DAVID CLEMENTS ECOLOGY LTD

LAND AT HAYESWOOD ROAD, SULLY

PRELIMINARY ECOLOGICAL APPRAISAL

December 2024

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SURVEYOR(S):	**Name:**	**Role:**	**Survey date(s):**
	J Lee S Phillips	PEA Survey PEA Survey	26/09/2024 26/09/2024

CONTENTS

SUMMARY

- The site consists of a fenced area of land adjacent to Hayes Wood Road, Sully. The main habitat is semi-improved neutral grassland, with denser tall ruderal vegetation, scrub, and tree species along the site boundary.
- The site does not contain or lie immediately adjacent to any statutory sites of biodiversity interest, such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) etc. One statutory Site of Special Scientific Interest (SSSI), Hayes Point to Bendrick Rock, lies within 500m to the south of the site. This 1.8km stretch of coastline includes two regionally important geodiversity sites (RIGS): Bendrick Rock and Coast Section East of Barry.
- There are four non-statutory Sites of Importance for Nature Conservation (SINCs) within 2km of the site, notified by Vale of Glamorgan County Borough.
- Details of redevelopment plans are currently unknown.
- The site does not contain any habitats which qualify under Section 7 of the Environment (Wales) Act 2016 (EWA) as 'habitats of principal importance for conservation in Wales (also referred to as 'priority habitats.'
- No specially protected, 'Section 7' (i.e. 'Priority') or nationally rare or scarce plant species are recorded to date.
- Specially protected fauna species are likely to comprise common nesting birds, common reptiles and amphibians. Bats are also likely to forage over the site and it is possible that badger and otter traverse the site adventitiously on occasion.
- Resident 'Section 7' (i.e. 'Priority') fauna species are likely to comprise nesting bird species and hedgehog.

Evaluation

- The site as a whole is currently assessed as being of no greater than local value for wildlife.

Implications of the Development Proposals

- The main impact of the development would comprise the loss of the grassland and dense scrub habitat, although these habitats are considered to be of no greater than local value. The development does, however, offer an opportunity for ecological enhancement.
- Based on the information currently available, the habitats on site which would be lost to facilitate the development are of no greater than local value, and therefore the impacts are unlikely to have significance beyond the local context and would be of low significance.
- The increase in disturbance from noise and potentially lighting during works could affect the activity of a range of nocturnal fauna, potentially including foraging bats, as well as other mammals, birds, and invertebrates such as moths. However, it should be possible to minimise such impacts through appropriate mitigation.
- Ecological enhancements must be included as part of the development to incorporate green infrastructure which seeks to deliver a net benefit for biodiversity. Appropriate mitigation measures are recommended along with opportunities for the enhancement of the site for wildlife.
- The dense scrub, grassland banks, and brash piles on site provide suitable habitat for common reptiles and amphibians. Given previous records of a large slow-worm population in the adjacent area, and the presence of suitable habitat on site and nearby, a reptile presence or likely absence

survey is required. This will determine whether specific reptile mitigation is necessary for the development.

- On current evidence, the development of this site in the manner proposed is not considered likely to be unacceptably constrained by biodiversity and nature conservation issues, provided suitable mitigation measures are followed.

1.0 INTRODUCTION

Report prepared by:

1.1 David Clements Ecology Ltd (DCE), Cardiff

On behalf of:

1.2 AECOM

Instructed via:

1.3 Paula Masoliver & Coner Berner (AECOM)

Site Name

1.4 Land at Hayes wood Road, Sully, Vale of Glamorgan, CF64 5SE

OS Grid Reference

1.5 Centre of site: ST 13819 67636

Elevation & Aspect

1.6 The site is approximately 1.8 hectares in extent and lies 15m ASL.

Location **See Plan 1**

1.7 The site lies on the edge of a small industrial estate outside the a village of Sully, Vale of Glamorgan, South Wales.

Brief Description of Site

1.8 The site consists of a fenced area of land adjacent to Hayeswood Road, Sully. The main habitat is semi-improved neutral grassland, with denser tall ruderal vegetation, scrub, and tree species along the site boundary.

Site Context

1.9 The site is located in a suburban/industrial area approximately 2.1km east of the town of Barry. It is bordered by a metal fence along the northern and eastern boundaries and a wire fence along the remaining boundaries. Beyond the northern boundary lies Hayeswood Road, with a residential estate adjacent. Hayes Lane and an industrial trading estate is situated to the west, and woodland borders the site to the south and east. In the wider environs comprise the South Wales Heritage Coastline 550m to the south, with additional woodland and agricultural land to the east, Barry docklands to the west, and the Dow Silicones chemical plant to the north.

Designated Wildlife Sites in the Vicinity **See Plan 1 & Appendix 1**

Statutory Sites Data from South East Wales Biodiversity Records Centre (SEWBReC)

1.10 The site does not contain or lie immediately adjacent to any statutory sites of biodiversity interest, such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) etc. One statutory Site of Special Scientific Interest (SSSI),

Hayes Point to Bendrick Rock, lies within 500m to the south of the site. This 1.8km stretch of coastline includes two regionally important geodiversity sites (RIGS): Bendrick Rock and Coast Section East of Barry (LERC ref: 0245-535).

Non-statutory Sites Data from South East Wales Biodiversity Records Centre (SEWBReC)

1.2 The site does not contain or lie immediately adjacent to any non-statutory sites of nature conservation interest; however, the following Sites of Importance for Nature Conservation (SINCs) are located within 2km of the site:

- Cadoxton River, 383m to the east;
- Cadoxton Wetlands, 1.1km to the east;
- North of North Road, 1.5km away and
- Nells Point East, 1.7km to the southwest;

The site is part of the Wales B-Line Network, a Buglife initiative that identifies opportunities for restoring and connecting habitats, such as meadows, to create a wildflower-rich network across the countryside, towns, and cities. Additionally, there is a parcel of ancient semi-natural woodland located 32m away.

Site Development Proposals

1.12 The site is proposed for redevelopment.

Purpose of Surveys

1.13 The present survey comprises a baseline Extended Phase 1 ecological assessment (also known as a Preliminary Ecological Appraisal or PEA) carried out in order to establish the present ecological interests of the site and an assessment of the likely ecological impacts of the proposed development. Recommendations are made regarding suitable mitigation and compensation measures, together with any requirements for further, additional survey where necessary.

Existing Records Data from South East Wales Biodiversity Records Centre (SEWBReC)

1.14 In addition to original survey, a data trawl was carried out with the local environmental records centre (LERC) in order to obtain access to any existing ecological information or records from the site. Data was provided via Aderyn, which is the main repository for biodiversity and wildlife records in the region (LERC Ref: 8548/0245-535). Relevant records are referred to in the descriptive text.

Survey Methods **See Appendix 2**

1.15 The survey was conducted on 26th September 2024 in suitable weather (sunny and bright with scattered showers) The site was subject to an Extended Phase 1 ecological survey carried out in accordance with the recommendations of the Chartered Institute of Ecology and Environmental Management (CIEEM 2013) and based on a custom modification of the Phase 1 Habitat Survey methodology developed by the former Nature Conservancy Council (JNCC 2010). The habitats and features of the site were assessed against the criteria set out at Appendix 2.

Survey Constraints

1.16 The survey was conducted in late September, toward the end of the optimal season for such surveys, and the field appears to be regularly managed. While this timing is not expected to have significantly affected the reliability of the survey and assessment, it is worth noting that some plant species may have been missed during identification.

2.0 SURVEY RESULTS

A Habitats & Vegetation

See Plan 2

A2.1 Lists of the plant species recorded are given at Appendix 2.

Priority & Notable Habitats

See Appendix 1

A2.2 The site includes a large area of semi-improved neutral grassland. However this appears to be species-poor and is not considered to be a 'habitat of principal importance for conservation of biological diversity in Wales', as listed under Section 7 of the Environment Wales Act 20161 (see WBP 2016a).

Protected, Priority & Notable Plant Species

See Appendix 1

A2.3 There are no recent records of protected priority (i.e., "species of principal importance for the conservation of biodiversity in Wales" as listed under Section 7 of the Environment (Wales) Act 2016), or nationally rare or scarce plant species at the site, and none were observed during the survey.

There are two recent records of pyramidal orchid (*Anacamptis pyramidalis*) in close proximity to the site (LERC Ref: 8548/0245-535). Although this species is not included in the Vale of Glamorgan Local Biodiversity Action Plan (LBAP), it is listed in the LBAPs of three other Welsh counties.

