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ECOLOGICAL IMPACTS ASSESSMENT REPORT

**AFON TAF HIGH SCHOOL, MERTHYR
TYDFIL, CF48 4ED**

**MERTHYR TYDFIL COUNTY BOROUGH
COUNCIL**

Client:	Merthyr Tydfil County Borough Council
Site/Job:	Afon Taf High School, Merthyr Tydfil, CF48 4ED
Report title:	Ecological Impacts Assessment Report
Report reference:	WWE24118 EclA Rev A

Grid Reference:	SO 07147 02046
Survey date(s):	PEA - Site Walkover 18/06/2024
Surveyed by:	Ian Weller
Architect/Agent:	N/A

VERSIONING AND QUALITY ASSURANCE

Status	Date	Author	Reviewed by	Approved by
Rev A	12/09/2024	Ian Weller ACIEEM Consultant Ecologist	Dr Mererid Howells CEnv MCIEEM Principal Ecologist	Dr Mererid Howells CEnv MCIEEM Principal Ecologist

DISCLAIMER

This document has been prepared by Wildwood Ecology Limited for Merthyr Tydfil County Borough Council solely as an Ecological Impacts Assessment Report. Wildwood Ecology Limited accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

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.

Purpose
Wildwood Ecology was commissioned by Merthyr Tydfil County Borough Council (the client) to undertake a Preliminary Ecological Appraisal (PEA) update at Afon Taf High School, Merthyr Tydfil, CF48 4ED. The site is subject to a full planning application for the building of a new synthetic pitch, fences, barriers and storage container with associated floodlights to pitch and adjacent track. Referred to in this report as a multi-use games area (MUGA) on a current grass sports field and the construction of floodlights around the athletics track.
Work undertaken
A site walkover of the proposed area for the MUGA was conducted, to update a site report that was undertaken in 2022 by Wildwood Ecology. The walkover was carried out in June 2024, following the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (2017) guidelines and using UK Habitat Classification Version 2.0 codes (UK Hab, 2023). The report produced in 2022 was for the athletics track and proposed floodlighting around this sports facility.
Key Constraints
Due the proposed works, it is likely that in the absence of mitigation there will be adverse effects on the following species: Protected species: • Badger; • Foraging and commuting bats; and roosting bats; • Nesting birds; • Hazel dormice; • Reptiles; and • Hedgehogs.
Recommendations
The following recommendations are those present in the Wildwood Ecology PEA dated March 2022. These include: • A sensitive lighting plan will be required, demonstrating consideration for bats and other nocturnal species. The lighting plan will focus on minimising light spill to the boundary habitats with special regard to the riparian habitat of the Taff and Rhondda Rivers SINC and treeline to the east of site. The lighting plan will consider factors including illuminance limits, luminaire specifications, column heights, directional luminaires and use of baffles, hoods and louvres in line with BCT guidance: 'Bats and artificial lighting in the UK.' There are two options depending on the potential use of the site with floodlights in use. Option A would be the preferred option as it would have less impact on nocturnal species using the boundary features and would be easier to achieve. The lighting expectations can be found in Appendix VII.

¹ CIEEM (2019). *Advice Note: On the Lifespan of Ecological Reports and Surveys*. Chartered Institute for Ecology and Environmental Management, Winchester.

- OPTION A -If the proposed lighting is to be used between 5pm and 10pm during the winter months only (December - February), this should be imposed as a covenant or as an agreement within the terms of the planning permission.
- OPTION B - If lighting is to be used November – March, the lighting plan will need to demonstrate that the proposed lighting does not introduce light levels above 0.5 lux at the riparian habitat of the Taff and Rhondda Rivers SINC.
- A dark zone is to be established along the western riparian woodland habitat and eastern railway track. No artificial light is to be projected onto this habitat.
- Standard mitigation measures during construction will ensure badger, hedgehog and otter are not harmed. These include covering any trenches overnight or leaving a ramp in the trench so that any mammals falling in have the ability to escape. All chemical and oils are to be stored in lockable containers so that animals cannot gain access.
- Creation of a 3m wide wildlife buffer as compensation for the loss of modified grassland.
- Enhancements such as improved biodiversity planting, and the creation of hibernacula in the wildlife area on the southern boundary.
- If Japanese knotweed is still present onsite post the 2022 survey, then a specialist contractor should be commissioned to eradicate invasive species (Japanese Knotweed and Himalayan Balsam). A buffer of 7m must be placed around the closest plant to ensure the species is not spread during construction.

