







Desk Study and Extended Phase 1 Habitat Survey

Boverton, Vale of Glamorgan

For

Barratt Homes South Wales

Project No.: ABAW105 / 009

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1. Summary and Main Recommendations

1.1 Summary

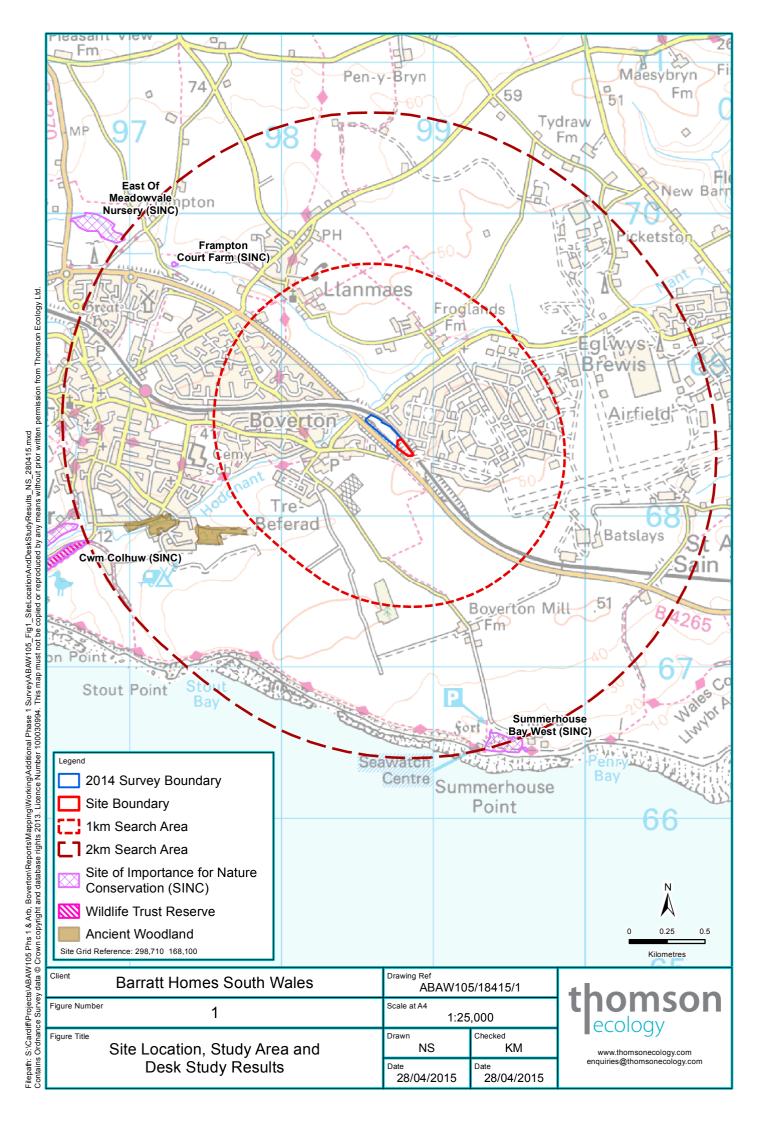
- 1.1.1 Barratt Homes South Wales is proposing the development of an area of land in Boverton, Vale of Glamorgan (see Figure 1). Following an extended Phase 1 habitat survey and desk study of the site in 2014, the proposals have been amended to include an additional adjacent area within the development.
- 1.1.2 Barratt Homes South Wales will be seeking planning permission for the development from Vale of Glamorgan Council. The site is within an area allocated for housing development within the Vale of Glamorgan draft Deposit Local Development Plan 2011-2026.
- 1.1.3 The brief was to undertake a preliminary ecological assessment of the site and to discuss the legal and planning policy issues associated with the proposed development and biodiversity. To that end, a desk study and extended Phase 1 habitat survey was undertaken to gather baseline ecological data for the site.
- 1.1.4 The main findings of the desk study were that the site is within 2 km of four non-statutory Sites of Importance for Nature Conservation (SINCs), one of which is also a Wildlife Trust Reserve. The nearest of these is 1.6 km from the site. There are two parcels of ancient woodland greater than 2 ha within 2 km of the site, the nearest of which is 1.1 km from the site. In addition, the desk study found records of three protected bird species; one species of which, barn owl, is listed on Schedule 1 of the Wildlife and Countryside Act 1981, as amended. The desk study also returned records of three protected mammal species and a plant species listed as locally important by the local biological records centre.
- 1.1.5 During the field survey, the site was found to support dense scrub, scattered broadleaved trees, semi-improved grassland, species-poor hedge, species-poor hedge with trees, fence, wall, hard standing and an undefined habitat. An area of broadleaved woodland runs along the northern perimeter of the site, outside the site boundary. The hedgerows and broadleaved woodland are habitats of principal importance in Wales under Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006. Five bird species were observed during the field survey. All birds, eggs and nests are protected from damage and destruction under the Wildlife and Countryside Act 1981, as amended. Rabbit droppings were identified on site during the survey.
- 1.1.6 There is suitable habitat on site for reptiles. Reptiles receive protection under the Wildlife and Countryside Act 1981, as amended, from killing and injury and are listed under Section 42 of the NERC Act 2006. Reptile surveys have been completed covering the entire site in April 2015 with recommendations provided in Thomson Ecology Report Ref: ABAW105/ 009/ 005/ 001 report issued May 2015.
- 1.1.7 There is suitable habitat on site for dormouse. Dormouse and their habitat are fully protected under the Conservation of Habitats and Species Regulations 2010 and are listed as a Species of Principal Importance in Wales under Section 42 of the NERC Act 2006. It is government policy that local planning authorities protect such species from the adverse effects of development and a license is required whenever disturbance of dormouse or damage of their habitat is likely to occur. Dormouse presence/absence surveys are ongoing at the site until



- September 2015, if the surveys confirm the presence of dormouse, appropriate mitigation will be built into the proposals to comply with legislation and planning policy.
- 1.1.8 No statutory, non-statutory sites or ancient woodlands are present either inside or bordering the site. The development should not have a significant effect on the four non-statutory nature conservation sites, or two ancient woodland sites within 2 km of the site. Hedgerow habitat will be lost, approximately 155 m, as will habitat for breeding birds. Mitigation proposals set out in Section 1.2 and the main body of the report should ensure that the development is compliant with the law and planning policy with respect to hedgerows, breeding birds and rabbit.

