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PRELIMINARY ECOLOGICAL APPRAISAL REPORT

LAND WEST OF PANT CELYDD, TAI BACH/MARGAM

CJ CONSTRUCTION LTD

DOCUMENT REF: WWE20362/PEA/REV_A | 01/12/2020

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A	Draft	01/12/2020	Amy Williams Schwartz Ecologist	Alex Wilson MCIEEM Principal Ecologist	Alex Wilson MCIEEM Principal Ecologist
	FINAL	08/12/2020			Alex Wilson MCIEEM Principal Ecologist

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The evidence which we have prepared and provided is true and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

SUMMARY

Purpose	• Wildwood Ecology was commissioned by CJ Construction LTD (the client) to undertake a Preliminary Ecological Appraisal (PEA) of Land west of Pant Celydd, Tai Bach/Margam • The site is the subject of a planning application for the construction of 24 residential dwellings, comprising a mix of flats and houses.
Work undertaken	• A PEA was undertaken consisting of a desk study and field survey undertaken in November 2020 following the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (2013) guidelines and standard Phase 1 Habitat Survey protocol (JNCC, 2010).
Key issues	• The development may result in impacts on wildlife and habitats affecting the following protected species: ◦ Nesting birds • Removal of invasive plant species (Japanese knotweed) present on site will be necessary to prevent its spread across the site. • Specialist advice from an approved environmental contractor must be sought in relation to the lawful removal of Japanese knotweed, the details for its removal should be presented in an appropriate eradication and mitigation plan.

Recommendations	<u>Bats</u> • No further surveys required. • Integrated crevice-type bat boxes included will provide roosting opportunities for bats. <u>Nesting birds</u> • If any further scrub is to be removed, then any vegetation clearance will take place outside of the bird nesting season. In the event that clearance work has to be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a breeding bird survey will be required and must be carried out by a suitably qualified person. Any active nests identified should be protected until the young have fledged. Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - http://www.jncc.gov.uk/page-3614 is involved, compensation for impacts, e.g., loss of nesting sites, should be devised and implemented. • Integrated bird boxes included will provide nesting opportunities for birds. <u>Hedgehogs</u> • No further surveys required. • Chemicals, materials, and fuel will be safely and appropriately stored during construction. • No excavations to be left open without a means of escape, such as a plank set at 30°. • Gaps (13cm x13cm) should be left at the base of all on-site fences/walls including site boundaries to allow passage of hedgehogs across the site. • In addition, cautious working e.g. thoroughly checking and hand-cutting vegetation before machinery is used is advised to prevent killing or injury to hedgehogs. <u>Invertebrates</u> • Planting of native species plugs, trees and hedging, in addition to wildflower areas of seeding for SuDS and open areas will provide enhancements for invertebrates.
Conclusions	• Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impacts upon the key protected species present at the site. • This ecological report will remain valid for a period of 18 months from the date of the last survey – i.e. until May 2022.

CONTENTS

Summary	iii
List of figures	v
List of tables	vi
1 Introduction	1
2 Methodology	3
3 Results	5
4 Interpretation and Assessment	10
5 Conclusions and Recommendations	16
6 References	19
APPENDIX I: PEA plan	20
APPENDIX II: Proposed development plan	21
APPENDIX III: Survey images	24
APPENDIX IV: Species list	26
APPENDIX V: Planning policy and legislation	27

List of figures

Figure 1 – Aerial image of the site (red line shows the site boundary). Image used under licence (©2020 Google). Imagery date 27/06/2018	1
Figure 2 – Distant aerial image of the site (red line shows the site boundary) and surrounding habitat. Image used under licence (©2020 Google). Imagery date 27/06/2018.....	2
Figure 3 - Radiance level at the centre of the site (red pin marked "1") are currently at $14.44 \times 10^{-9} \text{ W/cm}^2 \times \text{sr}$. www.lightpollutionmap.info accessed 23/11/2020. Blue = low levels; green-yellow = moderate; orange/red = high levels.	11
Figure 4 – PEA plan of habitats present on site.	20
Figure 5 - Proposed development plan.	21
Figure 6 - Biodiversity enhancement measures. Red rectangle = house sparrow terrace; yellow rectangle = integrated bat boxes (soffit bat boxes, bat blocks or bat tubes); blue rectangle = swift boxes. Purple shaded areas to be retained as dark corridors (unlit above existing levels). Pale green line – hedgerow/retention of scrub. Green circles – trees.	22
Figure 7 – View towards the north-western corner of the site.	24
Figure 8 – View towards the south-western corner of the site.	24
Figure 9 – Japanese knotweed present on site.....	24
Figure 10 – Fence with Japanese knotweed near the north-western corner of the site.....	24
Figure 11 – Stumps present from recent site clearance.	25
Figure 12 – View north from the southern edge of the site.	25
Figure 13 – View along the southern boundary of the site.	25

Figure 14 – Small area of amenity grassland and temporary fencing along southern edge of development footprint.....	25
Figure 15 - Scrub present at the northern edge of the site.	25
Figure 16 – View of the northern section of development footprint from the small access road.	25

List of tables

Table 1 – Sources of biodiversity and ecological records.	3
Table 2 – Surveyor information.	4
Table 3 – Summary of designated sites in range of the site.	5
Table 4 – Priority and protected species records found in the vicinity of the site within the last 10 years.	6
Table 5 – Summary of weather conditions during the PEA.	8
Table 6 – Habitats and linear features present onsite.....	9
Table 7 – Indicative potential impacts of the proposed development affecting onsite protected species.	13
Table 8 – Recommendations.	16

1 INTRODUCTION

- 1.1 Wildwood Ecology was commissioned by CJ Construction LTD (the client) to undertake a Preliminary Ecological Appraisal (PEA) of Land west of Pant Celydd, Tai Bach/Margam (the site) centred at grid reference SS 78153 87696.

Site description

- 1.2 The aerial image of the site (Figure 1) shows the site to consist of an area of scrub (note: the area within the site boundary has since been cleared of the majority of vegetation) that is situated between a large set of playing fields to the west, and residential housing to the east. The site also consists of paths (including the Wales Coast Path) and a small access road.



Figure 1 – Aerial image of the site (red line shows the site boundary). Image used under licence (©2020 Google). Imagery date 27/06/2018

- 1.3 The distant aerial image of the site (Figure 2) shows the surrounding habitat to consist predominantly to the north, east, and south. The M4 runs further to the east, and a railway mainline and main road (the A4241) to the west of the playing fields.