Conclusions

Providing that the recommendations outlined in this report are implemented in full, the proposed development will adequately mitigate, compensate, and enhance the protected, priority and notable habitats and species within and adjacent to the site.

This report will remain valid for a maximum period of 18 months from the date of the last survey¹ - i.e. until 18/12/2025. In the case of certain exceptions, data may only be valid for 12 months, examples include:

- where a site may support existing or new features which could be used by mobile species, such as bats and birds, within a short timeframe;
- where bats and birds are present onsite or in the wider area, and can create new features of relevance to the assessment; and
- where country-specific or species-specific guidance dictates otherwise.

Further surveys may be required to update the site information if planning is not obtained, or works do not commence within this time period.

¹ CIEEM (2019). *Advice Note: On the Lifespan of Ecological Reports and Surveys*. Chartered Institute for Ecology and Environmental Management, Winchester.

1 INTRODUCTION

- 1.1 Wildwood Ecology was commissioned by Merthyr Tydfil County Borough Council (the client) to undertake a Preliminary Ecological Appraisal (PEA) update at Afon Taf High School, Merthyr Tydfil, CF48 4ED (the site), centred at grid reference: SO 07147 02046.
- 1.2 This report has been written in cognisance of the CIEEM Guidelines on: Ecological Report Writing, Preliminary Ecological Appraisal and Ecological Impact Assessment, with full survey methodology provided in the appendices.
- 1.3 This report should be read in conjunction with Wildwood Ecology WWE22004 Afon Taf High School PEA Final dated March 2022.

Site description

- 1.4 The aerial image of the site (Figure 1) shows the site to consist of school buildings, amenity grassland and hardstanding areas comprising a running track and other sports facilities, with a treeline present within the western site boundary.
- 1.5 The wider area consists of residential housing to the north, areas of broadleaved woodland and conifer forestry to the east and west and parkland and woodland to the south. The River Taff and associated riparian woodland runs immediately west of site.



Figure 1 - Aerial image of the site from the original PEA report. Red line shows the whole site boundary including the area proposed for the MUGA. Image used under licence (@2023 Google). Figure created: 01/01/2023.



Figure 2 - Shows the location of the proposed MUGA on the southern edge of the redline boundary.

Proposed development

- 1.6 The site is subject to a full planning application for the building of a purpose-built multi-use games area (MUGA) with floodlighting. The sports pitch is located on the southern edge of the redline boundary that was assessed in 2022. The proposed development will be in the location of current, grass rugby and football pitches.
- 1.7 **The previous application in 2022/23 was for floodlighting to be installed around the running track. This proposal did not come to fruition at the time, but it is a consideration to install the floodlighting around the athletics track during the same construction period. The Wildwood Ecology PEA report dated March 2022 will need to be submitted alongside this report to support the proposed floodlighting around the athletics track. This will be required as there is overlap with the two reports.**

Data collected

- 1.8 A data search was not undertaken for this report as data was obtained for the Wildwood Ecology PEA report dated March 2022. It was considered that this data is still relevant and to be sufficient with no expected significant changes in the data presented.
- 1.9 Previous survey data and reports are available for the school site but not specifically relating to the area of the MUGA .

Purpose of this report

1.10 The purpose of this report is to provide sufficient information for the local planning authority to fully assess the ecological impacts of the proposed development, or to identify what further information is required.

1.11 The key objectives of this PEA update are to:

- identify the likely ecological constraints associated with the proposed development;
- identify mitigation measures likely to be required, following the 'Mitigation Hierarchy';
- identify additional surveys that may be required to inform an EclA; and
- identify the opportunities for the proposed development to deliver ecological enhancement.

1.12 This PEA update can be used as a scoping report, but unless it can be determined that the project would have no significant ecological effects, no mitigation is required and no further surveys are necessary, the PEA will need to be superseded by an EclA report prior to submission.

Limitations and assumptions

1.13 No assumptions have been made within this assessment.

1.14 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 importance has been made.

2 RESULTS

Links to the surrounding landscape

- 2.1 The assessment of the links to the surrounding habitats are the same as reported in the Wildwood Ecology WWE22004 Afon Taf High School PEA Final dated March 2022. The site has not changed since that report.
- 2.2 The riparian woodland to the west (outside of the redline boundary) provides connectivity to woodland habitats to the north and south and the River Taff corridor.

