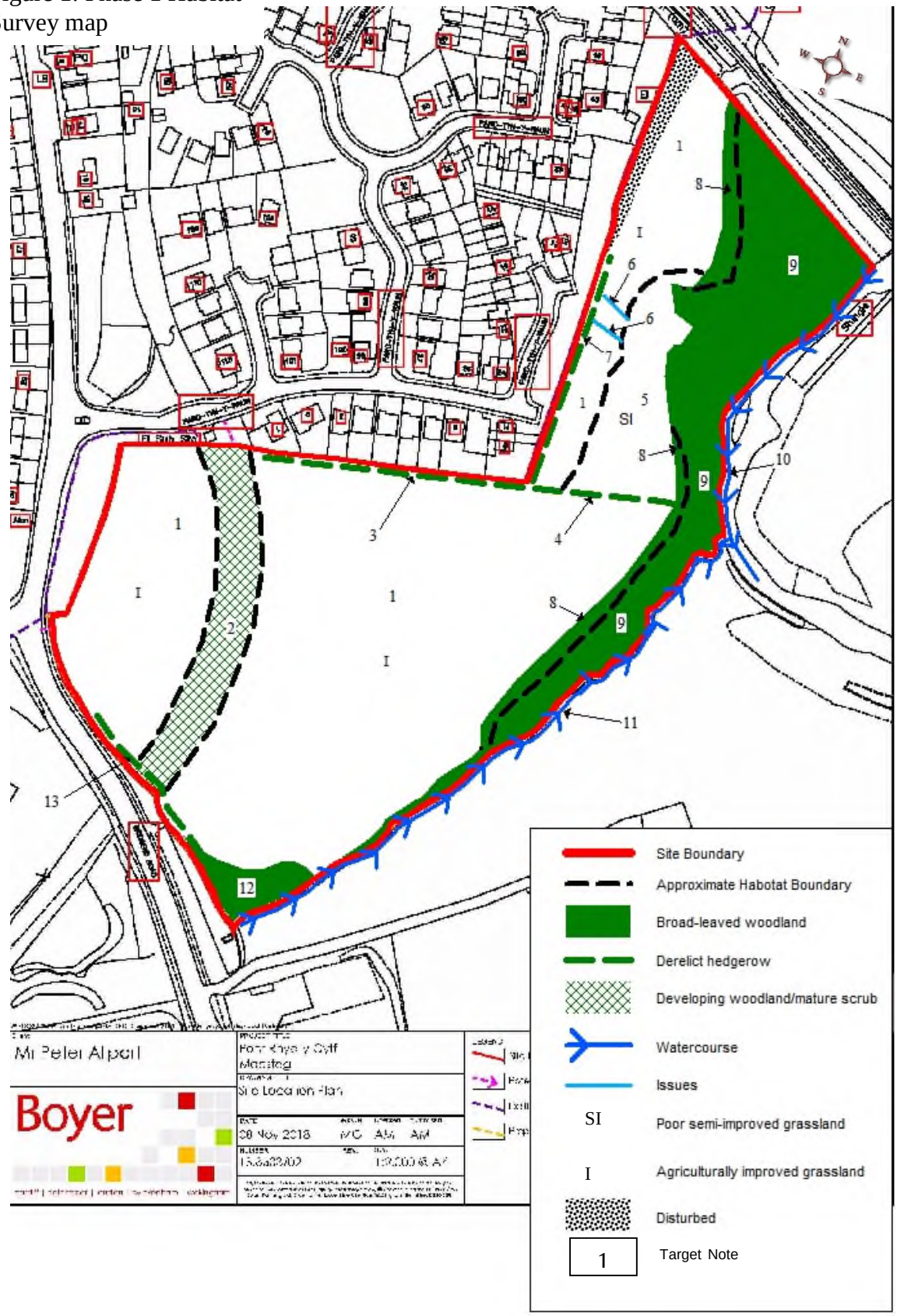
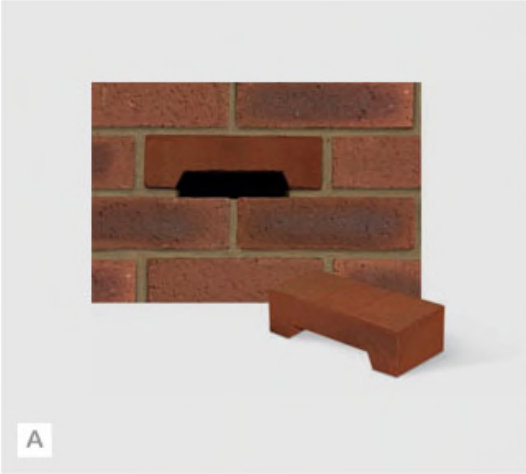