Figure 2 – Distant aerial image of the site (red line shows the site boundary) and surrounding habitat. Image used under licence (©2020 Google). Imagery date 27/06/2018.

Proposed development

- 1.4 The site is the subject of a planning application for the construction of 24 residential dwellings, comprising a mix of flats and houses.

Purpose of this report

- 1.5 The purpose of this report is to provide sufficient information for the local planning authority to fully assess the potential ecological impacts of the proposed development, or to identify what further information is required before a full assessment can be made.
- 1.6 The result of the PEA has been used to inform whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed development.

2 METHODOLOGY

Desk study

- 2.1 A biodiversity desk study was undertaken in relation to the site in November 2020. The sources consulted and the type of information obtained are summarised in Table 1.

Table 1 – Sources of biodiversity and ecological records.

Source	Information requested (search buffer from site centre/boundary)
South East Wales Biodiversity Records Centre (SEWBReC)	- Protected and priority species (2km) - Sites of local importance/designation (1km)
Multi-Agency Geographic Information for the Countryside (MAGIC) ¹	- International statutory designations (5km) - National statutory designations (2km)

- 2.2 The search buffers are considered to be sufficient to cover the potential zone of influence (Zol²) of the proposed development.
- 2.3 The impact of the proposed development on the biological integrity of any nearby designated protected sites has been fully considered.
- 2.4 No previous survey information was available for the site itself.

Field survey

- 2.5 A field survey was undertaken on the 19th November 2020.
- 2.6 All habitats present within the site with the potential to support rare, protected, or otherwise notable species of flora or fauna (together with any direct signs) were noted.
- 2.7 In the context of this report, rare, protected, or otherwise notable species of flora or fauna were those considered to meet any of the following criteria:
- Species protected by UK or European legislation (see Appendix V);
 - UK Post 2010 UK Biodiversity Framework priority species or Local Biodiversity Action Plan (LBAP) species;
 - Nationally rare or nationally scarce species;
 - Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO/Mammal Society Red or Amber Lists).
- 2.8 A PEA habitat map was drawn up incorporating target notes used to highlight features of particular ecological interest (see Appendix I).
- 2.9 The Wildlife and Countryside Act (1981) as amended, makes it an offence to release or allow to escape into the wild any animal, plant or micro-organism not ordinarily resident in the UK (as listed in Schedule 9 of the Act). Plant species listed in Schedule 9 were searched for during the survey. Examples include species such as Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).

¹ <http://magic.defra.gov.uk/MagicMap.aspx>

² Zol definition – ‘the areas/resources that may be affected by the biophysical changes caused by activities associated with a project’ (CIEEM, 2016).

Surveyor information

2.10 The PEA was undertaken by Amy Williams Schwartz. See Table 2 for further information.

Table 2 – Surveyor information.

Surveyor	Licences	Ecological experience
Amy Williams Schwartz MSc, BSc (Hons.) Ecologist	GCN	Experienced in surveying for a wide range of protected species including great crested newt, reptiles, and bats within a consultancy and volunteer capacity. Recently submitted a PhD thesis on wildlife/road interactions in the UK, and experienced in performing academic ecological research projects, as well as species identification.

Limitations and assumptions

- 2.11 The desk study and field survey will not produce a comprehensive list of plants and animals as this will be limited by factors that influence their presence (e.g. activity and dormancy periods). An assessment can however be made of the habitats within the survey area, their nature conservation value and potential to support protected or priority species.
- 2.12 No other limitations were encountered, or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological value has been made.

3 RESULTS

Desk study

Designated sites (statutory)

- 3.1 There was 1 international statutory designation within 5km of the site and no national statutory designations within 2km (see Table 3).

Designated sites (non-statutory)

- 3.2 There were 2 local non-statutory designations within 1km of the site (see Table 3).

Table 3 – Summary of designated sites in range of the site.

Site name	Designation	Description / key reason for designation	Distance & direction
NPT Watercourses	SINC	Rivers and streams.	Site is part of the SINC
Junction 38 Wetland Complex	SINC	Designated due to the presence of native woodlands, lowland fen, and purple moor-grass and rush pastures.	1.2km SE
Kenfig	SAC, SSSI, NNR	Kenfig is of special interest for its extensive sand dune habitats and standing waters together with a mixture of associated coastal habitats including saltmarsh, intertidal areas, swamp, woodland, and scrub. In addition, the site is of special interest for the assemblages of plants, fungi and invertebrates that are associated with the sand dunes and standing waters.	4.3km S

Priority and protected species

3.3 Table 4 summarises the priority and protected species records found within the local area within the last 10 years.

Table 4 – Priority and protected species records found in the vicinity of the site within the last 10 years.

Protected & priority		# of records (# species)			Further information (from site)
Groups	Species	Onsite	<500m	>500m	
Bats	Common pipistrelle	-	1	2	Nearest record: 0.3km S for a foraging/commuting record.
	Soprano pipistrelle	-	-	1	Nearest record: 2.1km NW for a foraging/commuting record.
	Brown long-eared bat	-	-	1	Nearest record: 2.1km NW for a foraging/commuting record.
	Noctule	-	1	1	Nearest record: 0.3km S for a foraging/commuting record.
	Lesser horseshoe bat	-	-	4	Nearest record: 2.7km SW for a field record. Nearest roost record: 2.7km SW.
	Greater horseshoe bat	-	-	3	Nearest record: 2.5km SW for a field record. Nearest roost record: 2.7km SW.
	TOTALS	-	2 (2)	12 (6)	
Mammals (excluding bats)	European badger	-	1	9	Nearest record: 0.4km E for a roadkill record.
	Polecat	-	-	2	Nearest record: 1.5km SE for a roadkill record.
	Weasel	-	-	1	Nearest record: 1.0km S for a field record.
	West European hedgehog	-	3	11	Nearest record: 0.3km E for a field record.
	Harvest mouse	-	-	1	Nearest record: 1.3km SE for a nest record.
	TOTALS	-	4 (2)	24 (5)	
Reptile	Common lizard	-	-	2	Nearest record: 1.8km SE for a field observation.
	Slow worm	-	-	3	Nearest record: 0.9km NE for a field record.
	Grass snake	-	-	1	Nearest record: 1.3km SE for a field record (freshly sloughed skin).
	TOTALS	-	-	6 (3)	