Invasive Non-native Plant Species

See Appendix 1

A2.4 No invasive non-native plant species, as listed on Schedule 9 of the Wildlife & Countryside Act 1981 (which prohibits their spread in the open countryside), have been recorded on the site to date.

The nearest record is of Japanese knotweed (*Fallopia japonica*), identified in 1985 at Cadoxton Ponds, approximately 993m away.

Description of the Habitats & Vegetation

See Plan 2

Scrub with Scattered Trees

A2.5 The eastern boundary of the site comprises a ditch containing dense bramble scrub and tall ruderal vegetation, interspersed with scattered mature trees and saplings. The ground vegetation is dominated by bramble (*Rubus fruticosus* agg.) and ivy (*Hedera helix*), with abundant buddleia (*Buddleja davidii*), dogwood (*Cornus sanguinea)*, herb Robert (*Geranium robertianum*), and willowherb (*Epilobium sp*.).

Trees along the boundary include mature oak (*Quercus sp*.) and sycamore (*Acer pseudoplatanus*), as well as immature cherry (*Prunus sp.*), sycamore, blackthorn (*Prunus spinosa*), and hawthorn (*Crataegus monogyna*). On the other side of the metal fence boundary, broadleaved woodland is present, with some vegetation overhanging into the site.

Bare Ground with Scattered Scrub

A2.6 The western boundary of the site consists of a shallow ditch approximately 1.5m wide, situated below the grassland bank perimeter of the grassland field. The ditch has a rubble substrate that has been colonised by scattered scrub species including abundant herb Robert, bramble, bindweed (*Convolvulus sp.*), prickly sowthistle (*Sonchus asper*), and hogweed (*Heracleum sphondylium*)

Semi-improved Neutral Grassland

A2.7 The central and main area of the site is composed of regularly managed, semi-improved neutral grassland, with a sward height of approximately 8-10cm at the time of survey. The grassland is generally flat, aside from the slight bank that borders the perimeter of the site at all elevations.

The main grassland area comprises abundant Yorkshire fog (*Holcus lanatus*), false oat grass (*Arrhenatherum elatius*), cocksfoot (*Dactylis glomerata*), bent grass (*Agrostis sp.*), self-heal (*Prunella vulgaris*), and ground ivy (*Glechoma hederacea*). Frequent species within the sward include yarrow (*Achillea millefolium*), creeping cinquefoil (*Potentilla reptans*), and dandelion (*Taraxacum officinale*). Occasional clumps of hogweed, wild fennel (*Foeniculum vulgare*), agrimony (*Agrimonia sp.*), and red bartsia (*Odontites vernus*) occur within the sward, along with rare marsh woundwort (*Stachys palustris*) and black medick (*Medicago lupulina*).

The bank at the perimeter of the grassland features a longer sward, approximately 30–50cm in height. Vegetation includes abundant false oat grass, herb Robert, nettle (*Urtica dioica*), and ribwort plantain (*Plantago lanceolata*), with frequent white clover (*Trifolium repens*) and ground ivy (*Glechoma hederacea*). Occasionally present within the sward are bristly oxtongue (*Helminthotheca echioides*), wild carrot (*Daucus carota*), ragwort (*Jacobaea vulgaris*), medick species (*Medicago sp.*), germander speedwell (*Veronica chamaedrys*), and dock (*Rumex sp.*).

In the southwestern corner of the grassland lies an area of fly-tipped waste, now overgrown with unmanaged tall ruderal vegetation (see Target Note 1).

In the southwestern corner of the grassland (see Target Note 2), there is an area of tree stumps, bramble scrub, and willow saplings (*Salix sp.*), which is assessed as having potential to support hibernating reptiles.

Additionally, a rocky area in the northern part of the site (see Target Note 3) may also provide hibernation opportunities for reptiles, although the rocks are possibly too compacted to create ideal conditions.

Bare Ground

A2.8 The southwestern edge of the site consists predominantly of bare ground with a rubble substrate. Some vegetation has begun to colonise this area, including herb Robert, ribwort plantain, and white clover.

Tall Ruderal

A2.9 The shallow ditch behind the northern bank of the site supports less managed tall ruderal vegetation, with a sward height of 40–50cm, and mosaic bramble scrub. Abundant species include buddleia bristly oxtongue, and nettle. Occasional species include knapweed (*Centaurea sp.*), teasel (*Dipsacus fullonum*), common toadflax (*Linaria vulgaris*), hedge mustard (*Sisymbrium officinale*), bindweed, mugwort (*Artemisia vulgaris*), and black bryony (*Tamus communis*).

Fence

A2.10 A metal fence forms the site at all elevations, aside from the eastern elevation which is bounded by a wire fence.

B Fauna

B2.1 Fauna species recorded from the site are listed at Appendix 2.

Protected, Priority & Notable Fauna Species **See Appendix 1**

B2.2 Several protected species, including resident "priority species" listed under Section 7 of the Environment (Wales) Act 2016 as of principal importance for biodiversity conservation in Wales, have been recorded on site. Other protected species, such as hedgehogs, may also be present due to the availability of suitable habitat, even if they have not been previously recorded.

Description of the Fauna

Bats

B2.3 All species of bat and their roosting sites are protected under the Conservation of Habitats & Species Regulations 2017 (the 'Habitats Regulations' – See Appendix 1). The roosting places used by bats are also protected against unauthorised disturbance or obstruction under the amended Wildlife & Countryside Act 1981. Several bats are listed as priorities for conservation under Section 7 of the Environment (Wales) Act 2016.

Data Search Results (LERC ref: 0245-535):
The data search did not return any bat records directly from the site; however, foraging records for common and soprano pipistrelle and noctule bats exist for Cadoxton Ponds, Bendricks Point, and woodland edges along the southern part of Hayes Lane, approximately 140m away. Additionally, a foraging brown long-eared bat was recorded about 1.2km from the site, and a bat roost of an undetermined species is recorded approximately 1.6km away.

Previous Surveys of Adjacent Land (DCE 2018, 2021):
In 2018, bat activity surveys conducted on land directly north of the site, prior to a housing development, recorded low activity levels. Three bat species—common pipistrelle, soprano pipistrelle, and noctule—were observed commuting or foraging overhead.

Otter

B2.4 Otter is also a 'Habitats Regulations species' afforded legal protection which is similar to that of bats (see above). It is also a 'Section 7' listed species.

The closest otter record is from 2023 at Cadoxton Ponds, approximately 1km north of the site (LERC ref: 0245-535). The site lacks suitable otter habitat, making their presence unlikely.

Dormouse

B2.5 Dormouse is also a 'Habitats Regulations species' afforded legal protection which is similar to that of bats (see above). It is also a 'Section 7' listed species.

In South Wales, dormouse is found at low densities in various scrubland and habitats that provide a closed canopy with good connectivity to other semi-natural areas. The data search did not return any records of this species within 2 km of the site boundary (LERC ref: 0245-535), and there is limited canopy continuity with the surrounding habitats. Therefore, it is unlikely that dormouse is present on the site.

Badger

B2.6 Badger is fully protected in the UK under the terms of the Protection of Badgers Act 1992, which includes its nesting sites (see Appendix 1). Current interpretation of the Act also infers a degree of protection to areas which are of key significance to foraging badgers.

There are two records of badger within 2km of the site, the nearest being 1.7km away (LERC ref: 0245-535).

No evidence of badger activity was noted during the survey. Given the fencing around the site boundary, it is highly unlikely the species would traverse the site. Additionally, due to a lack of suitable cover, the site's habitats are not considered suitable for sett construction.

Other 'Section 7' Listed Mammals

B2.7 There is a single record for polecat, a 'Section 7' species, approximately 450m from the site (LERC ref: 0245-535). While it is possible that this species could occasionally visit the site, it is considered unlikely due to the intact fencing around the boundary.

There are several records of hedgehog, also a 'Section 7' species, within 2km of the site (LERC ref: 0245-535). The closest record is 332m away, and it is considered likely that this species occurs within suitable habitats within the site itself.

Other Mammals

B2.8 Fox, shrew (likely common shrew), short-tailed field vole were previously observed on land adjacent to this site (DCE 2018). There are no additional mammal records in the wider area considered priority species for conservation, though other common mammals are likely present. These could include synanthropic species, such as house mouse and brown rat, as well as open-country species, including mole.

Birds

B2.9 Nearly all bird species are protected from killing or injury, and this protection extends to their nests, eggs, and young. Some especially rare species receive enhanced protection and may not be disturbed while nesting without authorisation (known as 'Schedule 1 species'—see Appendix 1). Many bird species are classified with 'red list' (high) or 'amber list' (medium) conservation status in Wales and/or the wider UK (RSPB 2022; 2021). Several of these species are also listed as being of 'principal importance' for conservation in Wales.