1.2 Main Recommendations

- 1.2.1 The following measures are recommended for the development to comply with relevant biodiversity legislation and policy:
 - Retain hedgerows where possible or, where removal is necessary, the hedgerows should be replaced on a like-for-like basis as a minimum. Retained hedgerows should be enhanced with additional planting of similar native species;
 - Retained trees, including those outside the site on the edge of woodland BW1 should be
 protected in accordance with British Standard BS5837: 2012, in accordance with
 recommendations made in the Arboriculture Survey Report (Thomson Ecology Report
 Ref: ABAW105/009/004/001);
 - Any necessary clearance of vegetation should be undertaken outside of the breeding bird season *i.e.* from September to February inclusive;
 - If barn owls are seen nesting or flying into woodland BW1 works should be stopped immediately and potential nest locations should be checked by a suitably qualified ecologist to ensure nesting barn owls are not disturbed;
 - Any animal holes that will be affected during construction should be assessed to determine if they are in use. If they are in use then they should be dug out under ecological watching brief to ensure no animals are harmed;
 - Dense scrub should be taken apart carefully by hand to search for sheltering animals such as hedgehog, which if found should be moved to retained, suitable habitat; and
 - To enhance biodiversity on the site, recommendations in Section 7.2 including using native species for on site planting and the provision of bird nesting opportunities and bat boxes should be followed.
- 1.2.2 As suitable habitat is present on the site for reptiles and dormouse, surveys for these species are being carried out in 2015. Further mitigation measures may be recommended following these further surveys.







Photograph 1: Broadleaved woodland (BW1), dense scrub (DS2) and semiimproved grassland (SI4) along north perimeter of site.



Photograph 3: Scattered broadleaved trees (SBW1) and semi-improved grassland (SI3) at east of site.



Photograph 5: Species-poor hedgerow with trees (PHT1) and semi-improved grassland (SI4) along south perimeter of site.



Photograph 2: Dense scrub (DS2) along the north perimeter of the site.



Photograph 4: Semi-improved grassland (SI3) along roadside at the south of the site.



Photograph 6: Other habitat Target Note 1 (TN1) at north west of site.

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2. Introduction

2.1 Development Background

- 2.1.1 Barratt Homes South Wales is proposing a residential development on a site located adjacent to the B4265, Boverton, Vale of Glamorgan. The original proposal involved the development of a 1.85 ha area of land comprising two fields; however this has now been expanded to include an additional adjacent field within the development. In addition to the construction of residential units, the development will incorporate tree planting, replacement hedgerow planting and the creation of public open spaces. The development will be accessed from the adjoining B4256 along the southern perimeter of the development site. These proposals are hereafter referred to as 'the development'.
- 2.1.2 The development will be located on a 2.41 ha area of farmland between the B4265 Llantwit Major bypass and the Vale of Glamorgan railway line on the eastern edge of Boverton (Grid reference SS988684), hereafter referred to as 'the development area', see Figure 1. The development area is comprised of the original 2014 site boundary (shown by the blue boundary on Figure 1), and an additional adjacent field, approximately 0.56 ha. This additional area (shown by the red line boundary on Figure 1) is hereafter referred to as 'the site'.
- 2.1.3 Planning permission for the development is being sought by Barratt Homes South Wales. The site lies within an area identified in the Vale of Glamorgan Deposit Local Development Plan (LDP) 2011 2026 for proposed housing to which Proposal MG2 applies. Policy MG2 Housing allocations states that 'in order to meet the housing requirement identified in policy SP3 land is allocated for residential development at the following locations' where the site is identified as 'MG2 (22) Land adjacent to Llantwit Major bypass'.

2.2 Ecology Background

- 2.2.1 In July 2014, Thomson Ecology was commissioned by Barton Willmore LLP, on behalf of Barratt Homes South Wales to undertake an arboricultural survey (Thomson Ecology Report Ref: ABAW105/001/002) and extended Phase 1 habitat survey and desk study (Thomson Ecology Report Ref: ABAW105/002/002 issued August 2014) to inform a planning application for the development within the original 2014 site boundary, (planning application reference: 2014/009951/FUL) (shown on Figure 1). An extended Phase 1 habitat survey was carried out within the 2014 site boundary on 9th July 2014. The survey recorded two habitats of principal importance; broadleaved woodland and hedgerows, and habitats with the potential to support breeding birds.
- 2.2.2 Thomson Ecology have subsequently carried out an arboricultural survey of the site (Thomson Ecology Report Ref: ABAW105/009/004/001) and a reptile survey and dormouse survey have been commissioned for the development area. The reptile survey has been completed and has found a low population of slow worms (Thomson Ecology Report Ref: ABAW105/007/005/001) and the dormouse survey will be completed in September 2015.



2.3 The Brief and Objectives

- 2.3.1 Thomson Ecology Ltd was commissioned by Barratt Homes South Wales on 10th April 2015 to undertake a preliminary ecological assessment of the site. The brief was to include:
 - An extended Phase 1 habitat survey of Phase 2 of the site, as shown on the plan provided by email on 09/03/2015;
 - An ecological desk study;
 - A combined report including an introduction, methodology and results of the survey, a
 discussion of any relevant legal and planning policy issues, and our recommendations
 where appropriate; and
 - · Appropriate digitised mapping.

2.4 Limitations

- 2.4.1 The species data collated during the desk study is mainly derived from records submitted by members of the public and ad hoc surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of the protected species and other species of conservation concern that occur in the local area.
- 2.4.2 This report is based on the development boundary and layout received by email on 9th March 2015. Subsequent changes to either may result in a requirement to reassess the potential impacts of the development and the requirements for avoidance, mitigation and enhancement.