Birds	Schedule 1	-	-	58 (25)	Nearest record: field observation of a peregrine 0.5km NE. Other Schedule 1 records nearby include: barn owl, bittern, black redstart, black tern, black-necked grebe, brambling, Cetti's warbler, common crossbill, common scoter, Dartford warbler, fieldfare, goshawk, great northern diver, kingfisher, little gull, long-tailed duck, marsh harrier, Mediterranean gull, purple sandpiper, red kite, redwing, scaup, Slavonian grebe, and woodlark.
	Non-schedule 1	-	2 (1)	86 (26)	Nearest record: field observation of a kestrel 0.3km W. Other non-Schedule 1 records nearby include: bar-tailed godwit, black-headed gull, bullfinch, cuckoo, curlew, dunnoek, golden plover, goldeneye, grasshopper warbler, hawfinch, herring gull, house sparrow, lapwing, lesser redpoll, linnet, marsh tit, nightjar, reed bunting, ringed plover, skylark, song thrush, spotted flycatcher, starling, tree pipit, and yellow wagtail.
Invertebrates	Totals:	-	-	47 (13)	Closest record: small heath 0.5km W. Other records include: black oil-beetle, brown-banded carder-bee, buff ermine, cinnabar, dingy skipper, latticed heath, mottled rustic, rosy rustic, small blue, small phoenix, and wall.
Plants	see further info	-	1 (1)	6 (1)	Closest record: bluebell 0.4km SW.
Fish	see further info	-	-	1 (1)	Closest record: field observation brown/sea trout 2.6km SW.

Field survey

Timing and conditions

3.4 Prevailing weather conditions during the field survey are summarised within Table 5.

Table 5 – Summary of weather conditions during the PEA.

Date	Weather conditions			
	Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort scale]	Rain
19/11/2020	9	1	2	Nil

- 3.5 The distribution and extent of habitats observed within the site is illustrated in the PEA plan (see Appendix I). An accompanying species list (including scientific names) can be found in Appendix IV.
- 3.6 The habitats present onsite are described in detail in Table 6 using the standard Phase 1 survey habitat classification hierarchical alphanumeric reference codes (JNCC, 2010).
- 3.7 Please also refer to Table 6 for a list and description of the onsite target notes. The positions for these target notes are highlighted in the PEA plan in Appendix I.
- 3.8 The site was classified according to the following habitat types: scrub (dense/continuous), amenity grassland, fence, wall, bare ground, and other habitats (path and road).

Table 6 – Habitats and linear features present onsite.

Habitat type / Linear feature	Species present	Other observations
<i>A2.1 Scrub (dense/continuous)</i> A small remaining line of scrub is present along a portion of the northern edge of the site.	Bramble, buddleia, Japanese knotweed	- It is likely that the majority of the site was recently scrub before clearance. - Japanese knotweed (Target Note 1) is present in the scrub just outside the site boundary.
<i>J1.2 Amenity grassland</i> Short amenity grassland is present along the eastern edge of the construction footprint, as well as next to adjacent properties.	Hedge bedstraw, ribwort plantain, dandelion, bramble	
<i>J2.4 Fence</i> The eastern boundary of the site is marked by chain-link fencing. Other small areas of fencing (both chain-link and wooden) are present around properties.	-	
<i>J2.5 Wall</i> The southern boundary of the site is marked by a property wall, and other areas of wall are present around adjacent properties.	-	
<i>J4 Bare ground</i> The majority of the construction footprint consists of bare ground following recent clearance.	-	Recently cleared and bulldozed, with evidence of former scrub and scattered trees.
<i>J5 Other habitat</i> Paths (including a section of the Wales Coast Path) and a small access road are also present on site.	-	

Invasive species

- 3.9 Stands of mature Japanese knotweed were identified onsite, near the north-western corner (Target Note 1). Although most of the remaining knotweed is just outside the site boundary, as the site itself was recently cleared of nearly all vegetation, it is highly likely that the stand extended onto the site itself.

Onsite fauna

- 3.10 The presence of the following species was observed or detected around the site during the survey: house sparrow, robin, dunnoek, blackbird, starling, feral pigeon, jackdaw, herring gull, and lesser black-backed gull.

4 INTERPRETATION AND ASSESSMENT

- 4.1 The proposed development will require displacement of onsite habitats and disturbance to their associated features. This section concerns an assessment of ecological impacts resulting from the proposed development.
- 4.2 The following interpretation and assessment is provided to ensure full compliance with both UK and European legislation and both local and national planning policy (see Appendix V).

Designated sites

- 4.3 There were both statutory and non-statutory designated sites identified within the vicinity of the site (see Table 4). The closest statutory site was 4.3km south (Kenfig SAC, SSSI, NNR) and the closest non-statutory site encompassed the site (NPT Watercourses SINCE).
- 4.4 The site is within the boundary of the 'NPT Watercourses' SINCE, but there are no watercourses present on the site itself, so no impacts on the SINCE's designated features are anticipated as a result of the works.

Priority and protected habitats

- 4.5 There were no priority habitats (as listed in Section 7 of the Environment (Wales) Act 2016) present onsite.

Priority and protected species

- 4.6 The following priority species (as listed in Section 7 of the Environment (Wales) Act 2016) were present or likely to be present onsite:

Bats

- 4.7 The local records search returned a number of records for bat species in the vicinity of the site (see Table 5) – the closest records were foraging records 0.3km south for common pipistrelle and noctule. Other bat species records in the area include soprano pipistrelle, brown long-eared, lesser horseshoe, and greater horseshoe.
- 4.8 There are no opportunities for bats to roost on site due to the lack of any buildings or trees, and limited foraging opportunities due to a lack of vegetation that would attract insects. Bats are, however, likely to forage above the scrub adjacent to the site, and could possibly roost in nearby buildings or trees.