Data Search Results (LERC ref: 0245-535):

The data search identified several bird species of conservation significance flying over the site and in the wider area, including linnet, black-headed gull, house martin, swallow, firecrest, Cetti's warbler, skylark, kestrel, merlin, hobby, honey buzzard, turtle dove, redwing, fieldfare, peregrine falcon, curlew, whimbrel, and brambling. Although a number of these are 'Schedule 1' and/or 'Section 7' species, none are likely to breed within the site itself.

Previous Surveys of Adjacent Land (DCE 2018, 2021):

Several species were recorded in both 2018 and 2021 surveys, most notably a barn owl observed foraging above the current site—a 'Schedule 1' listed species. Other notable species included song thrush, herring gull, and dunnock; all 'Section 7' listed as birds of principal importance for conservation in Wales.

The RSPB's list categorises birds of conservation concern in Wales and the UK by green, amber, and red list status, reflecting increasing conservation concern. Of the species recorded adjacent to the site, whitethroat and herring gull are red-listed due to declines in range and breeding populations. Amber-listed species include dunnock, swift, song thrush, long-tailed tit, grey heron, sparrowhawk, and lesser black-backed gull (LBB), the latter's population being internationally significant.

Other typical tree and scrub-nesting species, such as blackcap, blackbird, blue tit, wren, and wood pigeon, were also recorded, all of which could potentially nest on the current site.

Reptiles

B2.10 Four native reptile species occur in South Wales, comprising common lizard, slow-worm, adder and grass snake. These four species are all afforded so-called 'partial protection' under the amended Wildlife & Countryside Act 1981, which prohibits the deliberate killing or injury of individuals. However, there is no direct protection extended to the habitats which support these species. All four common reptiles are listed as 'Section 7' species in Wales.

Data Search Results (LERC ref: 0245-535):

Slow-worm is recorded at several locations within a 2km radius, with the closest record from land near Hayes Lane, within 200m of the site. Other records include Bendrick Road, Cadoxton Ponds, and Barry Quay, where a large breeding population (over 20 individuals) is present. Common lizards are also recorded at Cadoxton Ponds and Barry Docks. No records of adder or grass snake were found within 2km of the site.

Previous Survey of Adjacent Land (DCE 2018, 2021):

The previous survey of land directly adjacent to the current site recorded an "exceptional breeding population" (Froglife 1999) of slow-worm, with a peak of 57 individuals (adults and juveniles) observed on 7th June 2018. A reptile method statement was followed during the subsequent site clearance, including a comprehensive Fence, Trap, and Clear (FTC) operation, although only two slow worms were found during this operation. The slow worms were translocated to Cosmeston Lakes Country Park, which was assessed as a suitable receptor site.

Amphibians

B2.11 Five native amphibian species occur in South Wales, comprising common frog, common toad, smooth newt, palmate newt and great crested newt (GCN). The latter species is a nationally rare and declining 'Habitats Regulations' species afforded full protection under UK legislation, which also extends to the habitats which support it. The other four species are not afforded any direct statutory protection, other than with respect to trade. Common toad is listed as a 'Section 7' species in Wales (see Appendix 1).

Data Search Results (LERC ref: 0245-535):
There are numerous records of common toad and common frog within 2km of the site, mostly from Cadoxton Ponds; however, the closest record is of a common toad approximately 300m away. There are also records for smooth and palmate newt around 1.5km from the site, at Barry Docks and Cadoxton Ponds, respectively. There are no records of the rare and protected great crested newt within the 2km search boundary.

Previous Survey of Adjacent Land (DCE 2018, 2021):
A single common toad was observed twice during the reptile refugia survey on the land adjacent to this site. There are no records of amphibians from the site itself, and it appears to lack waterbodies that would support breeding amphibians. However, other common species could potentially use the site's terrestrial habitats for foraging, commuting, or overwintering. The occurrence of the specially protected great crested newt is considered unlikely.

Invertebrates

B2.12 Upwards of 37,000 species of terrestrial and freshwater invertebrates are recorded in Britain, including around 29,000 insect species, occurring in every available habitat. About 40 invertebrate species are afforded full statutory protection in the UK, and many other species are accorded varying levels of conservation significance (see Appendix 1).

Data Search Results (LERC ref: 0245-535):
There are no recorded invertebrates from the site itself. However, the data search returned records of local invertebrates within the 2km search area, including the hoverfly (*Volucella inanis*), garden tiger moth (*Arctia caja*), six-belted clearwing moth (*Bembecia ichneumoniformis*), and speckled bush-cricket (*Leptophyes punctatissima*), some of which could potentially occur on the site. The search also yielded records of rare, scarce, and declining species associated with grasslands and disturbed open ground (brownfield) habitats surrounding the site. These include 'Section 7' and Vale of Glamorgan LBAP species, such as the brown-banded carder bee (*Bombus humilis*), shrill carder bee (*Bombus sylvarum*), moss carder bee (*Bombus muscorum*), red-shanked carder bee (*Bombus ruderarius*), dingy skipper (*Erynnis tages*), grayling (*Hipparchia semele*), and cinnabar (*Tyria jacobaeae*). While less likely, some species, such as cinnabar, could occur on the site itself.

Previous Survey of Adjacent Land (DCE 2018, 2021):
During survey visits of the land adjacent to the site from April to September 2018, multiple invertebrate species were recorded. Eleven butterfly species were observed, including red admiral (*Vanessa atalanta*), comma (*Polygonia c-album*), small tortoiseshell (*Aglais urticae)*, peacock *(Aglais io*), common blue (*Polyommatus icarus*), brimstone (*Gonepteryx rhamni*), orange tip (*Anthocharis cardamines*), gatekeeper (*Pyronia tithonus*), ringlet (*Aphantopus hyperantus*), meadow brown (*Maniola jurtina*),

and speckled wood (*Pararge aegeria)*. Other recorded invertebrates included the emperor dragonfly (*Anax imperator)*, honeybee (*Apis mellifera*), and 7-spot ladybird (*Coccinella septempunctata*).

Current Survey:

During the current survey visit, a small copper butterfly (*Lycaena phlaeas*) and a common carder bee (*Bombus pascuorum*) were observed foraging within the vegetation on site.

3.0 ECOLOGICAL ASSESSMENT OF THE SITE

See Plan 3

Ecological Site Value

3.1 There is currently no nationally accepted system for the categorising of sites or features of biodiversity significance below the level of national value, criteria for which are set out by the former Nature Conservancy Council (1989, as amended by JNCC 2019 *et seq*). However, guidance for the identification of non-statutory sites of county significance (ie SINCs) is available in this instance (WBP 2008).

For the purposes of this study the habitats and features of the site have therefore been evaluated and graded in accordance with the categories set out in Appendix 2.

International, National & County Value

3.2 No parts of the site are considered to fall into any of these categories.

District Value

3.3 No parts of the site are considered to fall into this category.

High Local / Local Value

3.4 The site as a whole is currently assessed as being of no more than Local value for wildlife. The grassland, tall ruderal vegetation, scrub, and mature trees are likely to support a range of common and widespread bird species, foraging bats, common invertebrates, and slow-worm. While some of these species have local conservation importance, none are of exceptional rarity or notable significance.

Negligible Value

3.5 The area of bare ground / rubble is considered to be of Negligible value to wildlife.

4.0 IMPACTS OF DEVELOPMENT

Development Proposals

4.1 The site is proposed for redevelopment, although the specific details of the planned works are currently unknown.

Potential Impacts of Development

4.2 The main impact of the development would comprise the loss of the majority of grassland and dense scrub habitat, although these habitats are considered to be of no greater than local value. It is recommended that the scrub and mature trees at the southern site boundary be retained and protected. The development does, however, offer an opportunity for ecological enhancement.

Significance of Development Impacts

4.3 Any redevelopment work affecting the scrub and mature trees on site could negatively impact nesting birds if not properly mitigated. There is also potential for harm to protected species and their habitats. Further surveys are needed to determine whether slow worms are present on the site. This species could be found in the grassland banks and ruderal habitats and would be impacted by the loss of these habitats. The removal of trees and the ruderal/bramble mosaic habitat could disrupt nesting birds. Foraging and commuting bats also utilise the existing habitats. The vegetation at the site boundaries provides suitable habitat for foraging bats and hibernating reptiles and should ideally be retained and protected.

Although the affected habitats are of no greater than local value, the impacts are unlikely to extend beyond the local context and are therefore considered to be of low significance.