2.5 Surveyors

2.5.1 The survey was undertaken by Andrew Bone BSc (Hons) MSc.



3. Methodology

3.1 Desk Study

3.1.1 A study area was defined that encompasses the development area and all land within 2 km of the perimeter of the development area, see Figure 1. South East Wales Biodiversity Records Centre (SEWBReC) was contacted on 15th April 2015 and asked to provide up-to-date information on sites designated for their nature conservation value, local nature reserves, records of protected species and other species of conservation concern and any other information that they considered relevant. Records of designated sites were sought for the full study area, whereas records for species were sought for part of the study area encompassing the development area and within 1 km of the perimeter of the development area.

3.2 Field Survey

- 3.2.1 A survey area was defined that encompassed the site boundary and additional habitats along the perimeter of the site with the potential to be impacted by the development. The survey area is shown on Figure 2.
- 3.2.2 A Phase 1 habitat survey (JNCC, 2010; IEA, 1995) was conducted throughout the survey area. Phase 1 habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land. It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present. For this survey, the technique was modified (or extended) to provide more detail over a smaller area, and give further consideration to fauna.
- 3.2.3 The dominant and readily identified species of higher plant species from each habitat type within the survey area were recorded and their abundance was assessed on the DAFOR scale:
 - D Dominant
 - A Abundant
 - F Frequent
 - O Occasional
 - R Rare
- 3.2.4 These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (2010).
- 3.2.5 Target notes were made for any features which were too small to map or are of particular ecological interest.
- 3.2.6 Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support protected species and other species of conservation concern, including priority species. However, no specific faunal surveys were undertaken.
- 3.2.7 The survey was conducted on 16th April 2015.



4. Results

4.1 Background

4.1.1 The contents of the results section are the factual results of the desk study and extended phase 1 habitat survey. Excluded from this section is the assessment of the site to support species of conservation concern not recorded during the survey. Instead, potential further ecological issues are discussed in Section 6.

4.2 Desk Study

4.2.1 The response from SEWBReC was received on 22nd April 2015. The results are summarised below. The locations of designated sites are shown in Figure 1.

Designated Sites

4.2.2 There are no internationally or nationally designated statutory sites within 2 km of the development boundary. There are two locally-designated Sites of Importance for Nature Conservation (SINCs) within 2 km of the development. These are summarised in Table 1.

Table 1. Locally designated sites within 2 km of the site

Site Designation	Grid Reference	Area (ha)	Distance to site	Description
SINCs			(km)	
Frampton Court Farm (D39 P1)	SS972696	0.07	1.60	Bulrush dominated flood alleviation pond managed by the Environment Agency Wales. Hard Rush (<i>Juncus inflexus</i>), Common Spike-rush (<i>Eleocharis palustris</i>), Brooklime (<i>Veronica beccabunga</i>) and Fool's watercress (<i>Apium nodiflorum</i>) are locally abundant.
Summerhouse Bay West (C53 W1)	SS994664	2.41	1.89	Semi-natural broadleaved woodland and scrub on and around remains of a hill fort.
Cwm Colhuw (C47-S2)	SS964677	7.04	1.98	A mosaic of semi-improved neutral and calcareous grassland with dense scrub and lowland mixed deciduous woodland along Iron Age earthworks, supporting Section 42 bird species



Site Designation	Grid Reference	Area (ha)	Distance to site (km)	Description		
				including Yellowhammer.		
East of Meadowvale Nursery (D39 G1)	SS967699	3.12	1.98	Supports areas of purple moor grass (<i>Molinia caerulea</i>) and rush pasture.		
Wildlife Trust Reserves						
Cwm Colhuw	SS963676	5.54	1.98	As above for Cwm Colhuw SINC.		

Ancient Woodland

4.2.3 Two ancient woodland sites greater than 2 ha were identified in the desk study, the closest of which is 1.1 km from the site (see Figure 1). These are summarised in Table 2.

Table 2: Ancient woodlands larger than 2 ha with 2 km of the site.

Grid reference	Area (ha)	Distance to site (km)
SS975678	2.3	1.1
SS971679	2.0	1.4

Protected Species and Other Species of Conservation Concern

4.2.4 Records of protected species and species of conservation concern derived from the desk study are shown in Table 3. Only records from the last ten years have been included. If multiple records for one species exist, then the nearest, most recent record has been given. Where a four-figure grid reference was provided by the records centre and an accurate distance from the site cannot be calculated, the distance has been omitted.



Table 3. Records of Protected and Other Species of Conservation Concern derived from the desk study

Common Name	Scientific Name	HSR Sch 2 or 4	WCA Sch1, 5 or 8	National Priority Species	Local priority/ BAP species	Red Data Book	Other	Grid Reference	Distance from site (m)
Plants									
Bee orchid	Ophrys apifera						CITES, LI(SEWBReC)	SS995677	933
Birds									
House sparrow	Passer domesticus			✓	UKBAP, LBAP		UKBR, WBAm	SS9868	-
Common starling	Sturnus vulgaris			✓	UKBAP, LBAP	RD2	BDir22, UKBR, WBR	SS9868	-
Barn owl	Tyto alba		1		LBAP	RD2	CITES, UKBAm, WBAm	SS991680	442
Mammals		1			•	•			
West European hedgehog	Erinaceus europaeus			✓	UKBAP, LBAP			SS989683	57
Brown long-eared bat	Plecotus auritus	2	5	✓	UKBAP, LBAP	RD2		SS974688	1363
Soprano pipistrelle	Pipistrellus pygmaeus	2	5	✓	UKBAP, LBAP	RD2		SS973683	1414

HSR = Conservation of Habitats and Species Regulations 2010

WCA = Wildlife and Countryside Act 1981, as amended

CITES = Convention on International Trade in Endangered Species

RD2 = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce)



BDir22 = EC Birds Directive Annex 2.2 Species

UKBAP = UK Biodiversity Action Plan

LBAP = Local Biodiversity Action Plan

UKBR = RSPB UK Red listed birds (not based on IUCN criteria)

UKBAm = RSPB UK Amber listed birds (not based on IUCN criteria)

WBR = RSPB Welsh Red listed birds (not based on IUCN criteria)

WBAm = RSPB Welsh Amber listed birds (not based on IUCN criteria)

LI(SEWBReC) = Locally Important Species (as identified by local specialists) in SEWBReC area.