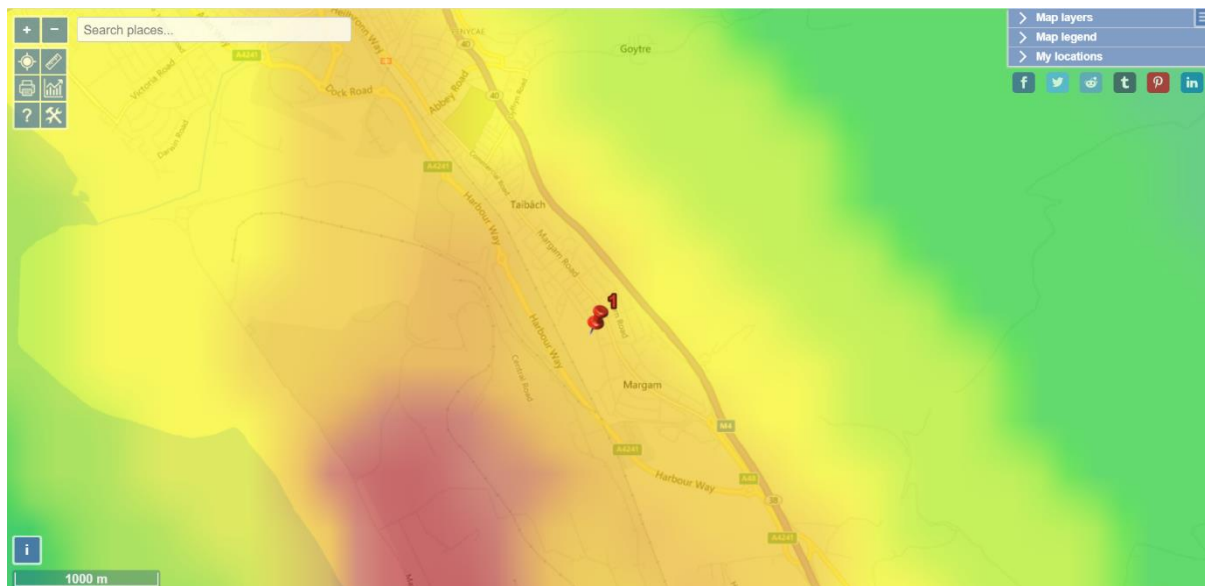


Figure 3 - Radiance level at the centre of the site (red pin marked "1") are currently at $14.44 \times 10^{-9} \text{ W/cm}^2 \times \text{sr}$. www.lightpollutionmap.info accessed 23/11/2020. Blue = low levels; green-yellow = moderate; orange/red = high levels.

4.9 There is unlikely to be a negative impact on bat species as a result of the proposed development.

Common dormouse

4.10 The local records search did not return any records for common dormouse in the vicinity of the site, although a lack of records could be due to under-recording in the area, as opposed to a true absence.

4.11 There is remaining scrub adjacent to the western edge of the site with some linkage to larger areas of scrub (e.g. those running alongside the nearby rail line) which should remain largely unaffected by the proposals, but this is isolated from any connected woodland by roads and railway, the steelworks and the town of Margam.

4.12 There is unlikely to be a negative impact on common dormouse as a result of the proposed development.

European otter

4.13 The local records search did not return any records for European otter in the vicinity of the site, although a lack of records could be due to under-recording in the area, as opposed to a true absence.

4.14 No signs of otter were found onsite, such as spraints, scent or feeding remains that would possibly be found away from waterbodies.

4.15 There are no bodies of water on the site itself – there are some, e.g. a large pond c. 350m south-west, and some ditches and streams in the vicinity. However, the site itself is sandwiched between a highly urban residential area and a large open playing field which is highly disturbed by both people and dogs, and it is therefore highly unlikely that otters would be using the site. With no foraging areas or cover to lay-up.

4.16 There will not be a negative impact on European otter as a result of the proposed development.

Great crested newt

- 4.17 The local records search did not return any records for great crested newt in the vicinity of the site (see Table 5), although a lack of records could be due to under-recording in the area, as opposed to a true absence.
- 4.18 There are no bodies of water on the site itself, but there are ponds and ditches nearby which have the potential to support populations of amphibians (including great crested newt). However, they will be unlikely to utilise the site currently as there is very little suitable terrestrial habitat for them.
- 4.19 There is unlikely to be a negative impact on great crested newt as a result of the proposed development.

Reptiles

- 4.20 The local records search returned a number of records for reptile species in the vicinity of the site (see Table 5) – the closest record was a field record of a slow worm 0.9km north-east of the site. Other reptile records in the vicinity of the site include common lizard and grass snake.
- 4.21 It is likely that the site was suitable for reptiles before vegetation clearance occurred, however the site is now largely bare ground with some small areas of sparse scrub and short amenity grassland, which does not provide adequate cover or opportunities for reptiles to use.
- 4.22 There is unlikely to be a negative impact on reptile species as a result of the proposed development.

Nesting birds

- 4.23 The local records search returned a number of records for nesting bird species in the vicinity of the site, including 25 different Schedule 1 designated species (see Table 5). In addition, several bird species were encountered onsite during the PEA.
- 4.24 Since the site has been cleared of the majority of vegetation, there is little to no habitat remaining that is suitable for nesting birds; there is a small amount of bramble scrub to the north of the site, but the rest is sparsely vegetated, if at all, and the site is too disturbed and bare to be suitable for ground-nesting birds.
- 4.25 However, the remaining corridor of scrub to the immediate west of the site is dense and highly suitable for bird nesting, and there were many birds observed utilising the scrub for foraging and cover, so it is likely that swift recolonisation of the site will occur by birds.
- 4.26 There are no suitable features for use by Schedule 1 species with no suitable habitats to support their nesting.
- 4.27 There may be a negative impact on nesting bird species as a result of the proposed development if further scrub is to be removed.

European badger

- 4.28 The local records search returned a number of records for European badger in the vicinity of the site (see Table 5) – the closest record was a roadkill animal 0.4km east of the site.
- 4.29 No signs of badger were found onsite such as setts, latrines, hairs or tracks.
- 4.30 There are no woodlands close to the site, and the area is urban and frequently disturbed. It is therefore unlikely that badgers would utilise the site for foraging or commuting.

4.31 There will not be a negative impact on European badger as a result of the proposed development.

West European hedgehog

4.32 The local records search returned a number of records for west European hedgehog species in the vicinity of the site (see Table 5) – the closest being a field record 0.3km east of the site.

4.33 There is a corridor of scrub to the west of the site that provides a link to larger areas of scrub nearby (e.g. those running alongside the railway line) which are suitable for hedgehog foraging, commuting, and nesting, and they may also utilise the nearby gardens and other habitats. However, there is only a minimal amount of bramble scrub remaining on the site itself, so it is unlikely that hedgehogs will nest on the site itself.

4.34 The offsite scrub will be retained and so there will continue to be linkages for this species locally.

4.35 There is unlikely to be a negative impact on west European hedgehog as a result of the proposed development due to a minimal amount of suitable nesting habitat and other cover being present on site.