Desk study

Designated sites

- 2.3 The assessment of the designated sites are the same as reported in the Wildwood Ecology WWE22004 Afon Taf High School PEA Final dated March 2022. The site has not changed since that report.

Light pollution

- 2.4 The site is in an urban area with medium levels of light pollution (VIIRS Data Base (2023)). The adjacent habitats to the west and south are unlit.

Habitat Regulations Assessment (HRA) Screening

- 2.5 The site was not situated within the zone of influence (Zol) of any international designated sites. Therefore, due to the distance of the development from the international designated sites and/or lack of identified impact pathways, a Habitat Regulations Assessment is considered unlikely to be required.

Priority and protected species

- 2.6 Priority and protected species records were returned from South East Wales Biodiversity Records Centre (SEWBRc) for species located within 2km of the site. A summary of the data returns can be found in the WWE22004 Afon Taf High School PEA Final dated March 2022

Field survey – PEA

- 2.7 A PEA update survey was undertaken at the site on 18/06/2024, led by Ian Weller ACIEEM Consultant Ecologist Survey details can be found in Table 1.

Table 1 - Field survey timings and conditions.

Date	Weather conditions			
	Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort scale]	Rain
18/06/2024	14	7/8	1	Nil

- 2.8 Table 2 sets out descriptions of the habitats present within the site using UK habitat Classification Version 2.0 codes, along with a list of species present.
- 2.9 The distribution and extent of habitat parcels at the site, along with the locations of any target notes, are included within a habitat plan in the appendices, alongside an accompanying full species list.

Table 2 - Habitats and linear features present within the site.

Habitat	Habitat description	Species present
G4 Modified grassland Secondary code/s: 108 Frequently mowed, 814 Educational premises open space, 820 Natural sports pitches 822 Recreational ground	Modified grassland comprised the predominant habitat across the site with 100% coverage of the area proposed for the MUGA. It has a very short sward and is mowed on a fortnightly basis.	Creeping buttercup, broadleaved plantain, daisy, perennial ryegrass, white clover, yarrow and Yorkshire fog
g3c - Other neutral grassland Secondary code/s: 16 tall forbs, 18 Species rich grassland, 524 invasive non-native species	This habitat is present around the boundaries of the proposed MUGA area the closest points of this habitat are 10m north – east, 20m west and 45m south-west. This habitat is to be retained and will not be impacted by the proposed works. The habitat is separated from wider habitats by an Urban V3 security mesh fence that presents a barrier to larger mammals from gaining access to the site.	Ash, beech, oak, Bindweed, bramble, broadleaved plantain, cleavers, creeping buttercup, dock, daisy, fern sp, giant butterbur. Himalayan Balsam, hogweed, nettle, perennial ryegrass, queen of the meadow, ribwort plantain. rosebay willow herb, thistle sp, white clover, yarrow and Yorkshire fog

Priority habitats

- 2.10 There are no priority habitats onsite. The Data map Wales database lists the site as a low sensitivity area land which is agriculturally improved or of low environmental value likely to be eligible for planting under the Small Grants - Woodland Creation scheme, and excludes areas such as priority habitat, land above the upper limit of enclosure, and common land.
- 2.11 The riparian woodland to the west is outside of the redline boundary and protected by a security fence that surrounds the school. This habitat was assessed for potential roost features during the 2022 surveys. There were 12 trees identified with PRF's, however a full assessment could not be undertaken due to access limitations. The potential light spill impact on these features has been considered with the proposal of timing restrictions on the use of the floodlighting and a lighting strategy that indicates low lux light levels and directional projection away from the western boundary.
- 2.12 The trees within the woodland on the western boundary were no assessed for PRF's these trees would not be impacted. It was also considered that the distance from the proposed MUGA and the floodlighting strategy indicating directional lighting and lux levels would not impact these trees and any potential bat roosts within the trees.

Priority, protected, and notable species

2.13 The suitability of the site habitats for protected species, the connectivity of the site, and any evidence identified can be found in section 4 of Wildwood Ecology WWE22004 Afon Taf High School PEA Final dated March 2022.