4.3 Field Survey

Habitats and Flora

- **4.3.1** The following Phase 1 habitat types were identified:
 - Semi-natural broadleaved woodland;
 - Dense scrub:
 - Scattered broadleaved trees;
 - Poor semi-improved grassland;
 - · Species poor hedge;
 - Species poor hedge with trees;
 - Fence:
 - Wall;
 - · Hard standing; and
 - Other habitat Target note 1.
- 4.3.2 These habitats are described below and their distribution is given on Figure 2. A species list for each habitat is given in Appendix 1. Photographs of the site are shown on Figure 3. To avoid confusion with the 2014 extended Phase 1 habitat survey report (Thomson Ecology Report Ref: ABAW105/002/001), the habitat numbering has been continued, where there are habitat parcels of the same type, to ensure each habitat parcel has a unique identification. Where the same parcel occurs in both the 2014 survey area and the site, however, the same identification number as the 2014 survey report has been used.

Semi-natural Broadleaved Woodland

4.3.3 A parcel (approximately 0.16 ha) of semi-natural broadleaved woodland runs along the north-east boundary of the site (BW1 on Figure 2, Photograph 1 on Figure 3), outside the site boundary, between the site and the Vale of Glamorgan railway line. The canopy level of this woodland consists of abundant ash (*Fraxinus excelsior*), with frequent sycamore (*Acer pseudoplatanus*). The shrub layer is dominated by bramble (*Rubus fruticosus* agg.) with abundant hawthorn (*Crataegus monogyna*) and the ground layer is dominated by ivy (*Hedera helix*).

Dense Scrub

4.3.4 Three parcels of dense scrub are present on or adjacent to the site. One parcel, approximately 700m², (DS2 on Figure 2, Photograph 2 on Figure 3) runs along the north-east boundary of the site; this is dominated by bramble with abundant ivy and rare ash saplings. A second parcel, approximately 200m², (DS3 on Figure 2) runs along the west boundary of the site and is dominated by bramble. The third, smaller parcel, approximately 180m², (DS4 on Figure 2), is located just outside the site boundary at the east end of the site; this is dominated by bramble, with abundant ivy and rare hawthorn.



Scattered Broadleaved Trees

4.3.5 At the south east boundary of the site there is a line of scattered broadleaved trees (SBW1 on Figure 2, Photograph 3 on Figure 3), this is dominated by sycamore, with each tree having abundant cover of ivy. The ground layer consists of occasional bramble.

Semi -Improved Grassland

- 4.3.6 Two distinct parcels of semi-improved grassland are present on or directly adjacent to the site. The first parcel of semi-improved grassland (SI3 on Figure 2, Photograph 4 on Figure 3) is an off site, roadside verge running between the B4265 and southern site boundary which covers approximately 475m². This habitat parcel contains abundant common bent (*Agrostis capillaris*), Yorkshire-fog (*Holcus lanatus*) and Cock's foot (*Dactylis glomerata*) grasses as well as abundant dandelion (*Taraxacum* sp.), daisy (*Bellis perennis*) and white clover (*Trifolium repens*). Marsh-marigold (*Caltha palustris*) is locally abundant within this habitat parcel. This habitat also contains rare bristly oxtongue (*Picris echioides*), yarrow (*Achillea millefolium*), cuckooflower (*Cardamine pratensis*) and spotted medick (*Medicago arabica*).
- 4.3.7 The second parcel, approximately 0.4 ha lies within the centre of the site (SI4 on Figure 2, Photograph 1 on Figure 3). This parcel of grassland contains abundant common bent, Yorkshire-fog and lesser celandine (*Ranunculus ficaria*). There is occasional ribwort plantain (*Plantago lanceolata*) and creeping buttercup (*Ranunculus repens*) and rare meadow foxtail (*Alopecurus pratensis*) and broadleaved dock (*Rumex obtusifolius*).

Species-poor Hedge

4.3.8 The west boundary of the site is lined with a species poor hedge, approximately 73 m in length (PH2 on Figure 2). This hedge contains abundant hawthorn and bramble, with frequent elder (Sambucus nigra) and rare blackthorn (Prunus spinosa).

Species-poor Hedge with Trees

4.3.9 The south-west boundary of the site is lined with a species poor hedge with trees (PHT1 on Figure 2, Photograph 5 on Figure 3). This hedge comprises the southern boundary of both the original 2014 site and the current site and is approximately 415 m in length. This habitat parcel contains abundant hawthorn with frequent ash and occasional sycamore. The ground layer is dominated by ivy and bramble.

Fence

4.3.10 A barbed wire fence runs around the perimeter of the site, with a gated entrance at the south east of the site.

Wall

4.3.11 A small section of stone wall runs behind the fence line at the south east boundary of the site.



Hard Standing

4.3.12 A small section of hard standing cuts through the road verge at the south east of the site. This is a public path leading to a pedestrian crossing of the B4265.

Other Habitat - Target Note 1

4.3.13 Two sections of habitat at the west and south site boundary could not be classified in line with the JNCC Phase 1 handbook, (TN1 on Figure 2, Photograph 6 on Figure 3). Combined, this habitat covers approximately 600m². This habitat has been recently cleared and is likely to have been previously dominated by dense bramble. There is now some re-growth of bramble and abundant common nettle (*Urtica dioica*).

Fauna

- **4.3.14** Five bird species were observed during the survey:
 - Blackbird (Turdus merula);
 - Carrion crow (Corvus corone);
 - Herring gull (Larus argentatus);
 - Magpie (Pica pica); and
 - Woodpigeon (Columba palumbus);
- **4.3.15** Fresh rabbit droppings were identified with the semi-improved grassland habitat SI4 (Target Note 2 on Figure 2)

Target Notes

- 4.3.16 Two target notes were identified during the 16th April 2015 field survey:
 - Target Note 1 Other habitat; cleared bramble/ scrub; and
 - Target Note 2 Fresh rabbit droppings within semi-improved grassland SI4



5. Legislation and Planning Policy Issues

5.1 Background

5.1.1 The content of the legislation and planning policy section is the legislation and planning policy issues that we know are relevant based on this desk study and extended Phase 1 habitat survey. The legislation and policy issues that might arise following further surveys are excluded. Potential further ecological issues are discussed in Section 6. A detailed description of the method for this section is given in Appendix 2.