Any increase in artificial lighting at night could affect the activity of nocturnal fauna, potentially including foraging bats, as well as other mammals, and invertebrates such as moths, however, any negative impacts can be reduced through mitigation.

Mitigation & Compensation Measures

4.4 The coastal SSSIs to the south of the site and Cadoxton River, Cadoxton Wetlands and Cadoxton Ponds SINCs to the north and west are unlikely to be affected by the proposed development, as the land between the site and these sites has already been developed for residential/ commercial use. However, depending on works, a pollution prevention strategy is likely to be needed to prevent any run-off from the site into nearby water courses.

If reptiles are present on site, reptile mitigation, including a Fence, Trap and Clear (FTC) methodology may be required, and suitable hibernacula should not be removed or disturbed during the hibernation period.

Provided that the mature trees and scrub at the site periphery are retained and protected, no other mitigation or compensation measures are likely to be required in respect of the habitat loss/disturbance, given the low ecological value of the affected habitats.

Appropriate ecological enhancements must be included as part of the development to incorporate green infrastructure which seeks to deliver a net benefit for biodiversity. In addition, the site design must address ecosystem resilience by maintaining or improving habitat connectivity of the site with the wider environs.

Summary: Acceptability of Development Proposals

4.5 Based on the available evidence, it is concluded that the site could be redeveloped without significant adverse impacts on wildlife, provided adequate mitigation measures are implemented. These measures should compensate for the loss of existing habitat and minimise impacts on protected species. Consequently, the proposed redevelopment is not considered to be unacceptably constrained by biodiversity concerns.

Recommendations for mitigation and ecological enhancements are provided.

5.0 RECOMMENDATIONS

Statutory Obligations

5.1 Any development must seek to avoid causing adverse impacts to protected species which may occur on the site.

- Nesting birds
- Hedgehog
- Common reptiles and amphibians
- Otter and badger

A Wildlife Protection Plan should be prepared once the design and timing of the proposed development is confirmed to set out how species and retained habitats on site will be protected. A summary of the mitigation likely to be required is provided below.

Nesting Birds: The trees and dense scrub on site provide suitable habitat for nesting birds. Any tree and scrub clearance should be undertaken outside the bird nesting season, which runs approximately from March to August. Conducting works outside this period minimises the risk of causing harm or disturbance to nesting birds, which is a statutory obligation. If this is not possible, a nesting bird check must be carried out by a suitably qualified ecologist immediately prior to the work, with active nests protected along with a suitable buffer protected until the young have fledged.

Hedgehog: As the dense scrub and brash piles on site could provide nesting habitat for hedgehog, the following precautions should be followed to minimise risk of harm to this species.

The potential presence of hibernating hedgehog must be considered if clearing dense scrub from November to March, dense vegetation should not be cut lower than 200mm during this period. Consideration for the potential presence of hedgehogs must also be taken from March to October when clearing suitable nesting habitat such as piles of deadwood/leaves, areas of long grass and dense vegetation (PTES 2019), with vegetation cleared in two stages to minimise the risk of harm to hedgehog.

Any open pipework with an outside diameter of greater than 120 mm must be covered at the end of each workday to prevent hedgehogs and other small mammals entering/becoming trapped. In addition, any trenches >0.5m in depth will either be covered at night or will be left with a gently sloped plank (or similar) running from the bottom to the surface to act as an escape ramp for any fauna which may fall in.

Any fencing required within the site boundary, both during and post-construction, should allow access underneath for small animals, such as hedgehogs to move through the site. Gaps of 130mm x 130mm should be provided every 3m in the boundary fencing, and in exterior

boundary enclosure to provide selective passage for hedgehogs.

Common Reptiles & Amphibians: The dense scrub, grassland banks, and brash piles on site provide suitable habitat for common reptiles and amphibians. Given previous records of a large slow-worm population in the adjacent area, and the presence of suitable habitat on site and nearby, a reptile presence or likely absence survey is required. This will determine whether specific reptile mitigation is necessary for the development.

If reptiles are found on site, a reptile mitigation strategy will be required, which may require Fence, Trap and Clear (FTC).

It is considered unlikely that the specially protected great crested newt is present on site, as there are no records within 2 km of the area.

Otter & Badger: Although the likelihood of otter and badger being present on site is low, given that they are both mobile species, it is possible that they may occasionally traverse the site on an adventitious basis.

To minimise the risk of harm to these species, the following precautions should be followed during development works: gaps underneath site fencing of at least 250mm high to allow passage by otter, badger and other fauna; no night-time working or lighting of the site at night, any trenches to be covered overnight or otherwise left with a means of escape; and any exposed pipes/trenches to be checked each morning before starting construction activities.

Other Recommendations

5.2 Contractors should be provided with a 'toolbox talk' at the outset of site clearance and construction works setting out the known and possible habitat and species constraints, and the mitigation measures which are required. The toolbox talk should also set out procedures to be followed in the event that there are unexpected encounters with protected species etc. All contractors carrying out dense bramble scrub or tree clearance works (if appropriate), should be warned of the possible presence of nesting birds, common reptiles/ amphibians and hedgehog and of their protected status. It should be clearly understood that in the event of any being found during works, all works should cease in the affected area until appropriate expert advice has been sought.

Building compounds and storage areas should not be sited on areas of habitat which are to be retained and should be suitably fenced and bunded where they stand adjacent to semi-natural habitats. Similarly, no equipment, machinery or materials should be brought into the retained areas, or stored under retained tree canopies, or ground levels altered within these clearly demarcated zones of protection.

Careful consideration should be given to the use of artificial lighting within the developed site, as this can adversely affect activity by a variety of fauna, particularly foraging bats, nesting birds and invertebrates. Lighting of the constructed site should be designed in accordance with the guidance provided by the Bat Conservation Trust (2023) to minimise nocturnal light levels received by the retained habitats and new habitats, of value to wildlife.

Depending on the works, a pollution prevention plan will need to be put in place to avoid the release of polluting substances into any nearby watercourses, such as the Taff and Rhondda Rivers SINC, or any other retained habitats.

Green Infrastructure

5.3 In accordance with current planning policies in Wales, development must seek to maintain and enhance biodiversity to deliver a net benefit for biodiversity and improve the resilience of ecosystems. The stepwise approach or mitigation hierarchy should be followed to ensure that any adverse ecological effects are firstly avoided, then minimized, mitigated and as a last resort compensated for.

All planning applications must provide a Green Infrastructure Statement, to demonstrate that the development has both maintained and enhanced biodiversity, and ideally contributed to ecological connectivity through green infrastructure.

Recommendations for appropriate ecological enhancements are provided to incorporate green infrastructure which seeks to deliver a net benefit for biodiversity and to maintain habitat connectivity of the site with the wider environs, see Section 5.4 below.

Enhancement Measures

5.4 New areas of species-rich grassland should be created within the development to replace the grassland lost. Top-soil stripped from the central grassland on site should be retained and re-used in these landscaped areas to maintain the local seed bank, with no pre-seeding fertiliser to be applied. These areas could also be enriched by the planting or reseeding with wildflower grassland species (see Appendix 4).

Bat-boxes and bird-boxes should be installed in suitable locations around the site. These should be located on suitable trees and buildings within the site and sited in such a manner that unauthorised persons and predators such as cats cannot access them. Bat-boxes should be at least 4m (preferably 4-5m) and bird-boxes at least 2m (preferably 2-3) above ground-level.

The entrances to bat-boxes should not be illuminated at night, nor obscured by overhanging boughs or canopy vegetation etc. Bat and bird boxes should preferably be of 'woodcrete' or similar long-lasting construction rather than timber, since these are much more robust and longer-lived than traditional wooden boxes and require less after-maintenance. Suitable examples are shown at Appendix 5.

General Provisions

5.5 All trees to be retained should be treated in accordance with BS5837 (2012) Guidance on the Treatment of Trees in Relation to Design, Demolition & Construction, with the appropriate designation and fencing of Root Protection Zones (RPZs) etc. Any trees removed should be replaced on a like-for-like basis as a minimum.

Any new plantings of trees or shrubs should be primarily of native species which are indigenous to the location. Any new grassland areas should seek to reproduce those which would naturally occur in the vicinity and should comprise at least 15-20% of appropriate native broadleaved herbs sown within a matrix of non-competitive, fine-leaved native grass species, see Appendix 4. All native planting or seed stock should be of Welsh, or at least UK, provenance.

The services of an appropriately qualified and licensed ecologist should be available on an 'on-call' basis throughout the entire development period in order to deal promptly with any protected species or other ecological matters which may arise during the clearance and construction works.

Further Surveys

5.6 A reptile presence or likely absence survey is required to determine whether specific reptile mitigation is necessary for the development.