FIGURE 2
PROPOSED SITE LAYOUT

Figure 2: Proposed Site Layout

FIGURE 3
TYPICAL INTEGRAL BIRD AND BAT BOXES



Free Access Bat Box A

- Available in all brick types
- Discrete single bat brick
- Easy to install
- Allows bats to create a natural home habitat within the cavity of the building

Enclosed Bat Box B

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

Enclosed Bat Box C with engraved motif

- Designed specifically for the pipistrelle bat
- Available in smooth blue, smooth gold & smooth red
- Attractive "bat" motif
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

Typical House Sparrow box to be fitted under eaves

Triple Swift Cavity nest box

APPENDIX 1

DAFOR SCALE OF COVER ABUNDANCE

The DAFOR scale is used as a simple measure of cover abundance for individual plant species within a habitat. The scale is as follows:

D Dominant
A Abundant
F Frequent
O Occasional
R Rare
(L Locally – sometimes used as a prefix to the above)

APPENDIX 2
PHASE 1 HABITAT SURVEY TARGET NOTES

1. Agriculturally improved grassland, species poor; damp in places, damper areas supporting frequent creeping bent, Yorkshire fog and lesser celandine. Species recorded were:

Species	Frequency
Common bent	F
Creeping bent	LF
Dandelion	O
Lesser celandine	O/LF
Perennial rye-grass	D
Red fescue	O/LA
Ribwort plantain	O
Soft rush	O/LF
Spear thistle	O
Yorkshire fog	O/LF

2. Line of former traffic route, possible mineral tramway. Approximately 15 metres in width it is bounded each side by mature trees; woody scrub and semi-mature trees are colonising the interior. It is not fenced and is fully open to grazing. The route forms an effective wooded corridor though the Site which will have value for travelling species. The canopy was largely formed by ash and common oak with the shrub layer patchy and consisting of hazel, holly and hawthorn. The ground layer was heavily modified by grazing with much bare ground and litter. The trees present show many features that may support roosting bats and there was a large amount of fruiting hazel evidenced by the amount of opened nut; nuts had been opened by squirrel and bank vole, no evidence of dormice was noted but only a cursory inspection was undertaken. Species recorded were:

Species	Frequency
Ash	F
Black mustard	O
Bramble	O/LF
Broad buckler fern	O
Common nettle	O/LF
Common oak	F
Creeping bent	LF
Creeping buttercup	O
Goat willow	O
Hawthorn	F
Holly	F
Ivy	F

Lesser celandine	O/LA
Red fescue	F
Soft rush	O
Yorkshire fog	F

3. Redundant hedgerow on a bank to the rear of properties on Parc-Tyn-Y-Waun. The hedge is unmanaged and now effectively a row of trees and over mature shrubs. Tree species are mainly ash and common oak with occasional *Mallus* species, shrub present are dominated by holly, hazel and hawthorn. Berberis and laurel are present amongst a number of garden species found along the hedge. The ground flora is largely shaded out and species poor; the invasive Schedule 9 plant montbretia is present throughout along with other garden escapes. Species recorded were:

Species	**Frequency**
Ash	LF
Bare	F
Berberis	LF
Bramble	LF
Cherry Laurel	O
Common oak	O
Hart's tongue fern	O
Hawthorn	O
Hazel	F
Holly	F
Lesser celandine	LF
Maidenhair spleenwort	O
Malus sp	O
Montbretia	LF
Yorkshire fog	O

4. Continuation of TN3 separating fields, unmanaged, on a bank which is largely trampled, under grazed. The shrub layer is largely absent and the ground flora is dominated by the grassland species and heavily modified by grazing. The mature trees show potential to support roosting bats. Species recorded were:

Species	**Frequency**
Ash	O
Bare	F
Common bent	O
Common oak	F
Common yellow sedge	O
Foxglove	O
Hard fern	R
Holly	F

Ivy	LF
Poa sp (a grass)	F
Silver birch	O
Soft rush	O
Yorkshire fog	O

5. Agriculturally improved grassland but very wet and now possibly best described as poor semi-improved wet neutral grassland. Soft rush is dominant over large parts of this area.

Species	**Frequency**
Creeping bent	F
Creeping buttercup	F
Floating sweet-grass	LF
Lady's smock	O/LF
Lesser celandine	O
Marsh thistle	O
Marsh valerian	O
Meadow buttercup	O
Red fescue	O
Soft rush	F/LA
Tufted hair-grass	O
Yorkshire fog	F

6. Two issues feeding the wet area at TN5, floating sweet-grass and brooklime present in both otherwise similar to surrounding pasture.