5.2 Designated Sites

- 5.2.1 There are no statutory designated sites within 2 km of the development. There are four non-statutory designated SINCs within 2 km of the development, one of which is also a Wildlife Trust Reserve. These sites are protected by Planning Policy Wales Technical Advice Note (TAN) 5 (paragraph 6.5.1) and from the Vale of Glamorgan Deposit LDP policy MG19 which states: 'Development which has an unacceptable impact on Sites of Importance for Nature Conservation (SINCs) will not be permitted'.
- 5.2.2 The nearest SINC is Frampton Court Farm SINC, which is 1.6 km from the development. The proposals are unlikely to have an impact on this designated site and its defining attributes for the following reasons:
 - The development will be restricted to the site boundary;
 - The development will be separated from the designated site by existing roads and urban infrastructure;
 - Waste water from the development will be treated to national standards before discharge into the river system; and
 - Pollution will be controlled during construction works in accordance with Environment Agency pollution prevention guidelines.
- 5.2.3 For the reasons stated above, the development should not a have significant negative effect on the other three SINCs within 2 km of the site.
- 5.2.4 The development proposals will therefore be compliant with the relevant legislation and policy with respect to designated sites.

5.3 Priority Habitats

- 5.3.1 Broadleaved woodland was recorded outside the north perimeter of the site (BW1 on Figure 2). Semi-natural woodland is a habitat of principal importance in Wales under the Natural Environment and Rural Communities (NERC) Act 2006. Under the current proposal, the broadleaved woodland will not be affected by the development.
- 5.3.2 Two hedges were recorded during the survey. These are a species-poor hedge (PH2 on Figure 2) and a species-poor hedge with trees (PHT1 on Figure 2). These hedges run along the west and south west perimeter of the site respectively. Hedges are a habitat of principal importance in Wales under the NERC Act 2006 and are also protected by the Hedgerows Regulations 1997.



- 5.3.3 Under the NERC Act local authorities, in this case the Vale of Glamorgan Council, have a duty to conserve biodiversity, including this habitat type. In addition, TAN 5 states that habitats of principle importance for the conservation of biodiversity should be protected from the adverse effects of development.
- 5.3.4 The current proposals require the removal of hedge PH2, which runs along the west boundary of the site and a small section of PHT1 to construct a footpath connection onto the site from the adjacent Llantwit Major bypass. The total length of these hedges to be removed is approximately 78 m. In addition to these, two sections of hedge identified in the 2014 survey (Thomson Ecology Report Reference: ABAW105/002/002) will also be removed. These are PH1 and another small section of PHT1 to allow access to the site. The total length of these hedges is approximately 77 m. The total length of hedges to be removed from the development area is approximately 155 m. Recommendations for mitigating the loss of these habitats are set out in Section 7.

5.4 Ancient Woodland

- 5.4.1 Ancient woodlands are protected under Planning Policy Wales (PPW), which states that 'Ancient and semi-natural woodlands are irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage'.
- 5.4.2 The desk study identified two parcels of ancient woodland greater than 2 ha within 2 km of the development, the closest being 1.1 km away. The proposed development is unlikely to have an impact on these ancient woodlands for the reasons described above in Section 5.2 and the proposals should therefore be compliant with the relevant legislation and policy with respect to ancient woodland.

5.5 Protected Species

- 5.5.1 A number of common bird species were recorded during the field survey, some of which are likely to breed on the site as suitable habitat is present in the form of hedges (PH2 and PHT1), dense scrub (DS2 to DS4) and scattered broadleaved trees (SBW1). All birds, eggs and nests are protected from damage and destruction under the Wildlife and Countryside Act 1981, as amended.
- 5.5.2 Fresh rabbit droppings were identified during the field survey (TN2 on Figure 2). Rabbits receive some protection under the Wild Mammals (Protection) Act 1996. This makes it an offence to intentionally cause this species unnecessary suffering by certain methods including crushing and asphyxiation which could occur during site clearance.
- 5.5.3 PPW states that 'the presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat'.
- 5.5.4 The mitigation methods set out in Section 7 should ensure that the development proposals are compliant with the law and PPW with respect to birds and rabbits. It should be noted however that other protected species may be present, as detailed in Section 6.



5.6 Ecological Enhancement

- 5.6.1 Central and local government policy now points towards ecological enhancement on development sites. One of the points of the Policy MD10 of the Deposit LDP of the Vale of Glamorgan states 'Incorporating new biodiversity features either on or off site to enable a net gain in biodiversity interest'. PPW 5.5.2 states that 'Authorities should seek to... where practicable, enhance features of conservation importance'.
- **5.6.2** Recommendations for ecological enhancement are included in Section 7.



6. Potential Further Ecological Issues

6.1 Background

6.1.1 The potential further ecological issues section sets out our assessment of the potential of the site to support protected species and other species of conservation concern which were not detected during the extended Phase 1 habitat survey, either because their presence is seasonal or because specialist survey techniques are required. Further survey work or appropriate mitigation is likely to be required before these issues can be addressed. Further information on the methods of assessment is given in Appendix 2.

6.2 Plants

6.2.1 The desk study returned a record of bee orchid (*Ophrys apifera*) 933 m from the development site. This species is listed as locally important by SEWBReC, however it receives no specific legal protection. It is also protected from trade under the Convention on International Trade in Endangered species. The site contains potential habitat for bee orchid, however the species was not recorded during the survey and it is therefore considered unlikely that the development will have a significant negative impact on the species. Measures to enhance retained habitat for plants are given in Section 7.