Invertebrates

4.36 The local records search returned a number of records for invertebrate species in the vicinity of the site (see Table 5) – the closest record was for a small heath butterfly 0.5km west.

4.37 The site has already been cleared of the majority of vegetation that would support and enhance invertebrate populations.

4.38 There will not be a negative impact on invertebrate species on the population level as a result of the proposed development.

Invasive species

4.39 There were several stands of Japanese knotweed noted. This is an example of an invasive plant species included in Schedule 9 of the Wildlife and Countryside Act (1981), as amended.

4.40 Most of the Japanese knotweed found to be present during the PEA was just outside of the site boundary (Target Note 1), although as the site itself was recently cleared of nearly all vegetation, it is highly likely that the stand extended onto the site itself and will require appropriate treatment to prevent its spread across the site.

Impacts of proposed development

4.41 Table 7 summarises the impacts of the proposed development on protected species that are or may be present onsite.

Table 7 – Indicative potential impacts of the proposed development affecting onsite protected species.

Species	Negative impact* (plus scale and nature of impact)
Bats	Unlikely to be a negative impact.
Common dormouse	Unlikely to be a negative impact.
European otter	No negative impact.
Great crested newt	Unlikely to be a negative impact.
Reptiles	Unlikely to be a negative impact.

Species	Negative impact* (plus scale and nature of impact)
Nesting birds	May be a negative impact if further scrub is removed in the bird breeding season.
European badger	No negative impact.
West European hedgehog	Unlikely to be a negative impact.
Invertebrates	No negative impact.

*Ultimate assessment of the scale and nature of impacts is dependent upon on final design of proposed development and exact habitats affected.

Assessment of ecosystem resilience

- 4.42 In line with the requirements of the LPA ecologist, an assessment of ecosystem resilience was undertaken. This has considered:
- a) diversity between and within ecosystems
 - b) the connections between and within ecosystems
 - c) the scale of ecosystems
 - d) the condition of ecosystems (including their structure and functioning)
 - e) the adaptability of ecosystems
- 4.43 The site has limited biodiversity present with its bare earth state at present providing a limited resource for wildlife.
- 4.44 There are some linkages retained with a small amount of scrub retained to the north, linking to the offsite sparse scrub to the west. Further scrub is found alongside the playing field to the west also, though it is patchily linked to further scrub habitats through management of gardens and the playing field.
- 4.45 The site is relatively small scale, encompassing an area of approximately 0.5ha. The dominant habitat type is bare earth, with some amenity grassland, hardstanding and scrub. Prior to the recent clearance works, the site was likely to have been comprised of mainly scrub habitats with this including Japanese knotweed. There is mention of trees being present onsite within the pre-app response, however no trees were noted during the survey. Google Earth Street View shows scrub habitat in 2008 with no observable substantial trees onsite.
- 4.46 The current state of the site includes Japanese knotweed which diminishes the current status of the site, due to the potential for this to spread and cause impacts through soil erosion, out-competing native species which would support wildlife, and damage to structures.
- 4.47 With adequate control in place and eradication measures underway, landscaping proposals (including the provision of trees and hedging) will allow for better onsite condition than is currently present.
- 4.48 The bare site offers little structural diversity for use as shelter or commuting and foraging routes. The proposals include trees across the site as stepping stones, new/strengthened northern and southern vegetated linkages which will be of benefit to wildlife, including bats, birds and invertebrates. This will be supported by sensitive lighting to prevent any new lighting causing fragmentation or preventing use of installed features by nocturnal species.

- 4.49 The site includes measures for SuDS to the south of the site, with these to include planting to support invertebrates within any swale or rain garden proposals. These measures will allow for changes in climate in the future and will take into consideration future potential development and run-off over the site.

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 Wildwood Ecology was commissioned to undertake a Preliminary Ecological Appraisal (PEA) of Land west of Pant Celydd, Tai Bach/Margam.
- 5.2 The site is the subject of a planning application for the construction of 24 residential dwellings, comprising a mix of flats and houses.

Designated sites

- 5.3 Designated sites in the vicinity of the site (see Table 4) are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the proposed development.

Protected species and habitats

- 5.4 Recommendations regarding protected species are shown in Table 8 and features noted for enhancement are found in Figure 6.

Table 8 – Recommendations.

Species	Recommendations
Bats	- No further surveys required. - Integrated bat boxes included on 2 new build structures will provide roosting opportunities for bats going forward. - We recommend several types depending on the finish – soffit bat box, Green and Blue bat block, Schwegler 1FN bat tube. - Any bat features will remain unlit, with lighting to meet the guidelines produced by BCT/ILP (2018) i.e. warm white, no upward illumination (set at horizontal), LEDs used with no UV component, and no lighting of vegetated corridors to prevent impacts on potential flight routes. These measures will help to support invertebrates also.
Common dormouse	No further surveys required.
European otter	- No further surveys required. - As a precaution, any deep excavations, if not covered over, will be provided with a means of escape such as a plank set at 30°. Any fuel, chemicals and materials will be safely stored away from animal access.
Herpetofauna	- No further surveys required. - If the land is allowed to recolonise with vegetation, further survey may be required, and so we recommend that the land is maintained in its current bare earth state until construction commences.
Nesting birds	- If any further scrub is to be removed, then any vegetation clearance will take place outside of the bird nesting season. In the event that clearance work has to be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a breeding bird survey will be required and must be carried out by a suitably qualified person. Any active nests identified should be protected until the young have fledged. Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - http://www.jncc.gov.uk/page-3614 is involved, compensation for impacts, e.g., loss of nesting sites, should be devised and implemented. - Integrated bird boxes included on 3 new build structures will provide nesting opportunities for birds.