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APPENDIX 1: STATUTORY & POLICY FRAMEWORK FOR BIODIVERSITY

The following sets out a brief review of the key legal and key policy elements affecting wildlife species in Wales. It is not intended to be comprehensive and only the most recent and relevant articles are mentioned.

The review sets out our interpretation and understanding of key elements of the legislation and policy insofar as they apply to typical planning and development operations, based on our experience. The interpretations given below are for guidance only, however, and do not constitute legal advice. In all cases the reader is advised to consult the original legal and policy documents for the definitive wordings, and where necessary to obtain qualified legal advice.

The Conservation of Habitats & Species Regulations 2017 ('Habitats Regulations')

The Habitats Regulations were originally enacted to implement the obligations of ***EU Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora & Fauna*** (the 'EU Habitats Directive') into British law, and in so doing created the highest tier of legal protection for wildlife species in UK, the so-called 'European Protected Species' (EPS). These species include, *inter alia*:

- All species of bats
- Hazel dormouse ('dormouse')
- Eurasian Otter ('otter')
- Great crested newt
- Natterjack toad
- Sand lizard
- Smooth snake

The Regulations also cover a small number of very rare plant species such as lady's-slipper orchid.

The requirements of the Habitats Regulations were given continuance following the UK's withdrawal from the EU ('Brexit') in 2019 by the ***Conservation of Habitats & Species (Amendment) (EU Exit) Regulations 2019***, and therefore continue to apply unchanged at the time of writing. EPSs are hereafter referred to as 'Habitats Regulations Species' (HRS) to reflect this change in the legislative framework.

In summary, and *inter alia*, all HRS animal species are protected as individuals against deliberate killing, injury, capture or disturbance, at all stages of their lives, and in addition, the places used for breeding or resting by these species may not be damaged or destroyed. Breeding and resting places are also afforded protection against deliberate disturbance, or the blocking of access, under the amended ***Wildlife & Countryside Act 1981*** (see below). HRS plant species may not be picked (in any part), collected, uprooted or destroyed at any point in their life cycle.

The main exceptions to these provisions are either that the activities were authorised by the relevant statutory body (in this case, Natural Resources Wales – NRW) and, where required, were carried out under a licence ('derogation') obtained in advance. Offences which occur as an incidental result of some other otherwise lawful activity (ie 'accidental' or 'unintentional' offences) are not exempt under the Regulations but may be viewed more leniently where (a) they could not reasonably have been foreseen, (b) the activity causing the offence ceased as soon as the presence of HRS, or their habitats, became apparent, and (c) NRW were informed immediately and appropriate expert advice sought to evaluate and remediate the situation.

Bats

The legal protection covers any place or feature which is used for resting during the day ('day roosts') and also any places which are used for hibernation in winter. Places which are used for short periods of resting at night ('night roosts'), or as customary stations for the handling and processing of food ('feeding perches'), are not usually accorded the same level of importance as day roosts and hibernation sites, although they are in fact still subject to the Regulations and in some cases may be deemed important enough to be accorded full protection.

Dormouse

Protection is usually considered to extend to any habitat, such as woodland, scrub, hedgerows and bramble stands etc, where dormouse occurs and where nests may therefore be present. The continuity of the habitats occupied by dormouse with other areas of similar connecting habitat may also be a matter for statutory consideration under the Regulations.

Otter

Protection is usually considered to extend to any watercourse or waterbody which is used by otter, and which may therefore contain nests or resting places ('holts'). It also extends to any areas of terrestrial habitat away from watercourses and waterbodies where these also contain holts, and the connectivity of such places with the occupied aquatic habitats may also be a matter for statutory consideration under the Regulations.

Great crested newt

Protection is usually considered to extend to any watercourse or waterbody which is occupied by great crested newt (GCN), and which may therefore be used for breeding. It also extends to any terrestrial habitats used by GCN during its non-aquatic phases, especially those places which are used for hibernation in winter or sheltering during adverse weather conditions. Typically the latter will be physically connected to a breeding pond (or ponds) but may lie anything up to

2km away. At minimum, a terrestrial hinterland of 10m width around the edges of a breeding pond will be considered to be protected where this contains habitats which are suitable for terrestrial use by GCN.

Protected Sites

The Habitats Regulations also set out to protect certain rare and valuable habitat types, such as ancient semi-natural woodland, heathland, bogs and species-rich grasslands etc. This is done through the identification and designation of specifically protected sites known as Special Areas of Conservation (SACs). SACs are subject to the highest level of legal protection against damage, destruction, degradation or harmful uses or activities which is available in the UK. All such sites are also designated as Sites of Special Scientific Interest (SSSIs) under the Wildlife & Countryside Act 1981 (see below).

The Wildlife & Countryside Act 1981 (WCA)

This much amended and complex piece of legislation is the means by which protection is afforded at the next tier of species below the HRSs and is the primary source of protection in respect of birds. Species afforded protection under the WCA include, *inter alia*:

- All species of birds
- Water vole
- Red squirrel
- Common reptiles (ie slow-worm, common lizard, grass snake, adder)
- Marsh fritillary butterfly
- Pearl mussel
- Various plants, ferns, mosses, liverworts, lichens & fungi

Birds

In summary, all wild birds are protected against deliberate killing, injury or capture, and this protection extends to their eggs and young. It is also illegal to destroy, damage or remove the nest of any bird either while it is in use or being built. For certain rare species which are listed on Schedule 1 of the Act the protections go even further: it is illegal to disturb any Schedule 1 bird species, either deliberately or unintentionally ('recklessly'), while it is building a nest or actually nesting, or to disturb the dependant young of any such bird. Exceptions to these general principles affect some specific game, food or pest species, but only under certain specified and defined conditions and usually in accordance with a licence issued in advance by NRW.

Actions which cause an adverse impact to birds or their nests which arise as an incidental result of some otherwise lawful activity, such as the trimming or removal of hedges, trees or scrub for example, would not constitute an offence provided that the activity could not have reasonably been avoided. As a general result of the provisions of the WCA therefore, the deliberate destruction, removal or clearance of habitats containing nesting birds would almost invariably constitute an offence because the impacts to birds could reasonably have been foreseen and avoided, for example by carrying out the clearance activities at a time when birds are not nesting.

Except under certain specified conditions, the clearance or removal of nests or nesting habitats is generally not illegal if it is carried out at a time of year when no birds are nesting or if it can otherwise be shown that no nesting birds are present at the time (e.g. by means of advance survey).

Activities which might adversely affect Schedule 1 birds such as barn owl, kingfisher or birds of prey can be undertaken provided a licence has been obtained in advance from NRW and appropriate mitigation measures are put in place.

Animals Other than Birds

Animals other than birds, such as water vole, red squirrel, marsh fritillary and pearl mussel for example, are listed on Schedule 5 of the Act, and are afforded protection which is generally similar to that of HRSs. The individual animals may not be deliberately killed, injured or captured, in any of their life stages, and it is also illegal to destroy or damage any places which these animals use for shelter or protection, or to disturb an animal using such a place or obstruct access to it, whether deliberately or unintentionally.

As with birds, impacts to Schedule 5 animals which arise as an incidental result of an otherwise lawful activity do not constitute an offence provided those impacts could not have reasonably been foreseen and avoided.

Water Vole & Red Squirrel

In the case of nest-making animals such as water vole and red squirrel, protection will normally be taken to extend to the entirety of any suitable, or potentially suitable, nesting or sheltering habitats which are occupied by a residential population of the species concerned. The connectivity of these habitats with other similar habitats in the wider vicinity may also be a matter for statutory consideration.

Marsh Fritillary Butterfly & Pearl Mussel

For species which do not make nests, protection will normally be taken to extend to the entirety of any habitats which are suitable, or potentially suitable, for breeding or sheltering and which are occupied by a residential population of the species concerned. The connectivity of these habitats with other similar habitats in the wider vicinity may also be a matter for statutory consideration.

Common Reptiles
Slow-worm, common lizard, grass snake and adder are afforded so-called 'partial protection' under the WCA. The animals themselves may not be deliberately killed or injured, but they may be captured and the habitats which support them are not afforded any direct protection in themselves.

As with other Schedule 5 animals, adverse impacts which arise as an incidental result of an otherwise lawful activity do not necessarily constitute an offence provided those impacts could not reasonably have been foreseen and avoided. Under current interpretation this is taken to mean that the destruction or clearance of habitats which are known to support common reptiles, or where such reptiles could reasonably be expected to occur, without the implementation of measures to minimise or avoid causing incidental death or injury to reptiles, would be likely to constitute an offence.