6.3 Great crested newt

- 6.3.1 Suitable terrestrial habitat for great crested newt was identified on site in the form of hedges and dense scrub (PH2, PHT1 and DS2 to 4 on Figure 2). Further sub-optimal habitat is present on site in the form of semi-improved grassland (SI3 and 4 on Figure 2). There are no publicly available records of great crested newt (*Triturus cristatus*) within 1 km of the site and no standing water bodies were identified within 500 m of the site. There is, however, a known population of this species on the St. Athan Ministry of Defence (MoD) site to the north of the Vale of Glamorgan railway line; advice has been sought from Natural Resources Wales (NRW) who have advised that due to the distance of the 2014 survey boundary from this population, further survey for great crested newt was not required (Garner, J. pers. comm. 5th March 2015). However now the site boundary is closer to the great crested newt population NRW have been approached for conformation that their advice still stands, at this point a response has not been received.
- 6.3.2 Great crested newt and their habitat are fully protected under European and national legislation. The likelihood of this species being present on site is considered low due to the absence of records and a lack of aquatic habitat within the commuting range of the species. The development proposals should therefore be compliant with the relevant legislation and policy with respect to great crested newt.

6.4 Reptiles

6.4.1 Suitable habitat for reptiles is present on site within semi-improved grassland (SI4 on Figure 2) and in field margins at the base of hedges and dense scrub (PH2, PHT1 and DS2, DS3 and DS4 on Figure 2). Reptiles receive protection under the Wildlife and Countryside Act 1981, as



amended, from killing and injury. All native species of reptile in the UK are listed as Species of Principal Importance in Wales under Section 42 of the NERC Act 2006. Government policy is that local authorities should consider the conservation status of these species when determining the success of planning application. Reptile presence/ absence surveys were undertaken at the site in April 2015.

6.5 Birds

- 6.5.1 The desk study identified three species of bird within the search area. One of the species, barn owl (*Tyto alba*) is listed on Schedule 1 of the Wildlife and Countryside Act 1981, as amended. This gives them protection against disturbance whilst they are breeding, in addition to the protection from killing and injuring afforded to all birds. The barn owl record is 442 m from the perimeter of the site. No suitable breeding habitat for barn owl was identified on site during the field survey, however the broadleaved woodland (BW1 on Figure 2) adjacent to the site could offer potential breeding habitat for barn owl. No further surveys are recommended, but mitigation recommendations are made in Section 7.
- 6.5.2 Records of house sparrow (*Passer domesticus*) and common starling (*Sturnus vulgaris*) were also returned from the desk study. There is the suitable habitat for these two species to breed on site in hedges (PH2 and PHT1 on Figure 2), scattered broadleaved trees (SBW1 on Figure 2) and in woodland adjacent to the site (BW1 on Figure 2). These two species are listed as Species of Principal Importance in Wales under Section 42 of the NERC Act 2006. It is government policy that local planning authorities should consider the conservation of these species when determining the success of planning applications. Recommendations for mitigating impacts on these species, and other bird species, are included in Section 7.

6.6 Mammals

- Two records of bats were returned from the desk study; brown long-eared (*Plecotus auritus*) and soprano pipistrelle (*Pipistrellus pygmaeus*). Suitable habitat for bats may be present in woodland BW1 along the northern boundary of the site (see Figure 2), and suitable foraging and commuting habitat is present on the site for bats around the site boundary. All bats and their roosts are protected under the Wildlife and Countryside Act 1981, as amended and the Conservation of Habitats and Species Regulations 2010, as well as planning policy. Provided the works are confined to the site boundary and the works do not cause any significant disturbance above that regularly caused by the Llantwit Major bypass and the Vale of Glamorgan railway line, the development should not impact upon any bats which may be occupying woodland BW1.
- 6.6.2 There is suitable habitat on site for hazel dormouse (*Muscardinus avellanarius*) in hedges (PH2 and PHT1 on Figure 2) and in woodland (BW1 on Figure 2) adjacent to the site. Dormouse and their habitat are fully protected under the Conservation of Habitats and Species Regulations 2010 and are listed as a Species of Principal Importance in Wales under Section 42 of the NERC Act 2006. It is government policy that local planning authorities protect such species from the adverse effects of development and a license is required whenever disturbance of dormouse or damage of their habitat is likely to occur. Dormouse presence/absence surveys are ongoing at the site until September 2015.



There are records of hedgehog (*Erinaceus europaeus*) 57 m from the site. Habitats on site including hedges (PH2 and PHT1 on Figure 2) and dense scrub (DS2 to DS4 on Figure 2), and adjacent woodland (BW1 on Figure 2) are considered suitable to support this species. Hedgehog is a species of principle importance under the NERC Act 2006, is a priority species in the Vale of Glamorgan Biodiversity Action Plan (2006) and is protected under the Wild Mammals (Protection) Act 1996. Recommendations for mitigating impacts on hedgehog are included in Section 7.



7. Recommendations

7.1 Mitigation

7.1.1 The recommendations for mitigation (including avoidance, mitigation and compensation) measures given in this section are based on the findings of the desk study and extended Phase 1 habitat survey and include precautionary mitigation measures for some species which could occur on site.

Priority Habitats

7.1.2 The western and southern perimeter of the site are comprised of species-poor hedge and species-poor hedges with trees respectively (PH2 and PHT1 on Figure 2). Any hedgerow or section of hedge which is lost as a result of the development should be replaced on a like-for-like basis, as a minimum, in terms of length, in this case approximately 155 m. Replacement hedgerows should comprise at least five woody species per 30 m length and include native species found on this site such as hawthorn, blackthorn, elder and sycamore.