	We recommend two swift boxes and one house sparrow terrace. The exact specification will depend on the construction type and material, but the swift boxes should be at eaves level at a height of over 5m, with the siting on an east or western elevation. The house sparrow box may be sited at a lower height, and ideally will face scrub vegetation.
European badger	- No further surveys required. - As a precaution, any deep excavations, if not covered over, will be provided with a means of escape such as a plank set at 30°. Any fuel, chemicals and materials will be safely stored away from animal access.
West European hedgehog	- No further surveys required. - Chemicals, materials, and fuel will be safely and appropriately stored during construction. - No excavations to be left open without a means of escape, such as a plank set at 30°. - Gaps (13cm x13cm) should be left at the base of all on-site fences/walls including site boundaries to allow passage of hedgehogs across the site. - In addition, cautious working e.g. thoroughly checking and hand-cutting vegetation before machinery is used is advised to prevent killing or injury to hedgehogs.
Invertebrates	- No further surveys required. - Inclusion of native wildflower seed mixes and plug plants to SuDS areas in line with the type of features to be installed (i.e. rain garden, swale). Grassed areas to be seeded with an Emorsgate EL1 Flowering Lawn (or similar) mix (suitable for regular short mowings). - Native species of local provenance to be used for any planting onsite including trees and hedging.
Invasive non-native species	- Removal of invasive plant species (Japanese knotweed) present on site will be necessary to prevent its spread across the site. - Specialist advice from an approved environmental contractor must be sought in relation to the lawful removal, the details for its removal should be presented in an appropriate eradication and mitigation plan.

Biodiversity enhancement

- 5.5 Local Authorities have a duty (known as the 'Biodiversity and resilience of ecosystems duty') under the [Environment \(Wales\) Act 2016](#) to seek to maintain and *enhance* biodiversity in the exercise of their functions.
- 5.6 Native species of local provenance will be used for any new planting on the site to support The Action Plan for Pollinators in Wales, 2013 (<http://gov.wales/docs/desh/publications/130723pollinator-action-plan-en.pdf>).
- 5.7 Integrated bat boxes and integrated bird boxes will be included to provide roosting and nesting opportunities for bats and birds, respectively.
- 5.8 The existing northern boundary vegetation will be filled in with hedgerow plantings in a double row of whips (spaced to 5 plants per metre). Standard trees will be planted along this edge. All plantings will be native species of local provenance.
- 5.9 Additional standard (again native species) tree planting will occur to the south of the site along the open area demarked for SuDS.

- 5.10 For species, we recommend a mix of goat willow, hazel, alder, hawthorn, guelder rose and wild cherry.
- 5.11 Management of hedgerows (and trees if required) will be carried out outside of the bird nesting season, i.e. between September – February. Cuts to hedgerows will be completed to encourage bushy growth – a reduction of 30% in year one and year two post planting, and then cuts a minimum of 3 years subsequently.
- 5.12 Planting of trees and hedging to be carried out in the winter outside of any frosty periods, with watering as required and if appropriate.
- 5.13 Any stakes or protective measures will be removed once established.

Overall conclusion

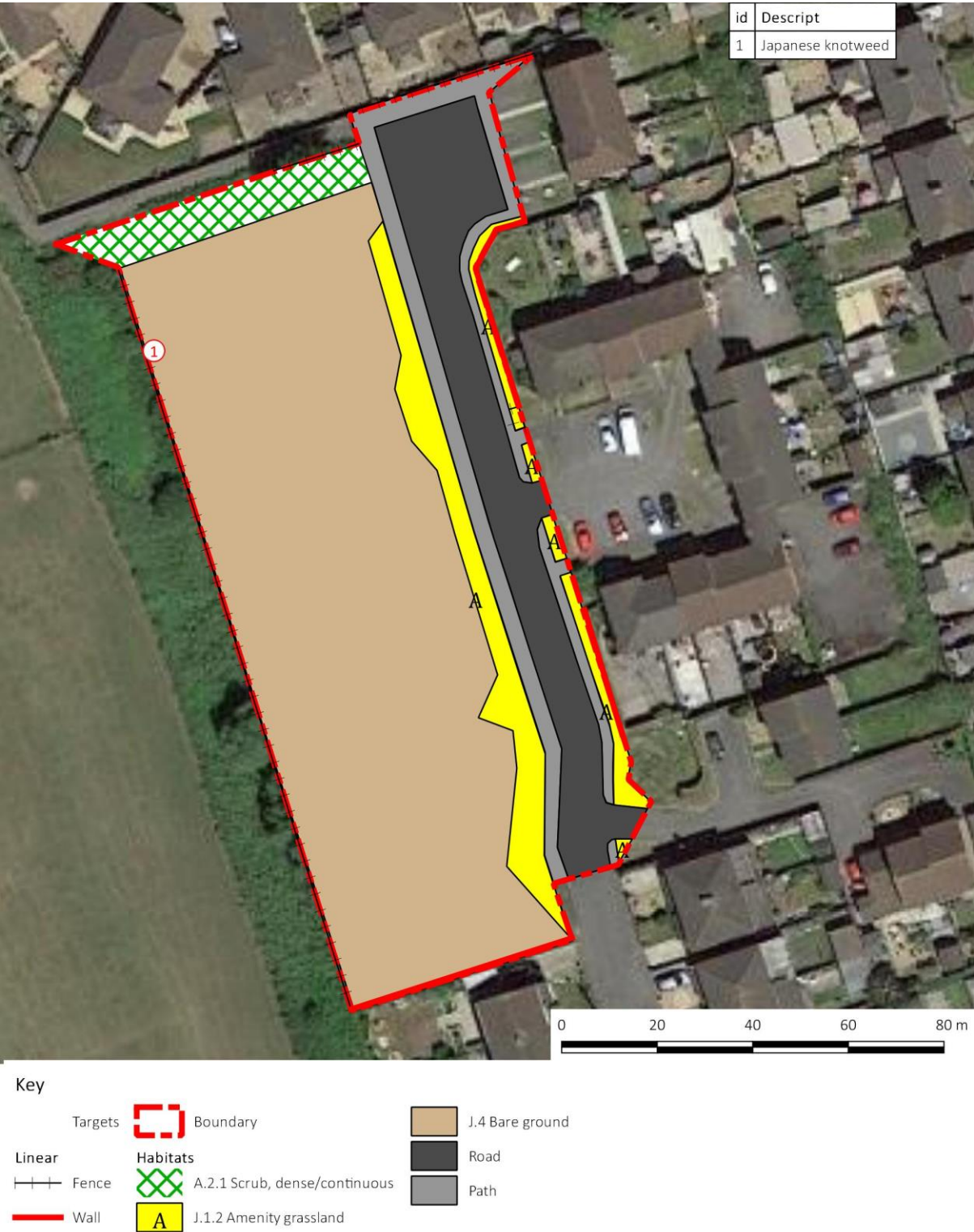
- 5.14 Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impacts upon the key protected species present at the site.