7. Mature trees bordering site, similar to TN3; disturbed by ongoing development works on adjacent land.

8. Dry woodland largely forming a boundary between the grazed pastures and wet woodland along the streams bounding the Site to the south. The boundary drawn between the two woodland types is arbitrary and is difficult to determine in places. Open to grazing but not heavily grazed. The canopy is dominated by common oak and silver birch with a shrub layer of holly, hazel, hawthorn, dogwood and garden privet; berberis is also rarely present. The ground flora is largely shaded out. Species recorded were:

Species	**Frequency**
Berberis	R
Bluebell	LF
Bramble	A
Common oak	F
Common polypody	O

Dogwood	O
Garden privet	O
Hard fern	O
Hawthorn	O
Hazel	F
Herb robert	O
Holly	F
Ivy	A
Lesser celandine	LF
Pignut	LF
Silver birch	O
Tufted hair-grass	LF

9. Wet woodland, unmanaged, not heavily grazed but open to grazing. Subject to flooding from adjacent river and some pools present. Bounded to the east by a railway embankment which appears to inhibit the drainage of this area. The canopy is alder dominated with common oak, goat willow and silver birch, the shrub layer is sparse with goat willow, hazel, holly and honeysuckle. The ground flora is poorly developed with large amounts of litter and bare ground. The invasive Schedule 9 plants Japanese knotweed and Himalayan balsam are present in areas forming dense stands. Species recorded were:

Species	**Frequency**
Alder	F
Bare	F
Bramble	F/LA
Broad buckler fern	F
Common nettle	F
Common oak	R
Creeping bent	O
Creeping soft-grass	LF
Creeping buttercup	F/LA
Elder	O
Floating sweet-grass	O/LF
Goat willow	F
Great willowherb	O
Hazel	O
Hemlock water dropwort	LF
Himalayan balsam	LA
Holly	O
Honeysuckle	O
Yellow flag	LA
Japanese knotweed	LA
Male fern	O
Marsh marigold	O

Opposite-leaved golden-saxifrage	LF
Remote sedge	O
Silver birch	O
Soft rush	F
Tufted hair-grass	F
Wood sorrel	R
Yellow pimpernel	R

10. The Llynfi River, forming part of the southern boundary of the Site. Fast flowing river with a rocky bed, had recently been in flood at the time of survey. Banks lined with dense stands of Japanese knotweed with abundant Himalayan balsam; lesser celandine is also locally abundant. It is likely that otters are present but no signs evident at the time of survey.

11. A stream joining the Llwynfi River forming the remaining Site southern boundary. Generally in a deep cut and heavily shaded. Rocky substrate with *Pelia* sp liverworts and mosses on the banks. Hard fern is locally frequent.

12. Small wooded copse adjacent to and including the road embankment. The canopy is open with mature and semi-mature common oak, alder, silver birch and ash. The shrub layer is sparse with holly, hazel and hawthorn present. The ground flora is shaded but not grazed. The road embankment has developed naturally and colonisation of the bank is occurring from the woodland. Species recorded were:

Species	**Frequency**
Ash	R
Bare/litter	LA
Bramble	A
Common nettle	F
Common oak	O
Creeping buttercup	F
Dog rose	O
Goat willow	O
Ground ivy	R
Hart’s-tongue fern	O
Hawthorn	O
Hazel	F
Himalayan balsam	A
Holly	O
Honeysuckle	O
Ivy	F
Lesser celandine	LF
Male fern	O
Opposite-leaved golden-saxifrage	R

Red campion	O
Remote sedge	O
Silver birch	O
Soft rush	LF
Tufted hair-grass	O

13. Derelict hedgerow largely subsumed by the adjacent woodlands described at TN2 and TN12. Canopy species include common oak and ash with hazel and holly. Japanese knotweed is present in one area. This appears to have been treated but is showing some re-growth.

APPENDIX 3
LIST OF PLANT SPECIES RECORDED IN THE SURVEY

Species	*Scientific Name*
A grass	*Poa* sp
Alder	*Alnus glutinosa*
Ash	*Fraxinus excelsior*
Berberis	*Berberis* sp
Black mustard	*Brassica nigra*
Bluebell	*Hyacinthoides non-scripta*
Bramble	*Rubus fruticosus* agg
Broad buckler fern	*Dryopteris dilatata*
Brooklime	*Veronica beccabunga*
Cherry laurel	*Prunus laurocerasus*
Common bent	*Agrostis capillaris*
Common nettle	*Urtica dioica*
Common oak	*Quercus robur*
Common polypody	*Polypodium vulgare*
Common yellow sedge	*Carex demissa* agg
Creeping bent	*Agrostis stolonifera*
Creeping buttercup	*Ranunculus repens*
Creeping soft-grass	*Holcus mollis*
Dandelion	*Taraxacum officinale* agg
Dog rose	*Rosa canina*
Dogwood	*Cornus sanguinea*
Elder	*Sambucus nigra*
Floating sweet-grass	*Glyceria fluitans*
Foxglove	*Digitalis purpurea*
Fruit tree	*Mallus* sp
Garden privet	*Ligustrum ovalifolium*
Goat willow	*Salix caprea*
Great willowherb	*Epilobium hirsutum*
Ground ivy	*Glechoma hederacea*
Hard fern	*Blechnum spicant*
Hart’s-tongue fern	*Asplenium scolopendrium*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Hemlock water dropwort	*Oenanthe crocata*
Herb robert	*Geranium robertianum*
Himalayan balsam	*Impatiens glandulifera*
Holly	*Ilex aquifolium*
Honeysuckle	*Lonicera periclymenum*
Ivy	*Hedera helix*
Japanese knotweed	*Fallopia japonica*
Lady’s smock	*Cardamine pratensis*