Trees

7.1.3 Trees which are to be retained should be protected to prevent damage during or following development, with a suitable buffer zone to protect the rooting area adjacent to each tree from construction activities. In accordance with British Standard BS5837:2012 'Trees in relation to design, demolition and construction - recommendations', this root protection area is calculated in relation to the circumference of the tree trunk. Further details are regarding the trees on site are provided within the Arboriculture Survey Report (Thomson Ecology Report Ref: ABAW105/009/004/001)

Protected and Priority Species

- 7.1.4 Site clearance of habitats suitable for breeding birds should be undertaken outside the bird breeding season, i.e. site clearance should be undertaken in the period September to February inclusive. If site clearance needs to occur within the bird breeding season, it should be conducted carefully, and the presence of birds and their nests checked for immediately before and throughout the process by a suitably qualified ecologist. If an active nest is discovered, then work in that area should cease and the nest protected until the young have fledged or the nest is no longer active.
- 7.1.5 On site lighting during construction should be directed away from woodland BW1 to minimise light pollution into this habitat which may negatively impact bat species.
- 7.1.6 If barn owls are seen nesting in or flying into woodland BW1, additional precautions will be required. If a barn owl is seen, works should stop immediately and potential nest locations should be checked by a suitably qualified ecologist to ensure that nesting barn owls are not disturbed. Suitable buffer zones would need to be created around nesting locations to protect the birds from disturbance during construction. The size of the buffer zone would depend on the type of construction activity taking place and could potentially be up to 175m (Shawyer 2011).



- 7.1.7 If the rabbit burrows on the site are to be affected during construction, they should be assessed by soft-stopping the holes with grass to determine whether the entrances are in use. If it is possible to show that the burrow is not in use then the burrow can be destroyed without any risk of causing harm to any animal occupying the burrow. If the burrow is in use, it should be dug out with hand tools or a mini-digger under ecological watching brief to ensure that no animals, such as rabbit, are harmed. Such work would not require a license.
- 7.1.8 Dense scrub and any piles of logs or wood should also be taken apart carefully by hand to search for sheltering animals such as hedgehogs, which if found, should be moved to retained areas of suitable habitat such as the scrub and woodland on the northern site boundary.
- 7.1.9 Dormouse and reptile surveys at the site are ongoing. The results of these surveys will inform a mitigation strategy with respect to these species should they be found to be present on site.

7.2 Ecological Enhancements

- 7.2.1 The design of the development should incorporate enhancements for the benefit of wildlife in line with national and local planning policy. Recommendations are:
 - Inclusion of bird nesting opportunities on buildings including self-contained chambers specifically designed for species such as house sparrows;
 - Installation of bat boxes on suitable trees within or adjacent to the site (*i.e.* those with a trunk diameter of at least 20cm);
 - Inclusion of a bat-friendly lighting scheme in order to reduce the impact of the development on light-sensitive species of bat;
 - To ensure that the development does not result in a loss of connectivity around the north perimeter of the site for species such as hedgehog and that retained habitat is maintained. New fences should have a suitable gap to allow hedgehogs to pass through the development. Guidance from the Hedgehog Preservation Society states that a 13x13 cm gap is suitable to allow hedgehog to pass through fences; and
 - The use of native species for any on site planting schemes.



8. Conclusion

- 8.1.1 Four non-statutory sites and two parcels of ancient woodland occur within 2 km of the site. The closest non-statutory site is 1.6 km and the closest ancient woodland is 1.1 km from the site. The development should not adversely impact the conservation status of the designated sites or ancient woodland identified within the desk study.
- 8.1.2 The site supports priority habitats and protected species in the form of hedgerows and breeding birds, to which legislation and planning policy applies. Providing that the recommendations set out in Section 7 are followed, the development should comply with legislation regarding habitats of principal importance and breeding birds.
- 8.1.3 Surveys for reptiles were completed on site in April 2015, with results and recommendations issued in May 2015. Dormouse surveys are ongoing until September 2015. The results of these surveys will provide guidance as to how the development can comply with legislation and planning policy with regards to these species.



9. References

- **9.1.1** British Standard BS5837:2012 *Trees in Relation to Design, Demolition and Construction recommendations.*
- 9.1.2 CIEEM Chartered Institute of Ecology and Environmental Management (2013) Guidelines for Preliminary Ecological Appraisal. Chartered Institute of Ecology and Environmental Management, Winchester.
- 9.1.3 Environment Agency (2012). Working at construction and demolition sites: PPG6 Pollution Prevention Guidelines.
- 9.1.4 Hedgehog Preservation Society (www.britishhedgehogs.org.uk). Find the Gap, (http://www.britishhedgehogs.org.uk/posters/Find_The_Gap.pdf).
- 9.1.5 Institute of Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment.
 E & FN Spon, London.
- 9.1.6 JNCC (2010). Handbook for Phase 1 habitat survey: A technique for environmental audit. Joint Nature Conservancy Committee, Peterborough.
- 9.1.7 Shawyer, C. R. (2011). Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM, Winchester.
- 9.1.8 Stace C (2010). New Flora of the British Isles (third edition). Cambridge University Press, Cambridge.
- 9.1.9 Thomson Ecology (2014). Aboricultural Survey, Boverton, Vale of Glamorgan. Report Reference ABAW105/001/002
- 9.1.10 Thomson Ecology (2014). *Desk Study and Extended Phase 1 Habitat Survey, Boverton, Vale of Glamorgan*. Report Reference: ABAW105/002/002
- 9.1.11 Thomson Ecology (2015). *Arboricultural Survey, Boverton, Vale of Glamorgan*. Report Reference: ABAW105/009/004/001
- 9.1.12 Vale of Glamorgan (2002). Local Biodiversity Action Plan.
- 9.1.13 Vale of Glamorgan (2003). Vale of Glamorgan Deposit Local Development Plan 2011 2026.
- 9.1.14 Welsh Assembly Government (2009). Planning Policy Wales, Technical Advice Note 5: Nature Conservation and Planning. Welsh Assembly Government.