This ecological report will remain valid for a period of 18 months from the date of the last survey - i.e. until May 2022. Further surveys may be required to update the site information if planning is not obtained or works do not commence within this time period.

6 REFERENCES

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APPENDIX I: PEA PLAN



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Figure 4 – PEA plan of habitats present on site.

APPENDIX II: PROPOSED DEVELOPMENT PLAN

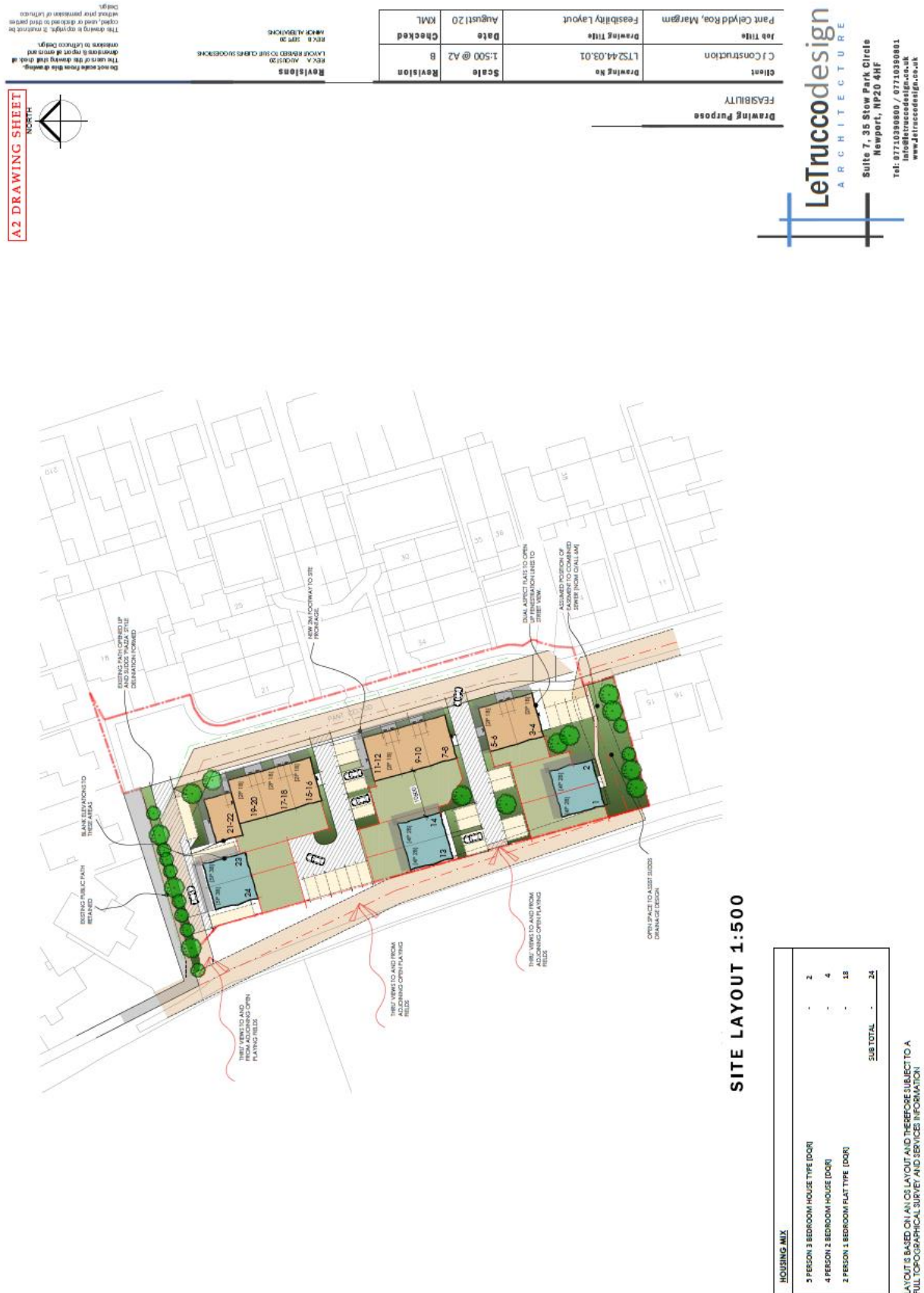


Figure 5 - Proposed development plan.



Figure 6 - Biodiversity enhancement measures. Red rectangle = house sparrow terrace; yellow rectangle = integrated bat boxes (soffit bat boxes, bat blocks or bat tubes); blue rectangle = swift boxes. Purple shaded areas to be retained as dark corridors (unlit above existing levels). Pale green line – hedgerow/retention of scrub. Green circles – trees.

Examples of swift boxes include:

Manthorpe Swift Box – inclusion within brick walls, variable colourways

Schwegler 1A Lightweight Swift Nest Box – designed for use within wall heat insulation systems

Bird Brick Houses Swift Box – available in a range of finishes and bonds, including a non-combustible spec, or unfinished for rendering/incorporation into stonework, variable colourways

Examples of house sparrow boxes include:

Bird Brick House Sparrow Terrace box - available in a range of finishes and bonds, including a non-combustible spec, or unfinished for rendering/incorporation into stonework, variable colourways

Schwegler 1SP – inclusion within block, brick wall

Examples of integrated bat boxes:

Bird Brick House bat box- available in a range of finishes and bonds, including a non-combustible spec, or unfinished for rendering/incorporation into stonework, variable colourways

Soffit bat box – installed within new soffit system allowing bat access into the bat box area

Schwegler 1FN bat tube – suitable for painting over or rendering over to blend the box into a wall

APPENDIX III: SURVEY IMAGES



Figure 7 – View towards the north-western corner of the site.



Figure 8 – View towards the south-western corner of the site.



Figure 9 – Japanese knotweed present on site.



Figure 10 – Fence with Japanese knotweed near the north-western corner of the site.



Figure 11 – Stumps present from recent site clearance.



Figure 12 – View north from the southern edge of the site.



Figure 13 – View along the southern boundary of the site.



Figure 14 – Small area of amenity grassland and temporary fencing along southern edge of development footprint.



Figure 15 - Scrub present at the northern edge of the site.



Figure 16 – View of the northern section of development footprint from the small access road.