Lesser celandine	*Ranunculus ficaria*
Liverwort	*Pellia* sp
Maidenhair spleenwort	*Asplenium trichomanes*
Male fern	*Dryopteris filix-mas*
Marsh marigold	*Caltha palustris*
Marsh thistle	*Cirsium palustre*
Marsh valerian	*Valeriana dioica*
Meadow buttercup	*Ranunculus aris*
Montbretia	*Montbretia* sp
Moss Spp	
Opposite-leaved golden-saxifrage	*Chrysosplenium oppositifolium*
Perennial rye-grass	*Lolium perenne*
Pignut	*Conopodium majus*
Red campion	*Silene dioica*
Red fescue	*Festuca rubra*
Remote sedge	*Carex remota*
Ribwort plantain	*Plantago lanceolata*
Silver birch	*Betula pendula*
Soft rush	*Juncus effuses*
Spear thistle	*Cirsium vulgare*
Tufted hair-grass	*Deschampsia cespitosa*
Wood sorrel	*Oxalis acetosella*
Yellow flag	*Iris pseudacorus*
Yellow pimpernel	*Lysimachia nemorum*
Yorkshire fog	*Holcus lanatus*
Fauna-Birds	
Blue tit	*Cyanistes caeruleus*
Chaffinch	*Fringilla coelebs*
Chiff chaff	*Phylloscopus collybita*
Coal tit	*Periparus ater*
Dunnock	*Prunella modularis*
Goldfinch	*Carduelis carduelis*
Great spotted woodpecker	*Dendrocopus major*
Great tit	*Parus major*
Robin	*Erithacus rubecula*
Song thrush	*Turdus philomelos*
Wood pigeon	*Columba palumbus*
Wren	*Troglodytes troglodytes*
Fauna – Butterfly	
Small tortoiseshell	*Aglais urticae*

APPENDIX 4
PHOTOGRAPHS

Rank species poor semi-improved grassland (TN1)

Largely cleared area form the MUGA

Goat willows, TN2

The MUGA and area of rank purple moor-grass at TN4

Tree planting TN3

TN3, the oak tree planting and recently disturbed ground

Small area of rank purple moor-grass (TN4)

The Site frontage with young trees

Small area of rank purple moor-grass (TN4)

The Site frontage with young trees

Small area of rank purple moor-grass (TN4)

The Site frontage with young trees

Small area of rank purple moor-grass (TN4)

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The Site frontage with young trees

Small area of rank purple moor-grass (TN4)

The Site frontage with young trees

APPENDIX 5
LEGISLATION ABBREVIATIONS USED IN SECTION 4

Abbreviation	Details
BA	Protection of Badgers Act
UKBAP	UK Biodiversity Action Plan Priority Species
BDir1	EC Birds Directive Annex 1 Species
BDir21	EC Birds Directive Annex 2.1 Species
BDir22	EC Birds Directive Annex 2.2 Species
Bern	The Bern Convention on the Conservation of European Wildlife and Natural Habitats
CITES	Convention on International Trade in Endangered Species
EPS	European Protected Species
HDir	EU Habitats Directive Species
NRW	Natural Resources Wales Priority Species
RD1 (Wales)	Welsh Red Data Book listing based on IUCN guidelines
RD1 (UK)	UK Red Data Book listing based on IUCN guidelines
RD2 (UK)	UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce)
WBR (RSPB)	RSPB Welsh Red listed birds (not based on IUCN criteria)
WBAm (RSPB)	RSPB Welsh Amber listed birds (not based on IUCN criteria)
UKBR (RSPB)	RSPB UK Red listed birds (not based on IUCN criteria)
UKBAm (RSPB)	RSPB UK Amber listed birds (not based on IUCN criteria)
S7	Environment Act (Wales) Section 7 Species
WCA1.1	Wildlife and Countryside Act Schedule 1 Part 1 Species
WCA5	Wildlife and Countryside Act Schedule S Species
WCA8	Wildlife and Countryside Act Schedule 8 Species
WCA9	Wildlife and Countryside Act Schedule 9 Species
LBAP	Local Biodiversity Action Plan Species (those listed in Bridgend LBAP)

HAWKESWOOD ECOLOGY

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