Protected Plants
About 180 species of plants, ferns, mosses, liverworts, lichens and fungi are afforded protection under Schedule 8 the WCA. These may not be intentionally picked (in any part), uprooted or destroyed, unless authorised under licence. As with Schedule 5 animals, adverse impacts which arise as an incidental result of an otherwise lawful activity do not necessarily constitute an offence provided those impacts could not reasonably have been foreseen and avoided.

Protected Sites
The WCA also sets out mechanisms for the protection and conservation of habitats and features of high biodiversity value through the identification and designation of specifically protected sites. These include Sites of Special Scientific Interest (SSSIs), National and Local Nature Reserves (NNRs/LNRs) and National Parks etc. Such sites are subject to wide-ranging legal protection against damage, destruction, degradation, exploitation or other harmful activities or uses.

The Protection of Badgers Act 1992 (PBA)
Badger is protected primarily in relation to animal welfare and cruelty, as a result of illegal persecution. Badgers are protected against intentional killing, injury, 'cruel ill-treatment' or capture in all of their life stages. Their nesting burrows ('setts') may not be destroyed, damaged, dug into or obstructed and it is illegal to disturb a badger while occupying a sett, either deliberately or 'recklessly' (i.e. unintentionally as a result of failure to take due care). The PBA is also taken to confer a degree of protection to foraging areas which are critical to the support of a badger family-group ('clan') where the loss of this would otherwise result in their starvation. As with other protected species, adverse actions which arise as a result of an otherwise lawful activity do not constitute an offence provided those impacts could not reasonably have been foreseen and avoided. A number of specified exemptions are provided in connection with certain legal farming and fox-hunting activities which may impact badgers.

The protection of setts only applies to those which are in 'current use' and not to those which are abandoned. However, many badger setts are occupied only intermittently throughout the year and therefore 'current use' should not be taken to imply *continuous* use.

Actions to remove badger setts on development sites may be undertaken under a licence issued by NRW and in accordance with agreed mitigation measures, and licences may also be issued to allow the removal or exclusion of badgers from sites. Such operations may not occur during the breeding ('close') season, however, which is usually taken to be between December to June inclusive, due to the risk of trapping lactating females and young below ground.

Environment (Wales) Act 2016 (EWA)
Section 7 of the EWA contains the most recent lists of species and habitats which are considered to be of 'principal importance for the conservation of biodiversity in Wales'. These lists replaced those which were previously given under s.42 of the ***Natural Environment & Rural Communities Act 2006***, which in turn replaced the 'Priority Species' listed under the UK Biodiversity Action Plan of 1995 and its Welsh equivalent. Species listed under s.7 of the EWA include many of those afforded protection under the articles described above, including otter, dormouse, water vole, nesting birds, common reptiles and great crested newt, for example, as well as additional species such as:

- W. European hedgehog ('hedgehog')
- Brown hare
- Harvest mouse
- Polecat
- European eel ('eel')
- Atlantic salmon ('salmon')
- Brown & sea trout
- Garden tiger moth
- Cinnabar moth
- Small heath butterfly
- Hornet robberfly
- Shrill carder bee
- Flat sedge
- Wild chamomile
- Common toad

and many other plant and animal species which are not otherwise specifically afforded statutory protection for wildlife conservation reasons (although they may in some cases be afforded some element of protection for other reasons, such as animal welfare or cruelty).

Section 7 of the EWA also identifies a number of habitat-types which are of 'principal value for conservation in Wales'. These include:

- Lowland mixed deciduous woodland
- Hedgerows
- Lowland meadows
- Upland flushes, fens & swamps
- Purple moor-grass & rush-pastures (in Wales, often referred to as 'rhos pastures')

- Reedbeds
- Blanket bog
- Sand dunes
- Rivers & ponds

Although not protected as such, the EWA requires statutory authorities to take such 'Section 7' species and habitats into account when considering the management and development of sites in Wales, and to take "*all reasonable steps*" to maintain and enhance their populations. The presence of such species and habitats is a 'material consideration' on sites where planning permission is sought for development. ***Planning Policy Wales (2021)*** (PPW, 11th Edition) requires Local Planning Authorities (LPAs) to have regard to the presence of 'Section 7' species and habitats and to avoid adverse impacts as a result of development wherever possible. Developments which are considered essential in the public interest must seek to minimise adverse impacts and incorporate appropriate mitigation/compensation measures where adverse impacts cannot be avoided.

Sites of Importance for Nature Conservation (SINCs)

SINCs comprise so-called 'third-tier' sites which have been identified as having biodiversity conservation value at the sub-national (ie regional, county, county-borough or local) level. They are usually identified by the LPA, often in collaboration with other local conservation bodies such as the county Wildlife Trust and may appear under a range of different names (eg 'Wildlife Site', 'County Wildlife Site' etc). Such sites are not specifically protected in law (i.e. they are 'non-statutory') but they are recognised as a 'material consideration' on sites where planning permission is sought for development. As with 'Section 7' habitats, PPW (2021) requires LPAs to avoid adverse impacts as a result of development wherever possible, and developments which are considered essential in the public interest must incorporate appropriate mitigation/compensation measures where adverse impacts cannot be avoided.

Invasive Non-native Species

Schedule 9 of the ***Wildlife & Countryside Act (1981)*** sets out lists of plant and fauna species which are subject to statutory regulation in Britain. These currently include plants such as Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and wall cotoneaster (*Cotoneaster horizontalis*), and animals such as signal crayfish, aquarium terrapin, Asian hornet and coypu. The lists are updated regularly.

The import, sale, transport, cultivation and keeping of these species is generally forbidden except under a specially issued licence, and it is illegal to allow these species to escape or spread into the wild, either deliberately or by accident. This includes any part and all life-stages of the species concerned. Earthworks which might accidentally result in the transfer of Schedule 9 plant material to another location or which encourages it to spread either within or off the site, for example, is forbidden. Any works on a site which might involve contamination by, and potential spread of, any of the listed species must be carried out under an approved method statement designed to prevent them being accidentally dispersed off of or within the site, and which preferably results in their complete elimination wherever this is possible.

APPENDIX 2: DEFINITIONS OF SITE VALUE

International Value

Site carrying an internationally recognised designation such as Ramsar Site, World Heritage Site, Special Protection Area, Special Area of Conservation, Biosphere Reserve or Biogenetic Reserve, or:

Habitats: site supporting nationally significant areas of habitats of defined international community interest.
Species: site supporting nationally significant populations of species of defined international community interest.

National Value

Site meeting published Site of Special Scientific Interest (SSSI) designation criteria (NCC 1989; JNCC 2019 *et seq*), whether so designated or not.

Habitats: site supporting nationally significant areas of habitats of defined national rarity or interest.
Species: site supporting nationally significant populations or communities of UK Red Data Book, Nationally Notable or protected species (other than badger).

County Value

Site identified as a County Wildlife Site (CWS), Site of Importance to Nature Conservation (SINC) or similar at the county level (ie greater than district, borough or city level); meeting published CWS designation criteria (where these exist), but falling short of SSSI designation criteria, whether designated as a CWS or not.

Habitats: site supporting good examples of nationally threatened habitats, or extensive areas of habitats which are rare or unique in the county.
Species: site supporting large or strong populations or communities of nationally rare or protected species (other than badger), or of species which are rare in the county and uncommon nationally.

District Value

Sites failing to meet County Value criteria, but nevertheless supporting habitats, species or communities which appreciably enrich the ecological resource of the county, especially by virtue of their size or extent.

Habitats: sites supporting habitats uncommon in the county, small but unmodified fragments of nationally threatened habitats, or comprising extensive areas or systems of semi-natural habitats.
Species: sites supporting nationally rare species, or strong populations or communities of regionally uncommon species, which would not otherwise be present (ie they are critically dependent on the site characteristics).

Local Value

Habitats which fail to meet District Value criteria, but which appreciably enrich the ecological resource of the locality. This category can be further divided into:

- **High Local Value**: just failing to meet District Value Criteria; supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area.

- **Local Value**: sites which are of ecological value only in the context of their immediate surroundings. Rare or uncommon species may occur but are not restricted to the site or critically dependent upon it for their survival in the area.

Sites failing to meet any of the above can be considered as being of '**Negligible**' ecological value.