APPENDIX IV: SPECIES LIST

To be submitted to the appropriate Local Records Centre

Site Name: Land west of Pant Celydd, Tai Bach/Margam
Grid ref: SS 78153 87696
Provided by: Wildwood Ecology Ltd
Verified by: Amy Williams Schwartz

Common name	Scientific Name (if known)	Number	Comment
Birds			
House sparrow	<i>Passer domesticus</i>		
Robin	<i>Erithacus rubecula</i>		
Dunnock	<i>Prunella modularis</i>		
Blackbird	<i>Turdus merula</i>		
Starling	<i>Sturnus vulgaris</i>		
Feral pigeon	<i>Columba livia domestica</i>	20+	
Jackdaw	<i>Corvus monedula</i>	10+	
Herring gull	<i>Larus argentatus</i>		
Lesser black-backed gull	<i>Larus fuscus</i>		
Plants			
Bramble	<i>Rubus fruticosus</i>		
Buddleia	<i>Buddleia</i> sp.		
Japanese knotweed	<i>Reynoutria japonica</i>		
Hedge bedstraw	<i>Galium mollugo</i>		
Ribwort plantain	<i>Plantago lanceolata</i>		
Dandelion	<i>Taraxacum</i> spp.		

APPENDIX V: PLANNING POLICY AND LEGISLATION

The following local and national planning policy and both primary and European legislation relating to nature conservation and biodiversity status are considered of relevance to the current proposal.

Planning and biodiversity

Local Authorities have a requirement to consider biodiversity and geological conservation issues when determining planning applications under the following planning policies.

Planning Policy Wales (2018) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 10, December 2018) sets out the land use planning policies of the Welsh Government, integrating with the Environment (Wales) Act (2016). The advice contained within Planning Policy Wales (PPW) is supplemented for some subjects by Technical Advice Notes (TANs).

TAN 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':

- Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long term perspective;
- Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
- Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- Ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation;
- Ensure that the range and population of protected species is sustained;
- Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered;

Legislation and biodiversity

Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2017 (as amended). These two main pieces of legislation have been consulted when writing this report and are therefore described in detail within this section.

Other relevant legislation and policy documents that have been consulted include – The Environment (Wales) Act 2016; The Countryside and Rights of Way Act 2000; The Hedgerow Regulations 1997; Biodiversity Action Plans, both UK-wide (UKBAP) and Local plans (LBAPs), and The National Planning Policy Framework (NPPF).

There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Environment (Wales) Act 2016

Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.

Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

Section 7 replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) [WCA] is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife.

Most European Protected Species offences are now covered under the Conservation of Habitats and Species Regulations (as amended) (see below), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.

The WCA prohibits the release to the wild of non-native animal species listed on Schedule 9 (e.g. Signal Crayfish and American Mink). It also prohibits planting in the wild of plants listed in Schedule 9 (e.g. Japanese Knotweed and Rhododendron ponticum) or otherwise deliberately causing them to grow in the wild. This is to prevent the release of invasive non-native species that could threaten our native wildlife.

The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.

There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonably avoided, or actions within the living areas of a dwelling house.

Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example, scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence – e.g. bat surveys.

Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (which are the principal means by which the EC Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.

These regulations provide for the:

- protection of European Protected Species [EPS] (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts, and otters;
- designation and protection of domestic and European Sites - e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]; and
- adaptation of planning controls for the protection of such sites and species.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function – i.e. when determining a planning application.

There is no defence that an act was the incidental and unavoidable result of a lawful activity.

Licensing: it is possible for actions which would otherwise be an offence under the Regulations to be undertaken under licence issued by the proper authority. For example, where a European Protected Species has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

Species protection

The following protected species information is relevant to this report. Legislation is only discussed in relation to planning and development; other offences may exist.

Amphibians

The common frog, common toad, common newt, and palmate newt receive limited protection under the Wildlife and Countryside Act 1981 (as amended), making it illegal to sell or trade them.

The Great Crested Newt and Natterjack Toad are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended) as European Protected Species. It is illegal to:

- Deliberately capture, injure, kill, or disturb either species,
- Intentionally or recklessly obstruct access to any structure/place used for shelter or protection, or
- Damage or destroy a breeding site or resting place.

Badger

Badgers are protected in the UK under the Protection of Badgers Act 1992. Under the act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat³ a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett⁴ (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain; it is not intended to prevent properly authorised development.

Bats

All British bats are classed as European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence *inter alia* to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place of a bat.

In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any bat uses for shelter or protection; or
- Disturb any bat while occupying a structure or place which it uses for that purpose.

If proposed development work is likely to destroy or disturb bats or their roosts, then a licence will need to be obtained from Natural England, which would be subject to appropriate measures to safeguard bats.

Birds

In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended). All wild birds, their nests and eggs are protected it an offence to:

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

The law covers all species of wild birds including common, pest or opportunistic species.

Special protection against disturbance during the breeding season is also afforded to those species listed on Schedule 1 of the Act.

³ The intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting “cruel ill treatment” of a Badger

⁴ A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Advice issued by Natural England (June 2009) is that a sett is protected as long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger.

Dormice

The common dormouse is classed as a European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence *inter alia* to:

- Deliberately capture, injure, or kill a dormouse;
- Deliberately disturb dormice;
- Damage or destroy a breeding site or resting place of a dormouse.

In addition, the dormouse is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which a dormouse uses for shelter or protection; or
- Disturb a dormouse while occupying a structure or place which it uses for that shelter or protection.

Otters

The European Otter, *Lutra lutra* is a European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence *inter alia* to:

- deliberately capture, injure or kill any wild otter;
- deliberately disturb wild otters;
- damage or destroy a breeding site or resting place of an otter.

In addition, the otter is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- disturbs an otter while it is occupying a structure or place which it uses for shelter or protection; or
- obstructs access to such a place.

If proposed development work is likely to destroy or disturb otters or their resting places, then a licence will need to be obtained from Natural Resource Wales, which would be subject to appropriate measures to safeguard otters.

Reptiles

Adders, slow worms, grass snakes and common lizards are protected against killing and injuring under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it illegal to intentionally kill or injure a common reptile. As a result, reptiles must be removed from areas of development and relocated onto suitable release sites before any site works can commence.

Smooth snakes and sand lizards are European Protected Species under schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). This makes it illegal to carry out the following activities:

- Deliberately or recklessly disturb, capture or kill these animals;
- Deliberately or recklessly take or destroy eggs of these animals;
- Damage or destroy a breeding site or resting place of such a wild animal; or

Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal, or any part of, or anything derived from such a wild animal.