10. Appendix 1 Plant Species and Abundance

Broadleaved Woodland BW1

Common Name	Scientific Name	Abundance
Ash	Fraxinus excelsior	A
Sycamore	Acer pseudoplatanus	F
Bramble	Rubus fruticosus agg.	D (shrub layer)
Hawthorn	Crataegus monogyna	A (shrub layer)
lvy	Hedera helix	D (ground layer)

Dense Scrub DS2

Common Name	Scientific Name	Abundance
Bramble	Rubus fruticosus agg.	D
lvy	Hedera helix	Α
Ash (saplings)	Fraxinus excelsior	R

Dense Scrub DS3

Common Name	Scientific Name	Abundance
Bramble	Rubus fruticosus agg.	D

Dense Scrub DS4

Common Name	Scientific Name	Abundance
Bramble	Rubus fruticosus agg.	D
lvy	Hedera helix	Α
Hawthorn	Crataegus monogyna	R

Scattered Broadleaved Woodland SBW1

Common Name	Scientific Name	Abundance
Sycamore	Acer pseudoplatanus	D
lvy	Hedera helix	Α
Bramble	Rubus fruticosus agg.	O (ground layer)



Semi-Improved Grassland SI3

Common Name	Scientific Name	Abundance
Common bent	Agrostis capillaris	Α
Yorkshire-fog	Holcus lanatus	Α
Cock's-foot	Dactylis glomerata	Α
Dandelion	Taraxacum sp.	Α
Daisy	Bellis perennis	Α
White clover	Trifolium repens	Α
Marsh-marigold	Caltha palustris	Α
Creeping buttercup	Ranunculus repens	0
Broadleaved dock	Rumex obtusifolius	R
Ribwort plantain	Plantago lanceolata	R
Bristly oxtongue	Picris echioides	R
Yarrow	Achillea millefolium	R
Cuckooflower	Cardamine pratensis	R
Spotted medick	Medicago arabica	R

Semi-Improved Grassland SI4

Common Name	Scientific Name	Abundance
Common bent	Agrostis capillaris	Α
Yorkshire-fog	Holcus lanatus	A
Lesser celandine	Ranunculus ficaria	A
Ribwort plantain	Plantago lanceolata	0
Creeping buttercup	Ranunculus repens	0
Meadow foxtail	Alopecurus pratensis	R
Broadleaved dock	Rumex obtusifolius	R
Yarrow	Achillea millefolium	R

Species Poor Hedge PH2

Common Name	Scientific Name	Abundance
Hawthorn	Crataegus monogyna	Α
Bramble	Rubus fruticosus agg.	Α
Elder	Sambucus nigra	F
Blackthorn	Prunus spinosa	R

Species Poor Hedge with Trees PHT1

Common Name	Scientific Name	Abundance
Hawthorn	Crataegus monogyna	Α
Ash	Fraxinus excelsior	F
Sycamore	Acer pseudoplatanus	0
lvy	Hedera helix	D (ground layer)
Bramble	Rubus fruticosus agg.	D (ground layer)



Other Habitat - Target Note 1

Common Name	Scientific Name	Abundance
Bramble	Rubus fruticosus agg.	D
Common nettle	Urtica dioica	Α



11. Appendix 2 Assessment Methodology

11.1 Identification of Legal and Planning Policy Issues in Wales

Scope of Assessment

11.1.1 The first step is to identify any biodiversity features found on the site that are subject to legal or policy controls, as follows:

Designated Sites

11.1.2 The location of the site is compared to the distribution of sites with a statutory or non-statutory nature conservation designation using information derived from the desk study. Consideration is given to designated sites that could be affected directly or indirectly by the proposed development.

Habitats outside Designated Sites

11.1.3 The habitats known to occur on the site are compared to those which receive some protection, in law or policy, outside of designated sites i.e. hedgerows, uncultivated land and semi-natural areas, habitats listed as priorities in the home nation biodiversity strategies, habitats listed as Habitats of Principal Importance for the Conservation of Biodiversity by the Secretary of State and local priority habitats listed as requiring action (formerly under the Local Biodiversity Action Plans).

Ancient Woodland

11.1.4 The ancient woodland inventory is checked to determine whether any known ancient woodland occurs either on the site or nearby.

Protected Species

- 11.1.5 The species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared with those listed in nature conservation legislation i.e. the Wildlife and Countryside Act 1981, as amended, the Conservation (Habitats &c) Regulations 2010.
- 11.1.6 In addition, the species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared with those listed in animal welfare legislation, i.e. the Badgers Act 1992 and the Wild Mammals (Protection) Act 1996.

Priority Species

11.1.7 The species known to occur on the site are compared with those listed as priority species (i.e. Species of Principal Importance for the Conservation of Biodiversity in the country concerned) or those requiring action on the local priority species lists (Local Biodiversity Action Plans).



Other Species of Conservation Concern

11.1.8 The species known to occur on the site are compared with other nature conservation listings, such as red data books.

Invasive Plant Species

11.1.9 The species of plant present on the site are compared with those listed by government agencies as invasive non-natives, with particular attention given to those listed in the Wildlife and Countryside Act 1981, as amended.

Review of Legislation and Policy

11.1.10 If any of the above are found to occur on or near the site and are likely to be affected by the development in any way, the relevant legislation and planning policy (including national, regional, county and borough policies) are examined to determine whether the proposed development is compliant.

Ecological Enhancement

11.1.11 Planning policy generally requires new developments to be enhanced for biodiversity. The existing proposals are considered to determine whether biodiversity enhancements are offered and whether they are adequate to meet the policy requirements. Again, national, regional, county and borough policies are considered.

11.2 Identification of Potential Further Ecological Issues

- 11.2.1 Further ecological issues are those which can not be resolved during the preliminary ecological appraisal for any reason, including the following:
 - The development is near a designated site and consultation with the relevant regulator is required in order to determine whether further assessment is required;
 - Suitable habitat is present on or near the site for a protected species/species of conservation concern and specialist survey techniques are required for their detection;
 - Suitable habitat is present on or near the site for a protected species/species of conservation concern and the extended Phase 1 habitat survey was not undertaken at a suitable time of year for their detection;
 - A protected species/species of conservation concern was found on or near the site but further information on population size or distribution is required in order to resolve any legal and planning policy issues (such as obtaining licences).
- 11.2.2 Discussion of issues raised by 3rd parties, e.g. reports of protected species from the site by local people, may also be discussed under this heading.
- 11.2.3 The desk study is used as a guide to the protected species/species of conservation in the local area, however, the list is not taken to be exhaustive and it is borne in mind that some species may no longer occur in the locality.

Desk Study and Extended Phase 1 Habitat Survey Boverton, Vale of Glamorgan



11.2.4 No attempt is made to evaluate the importance of the site for species not yet confirmed to be on or near the site, nor to discuss the implications for the development if the species were to be found on the site.