APPENDIX 3: SPECIES RECORDED FROM THE SITE

Plant Species

All species recorded by DCE 2024, unless otherwise indicated:

Species	Common Name	Indicator Species							Other comments
		AM	W	NG	CG	AG	MG	PIL	
Trees & Scrub									
Acer pseudoplatanus	sycamore								
Buddleja davidii	buddleia								
Cornus sanguinea	dogwood								
Crataegus monogyna	hawthorn								
Prunus sp.	cherry								
Prunus spinosa	blackthorn								
Quercus robur	oak								
Rubus fruticosus	bramble								
Herbaceous Plants									
Agrimonia sp.	agrimony sp.			NG					
Achillea millefolium	yarrow								
Arrhenatherum elatius	false oat-grass								
Artemisia vulgaris	mugwort								
Asplenium scolopendrium	hart's-tongue fern								
Betula sp.	bent sp.								
Calystegia sp.	bindweed								
Centaurea nigra	black knapweed			NG	CG				RCT LBAP
Cirsium arvense	creeping thistle								
Clematis vitalba	clematis								
Dactylis glomerata	cock's-foot								
Daucus carota	wild carrot			NG					
Dipsacus fullonum	teasel							PIL	
Epilobium sp.	willowherb								
Euphorbia helioscopia	sun spurge								
Foeniculum vulgare	wild fennel								
Geranium robertianum	herb Robert								
Glechoma hederacea	ground ivy								
Helminthotheca echioides	bristly oxtongue								
Hedera helix	ivy								
Heracleum sphondylium	hogweed								
Holcus lanatus	Yorkshire fog								
Jacobaea vulgaris	ragwort								
Linaria vulgaris	common toadflax								
Medicago lupulina	black medick				CG				
Medicago sp.	medic sp.								
Odontites vernus	red bartsia								
Pastinaca sativa	wild parsnip				CG				
Plantago lanceolata	ribwort plantain								
Potentilla reptans	creeping cinquefoil								

Species	Common Name	Indicator Species							Other comments
		AM	W	NG	CG	AG	MG	PIL	
Prunella vulgaris	self-heal								
Ranunculus acris	meadow buttercup								
Ranunculus repens	creeping buttercup								
Rumex sp.	dock sp.								
Sisymbrium officinale	hedge mustard								
Sonchus asper	prickly sowthistle								
Stachys palustris	marsh woundwort						MG		
Stachys sylvatica	hedge woundwort								
Tamus communis	black bryony								
Taraxacum officinale	dandelion								
Trifolium pratense	red clover			NG					
Trifolium repens	white clover								
Urtica dioica	nettle								
Veronica chamaedrys	germander speedwell								
Vicia sativa	common vetch								
Contributing Species for SINC designation		**AM**	**W**	**NG**	**CG**	**AG**	**MG**	**PIL**	QS = 8
Totals recorded on site		0	0	4	3	0	1	1	CS = 0

(**Bold**) = SINC Qualifying species
SINC Indicator Species
AM = arable field margin, NG = neutral grassland, AG = acid grassland, CC = calcareous grassland, MG = marshy grassland, W = woodland, PI = Post-industrial/Disturbed ground.
QS = 'Qualifying Species'
CS = 'Contributary Species'

Fauna Species

All records DCE 2024, unless otherwise indicated:

Birds	SOCC Lists		S7	Status on Site	SINC value	Notes
	UK	Wales				
Carrion crow				N		Overhead

(**Bold**) = Schedule 1 – Specially protected
Red List = High conservation significance in UK/Wales (RSPB 2021; 2022)
Amber List – Moderate conservation significance in UK/Wales(RSPB 2021; 2022)
S7 = 'Species of Principal Conservation Concern in Wales (EWA 2016)
SINC Indicator Species
Breeding Birds:
BQS = 'Qualifying species'
BCS = 'Contributory species'
Wintering/Passage Birds:
WQS = 'Qualifying species'
WCS = 'Contributary species'

Breeding Status on Site
C = Confirmed breeding
Pr = Probably breeding
Po = Possibly breeding
N = Not breeding/Visitor

APPENDIX 4 – EXAMPLES OF WILDLIFE-FRIENDLY PLANTING SPECIES

GRASSLANDS

New or existing low-fertility topsoil should be lightly harrowed and raked to create a moderately fine tilth. No fertiliser should be added to any of these areas. Areas should be seeded either by hand (broadcasting) or by using a light tractor-mounted spinner or drill with drills at 5cm centres, 5mm maximum depth, immediately after preparation which should ideally occur in late summer (ie Aug-Sep). The seed rate should be 4g/m^2 (ie 40kg/ha). The seed mixture in new soil areas should comprise an 80:20 mix of native grass to native wildflower seed. A minimum of any six broadleaved species should be included, in equal quantities, up to a maximum of 15 species. Legumes should be supplied as low fertility non-fodder strains only.

All seed material should be of Welsh, or at least UK, native origin. Seed suppliers should be signatories to the *Flora Locale* Code of Practice for collectors, growers and suppliers of native plants and seed.

Semi-natural 'Meadow' Mixtures
For creating a more 'traditional' meadow with a tall sward

Grasses

Agrostis capillaris	Common bent	Low fertility strains only, eg 'Arletta', 'Tracenta'
Alopecurus pratensis	Meadow foxtail	≤5% of mixture
Anthoxanthum odoratum	Sweet vernal-grass	≤5% of mixture
Cynosurus cristatus	Crested dog's-tail	
Festuca rubra ssp *rubra*	Red-fescue	Low fertility strains only, eg 'Boreal', 'Franklin'
F. rubra ssp *commutata*	Chewing's fescue	Low fertility strains only, eg 'Agram', 'Banner', 'Koket', 'Wintergreen', 'Lifalla', 'Raymond', 'Wilma'
F. rubra ssp *littoralis*	Slender red fescue	Low fertility strains only, eg 'Dawson', 'Logro', 'Merlin', 'Oriflame', 'Lovisa', 'Bornado', 'Garance'
Phleum bertolonii	Small cat's-tail	≤5% of mixture

Broadleaved herbs

Achillea millefolium	Yarrow	*Plantago media**	Hoary plantain
Centaurea nigra	Common knapweed	*Potentilla anserina*	Silverweed
*Centaurea scabiosa**	Greater knapweed	*Potentilla repens*	Creeping cinquefoil
Daucus carota	Wild carrot	*Primula veris*	Cowslip
Galium mollugo	Hedge bedstraw	*Prunella vulgaris*	Self-heal
*Galium verum**	Lady's bedstraw	*Ranunculus acris*	Meadow buttercup
Hypericum perforatum	St John's-wort	*Rhinanthus minor*	Yellow rattle
Hypochaeris radicata	Cat's-ear	*Rumex acetosa*[!]	Common sorrel
*Knautia arvensis**	Field scabious	*Sanguisorba minor**	Salad burnet
Lathyrus pratense	Meadow vetchling	*Silene dioica*	Red campion
Leontodon autumnalis	Autumn hawkbit	*Silene vulgaris*	Bladder campion
Leontodon hispidus	Rough hawk-bit	*Trifolium campestre*	Hop trefoil
Leucanthemum vulgare	Ox-eye daisy	*Trifolium dubium*	Least trefoil
Lotus corniculatus[!]	Bird's-foot trefoil	*Trifolium pratense*[!]	Red clover
Luzula campestris	Common wood-rush	*Veronica chamaedrys*	Germander speedwell
Medicago lupulina	Black medick	*Vicia cracca*	Tufted vetch
*Origanum vulgare**	Wild marjoram	*Vicia sativa*[!]	Common vetch
Plantago lanceolata	Ribwort plantain	*Vicia sepium*[!]	Bush vetch

* Prefer calcareous soils
[!] Low-fertility non-fodder strains only

For the first year of growth, mowing should take place at 6-8 weeks after sowing, with the cuttings collected and disposed of off-site. This should be repeated at two-monthly intervals, with the last cut being made in October. In the second and subsequent years, the grass should be mown twice each year, with a first cut to 50mm in April and a second cut to 100mm in September. All cuttings should be collected and removed for off-site disposal.

Flowering Lawn Mixture
Allowing regular maintenance to create a relatively short sward

Grasses	
Agrostis capillaris	Common bent
Cynosurus cristatus	Crested dog's-tail
Festuca rubra	Red-fescue
Phleum bertolonii	Small cat's-tail

Broadleaved Herbs			
Galium verum	Lady's bedstraw	*Prunella vulgaris*	Self-heal
Leontodon hispidus	Rough hawkbit	*Ranunculus acris*	Meadow buttercup
Leucanthemum vulgare	Oxeye daisy	*Rumex acetosa*	Common sorrel
Lotus corniculatus	Birds-foot trefoil	*Trifolium pratense*	Red clover
Primula veris	Cowslip		

A sward of this type may take longer to form a dense turf than more conventional grass lawns. Once established the lawn should be mown regularly (as any other lawn) to a sward height of between 25-40mm. Reduce mowing in April to allow cowslip to flower and from late June to allow further flowering of the other species - next cut once the sward again becomes untidy. Cuttings should be collected and removed from site.

TREES & SHRUBS

All planting stock should be of native species which are indigenous to the region and of Welsh, or at least UK, provenance.

Semi-natural Woodlands

Canopy Species		**Percentage**
Quercus robur	Pedunculate oak	40
Quercus petraea	Sessile oak	40
Acer campestre	Field maple	20

Understorey		
Corylus avellana	Hazel	30
Crataegus monogyna	Common hawthorn	30
Betula pendula	Silver birch	)
Cornus sanguinea	Dog wood	)
Ilex aquifolium	Holly	)
Malus sylvestris	Crab apple	)
Prunus avium	Wild cherry	) 40
Prunus spinosa	Blackthorn	)
Rosa canina	Common dog-rose	)
Sorbus aucuparia	Rowan	)
Taxus baccata	Yew	)
Viburnum opulus	Guelder rose	)

Planting should be carried out using 600mm bare-rooted transplants in spiral plastic guards (rabbit/vole protection) where appropriate. Standard tree aftercare should be applied.

Hedgerows

Canopy Species		**Percentage**
Crataegus monogyna	Common hawthorn	30
Prunus spinosa	Blackthorn	10
Corylus avellana	Hazel	20
Acer campestre	Field maple	)
Cornus sanguinea	Dogwood	)
Euonymus europaeus	Spindle	)
Ilex aquifolium	Holly	) 40
Prunus avium	Wild cherry	)
Quercus robur	Pedunculate oak	)
Rosa canina	Common dog-rose	)

Sambucus nigra	Elder	)
Sorbus aucuparia	Rowan	)
Viburnum opulus	Guelder rose	)

Climbers

Clematis vitalba	Traveller's-joy	) Alternate at 3m intervals
Lonicera periclymenum	Honeysuckle	)
Solanum dulcamara	Bittersweet	)
Tamus communis	Black bryony	)

Ideally plant in late autumn, after mid-November, although anytime between October and March is appropriate if the ground is not frozen. Plant 60-125mm high whips in trenches (300mm depth x 600mm width) in two lines 300mm apart to form a staggered, double row. Whips in each line should be 450mm apart, giving a total of five plants per running metre. Use a spiral guard to protect the whip from rabbits with a cane to support them. Back fill with a mixture of the topsoil excavated from the pit, mixed with organic matter.

Newly planted hedges are vulnerable to damage by wind, drought and severe weather for the first 2-3 years. Keep moist and mulch with a 50-75mm layer of composted bark to stop weed growth and retain moisture in the soil.

Wildlife-friendly Plants for Formal Landscaping & 'Pollinator Plantings'

The species listed below are primarily non-native species which are commonly found in gardens and formal landscape areas, and which are considered 'wildlife-friendly'. Those native species which are included are aesthetically pleasing and suitable for formal planting schemes. The herbaceous species listed are particularly suitable for 'pollinator plantings'

Woody Species

Viburnum x *bodnantense*	Bodnant viburnum	*Syringa vulgaris*	Lilac
Ceanothus spp	Californian lilac	*Mahonia* spp	Mahonia
Pyracantha spp	Firethorn	*Philadelphus* spp	Mock orange
Viburnum tinus	Laurustinus	*Amelanchier canadensis*	Serviceberry
Chaenomeles japonica	Japanese quince	*Jasminium officinale*	White jasmine

Herbaceous Species

Arabis alpina	Alpine rock-cress	*Sedum telephium*	Orpine
Angelica archangelica	Angelica	*Centaurea montana*	Perennial cornflower
Lunaria annua	Annual honesty	*Lunaria rediviva*	Perennial honesty
Aubretia deltoidea	Aubretia	*Helianthus decapetalus*	Perennial sunflower
Sedum 'Purple Emperor'	Autumn Stonecrop	*Phlox paniculata*	Phlox
Borago officinalis	Borage	*Limnanthes douglasii*	Poached-egg plant
Eschscholtzia californica	California poppy	*Echinacea purpurea*	Purple coneflower
Erigeron canadensis	Canadian Fleabane	*Verbena bonariensis*	Purple-top vervain
Iberis sempervirens	Candytuft	*Silene dioica*	Red campion
Helleborus niger	Christmas rose	*Centranthus ruber*	Red valerian
Malva sylvestris	Common mallow	*Rosmarinus officinalis*	Rosemary
Papaver rhoeas	Common poppy	*Salvia officinalis*	Sage
Cosmos bipinnatus	Cosmos	*Hebe recurva*	Shrubby veronica
Oenothera biennis	Evening primrose	*Antirrhinum majus*	Snapdragon
Myosotis sylvatica	Wood forget-me-not	*Saponaria officinalis*	*Soapwort*
Tagetes spp	French marigold	*Mentha spicata*	Spear mint
Echinops ritro	Globe thistle	*Crocus chrysanthus*	Spring crocus
Verbascum thapsus	Great mullein	*Helianthus annuus*	Sunflower
Anemone blanda	Grecian windflower	*Lobularia maritime*	Sweet alyssum
Aptenia cordifolia	Heart-Leaf Ice-plant	*Monarda didyma*	Sweet bergamot
Althaea rosea	Hollyhock	*Hesperis matronalis*	Sweet rocket
Hyssopus officinalis	Hyssop	*Dianthus barbatus*	Sweet William
Sedum spectabile	Ice plant	*Coreopsis* spp	Tickseed
Phacelia tanacetifolia	Lacy phacelia	*Nicotiana affinis*	Tobacco plant
Aster x *versicolor*	Late Michaelmas-daisy	*Cheiranthus cheiri*	Wallflower
Lavandula angustifolia	Lavender	*Eranthis hyemalis*	Winter aconite
Helleborus orientalis	Lenten rose	*Alyssum saxatile*	Yellow alyssum
Leucanthemum vulgare	Ox-eye daisy	*Lysimachia vulgaris*	Yellow loose-strife
Origanum vulgare	Marjoram		

Sources: *Plants for wildlife friendly Gardens* (Natural England), *Planting Gardens for Birds* (RSPB), *Gardening for Bats* (Bat Conservation Trust) and *Starting a Butterfly Garden* (School Garden Company).

APPENDIX 5:

EXAMPLES OF NON-INTEGRATED BIRD BOXES FOR TREES AND BUILDINGS

Suspended Designs

Schwegler 1B
General box

Schwegler 2H open-front
'robin' box

Schwegler 5
'large owl' box

Schwegler 1CGA
'small owl' box

Schwegler 20
'starling' box

Schwegler 28 'kestrel' box

Schwegler 5KL 'nuthatch' box

Surface-mounted Designs

Schwegler 1MR general box

Vivara Pro open-front
'robin' box

Vivara Pro ova open-front
'robin' box

Vivara Pro 'starling' box

Vivara Pro 28/32mm
general box

Vivara Pro 28/32mm
oval general box

EXAMPLES OF SURFACE-MOUNTED BAT BOXES

Tree-mounted boxes

Schwegler 2F General Box

Schwegler 1FD Nursery Box

Schwegler 1FS Nursery Box (Large)

Schwegler 1FW Winter Box
(Very large box)

Schwegler 2FN
Noctule Box

Schwegler 2F DFP
Daubenton's Bat Box

Miramar General Box

Tree or building-mounted boxes

Schwegler 1FF General Box

Schwegler 1FQ Decorative Box

Schwegler 1FFH General Box

Schwegler 1FE

Vivara Woodstone Low Profile Box

NHBS Cavity Box
(Brown Long-Eared Bat Box)

NHBS Crevice Box

Beaumaris wall box

Photographs of the Site, September 2024

Grassland area, with eastern boundary

Northwestern gate. Rubble substrate ground with vegetation growing through

Fly-tipped waste (see Target Note 1)

Northwestern boundary

Grassland, looking to the northeast

Grassland bordered by eastern fence and broadleaved woodland outside of site boundary

Saplings scattered throughout scrub at northeastern boundary

Saplings and tall ruderal vegetation scattered throughout scrub along northeastern boundary

Scrub and mature trees in ditch beside grassland bank along northeastern boundary

Hayes Wood Road,Sully,
Ecological Assessment

Plan 1 - Site Location &
Context

DCE 1278 NTS Dec 2024

Hayes Wood Road,Sully,
Ecological Assessment

Plan 2 - Habitats & Vegetation

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Ecological Assessment

Plan 3 - Ecological Evaluation

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