Invasive species

2.14 The following invasive species were identified in the area proposed for the MUGA:

- Himalayan balsam was found in the offsite habitat on the western side of the playing fields. This has spread from the riverbank to the west. This habitat will be retained and will not be impacted by the proposed development. A specialist contractor should be considered to remove the Himalayan Balsam and prevent further spread of this plant species.
- Japanese knotweed was identified on site in the area around the athletics track during the PEA in 2022. A specialist contractor should be considered to eradicate and prevent further spread of this plant species. If this plant species is still present onsite in the boundary habitats, then a buffer of 7 metres from the closest plant must be put in place and any construction works must take place outside of this buffer unless the specialist contractor can confirm when no invasive species are present.

3 IMPACTS

3.1 The following discussion and assessment is provided to ensure compliance with legislation and planning policy (see Appendices).

Impacts of the proposed development

3.2 The proposed development will result in the loss of 0.8ha of poor modified grassland that is to be replaced with an artificial surface for multiple sports and games use.

3.3 Due to the proposed works, it is likely that in the absence of mitigation there will be adverse effects on the following species as a result of significant levels artificial light being introduced to the site:

- Badger;
- Foraging, commuting and roosting bats in trees
- Nesting birds;
- Hazel dormice;
- Reptiles; and
- Hedgehogs.

Designated sites

3.4 Given the scale and type of the proposed development, the distance of the designated sites from the site, and the lack of likely impacts beyond the site boundary, no impacts on their designated features are anticipated as a result of the works.

Priority, protected, and notable habitats

3.5 Common and widespread habitats which are of limited ecological importance are not discussed further. It is a recommendation that any habitat loss is compensated by native and wildlife-friendly planting in the wildlife area to the south of the MUGA.

Priority, protected, and notable species

Badger

3.6 No incidental badger evidence (latrines, tracks, hair, snuffle holes or setts) was observed during the habitat survey.

3.7

The boundary of the site is surrounded by a wire mesh security fence or steel fence which presents significant barrier for badgers to gain access to the site.

3.8 The proposed development will not impact potential badger foraging habitat.

3.9 Areas of suitable foraging habitat will still be present onsite post-completion of the development and suitable foraging habitat is adjacent to the site and is a common resource locally. It is therefore not considered likely that the proposed development will adversely impact the ability of local badger populations to forage.

Bats: foraging and commuting/ roosting

- 3.10 The suitability for habitats/linear features located along site boundaries to be used as potential flight-paths and/or foraging habitat was moderate. The trees around the site also have the potential for bats to roost.
- 3.11 These habitats/linear features will not be impacted by the proposed works but must remain unfragmented in order to prevent potential impacts on bats, and in particular light-averse bat species. Fragmentation can occur by physical removal of the habitat/feature, but also through artificial light spilling onto them.
- 3.12 Current proposals indicate that there will be new external lighting included in the proposed development and therefore an increase in light spill is anticipated.
- 3.13 Particular consideration must be given to preserving dark flight-lines and preventing light spill on all boundary habitats.

Birds

- 3.14 Common bird species including blackbird, bullfinch, chaffinch and house sparrows were observed during the PEA update. These birds plus other species of birds are likely to use the boundary features for nesting and feeding.
- 3.15 Particular consideration must be given to preserving dark areas for nesting and preventing light spill on all boundary habitats. This will be informed by the lighting plan.

Hazel dormouse

- 3.16 The onsite habitats were not suitable for dormice as the treeline to the east comprised mature trees with incomplete arboreal connectivity and without suitable understorey.
- 3.17 The offsite woodland adjacent to the west of the site was suitable for dormice, with the understorey including bramble, holly, and hazel.
- 3.18 The proposed development will not directly impact the woodland areas, and no trees or vegetation will be removed as a result of the development.
- 3.19 The lighting is to be used during between either December – February or November – March, during hibernation season for dormice and will be controlled via a sensitive lighting scheme to reduce overall light spill.
- 3.20 Common dormouse can become habituated to artificial light, and/or intermittent lighting from vehicle headlights. Therefore, any remaining light spill after the sensitive lighting strategy has been implemented is unlikely to cause disturbance to dormice if present.
- 3.21 There is unlikely to be a negative impact on common dormouse as a result of the proposed development.

Otter

- 3.22 The River Taff is known to support otter. A bank of broadleaved woodland is located along a raised bank between the fence line and the river, with a further steep bank to the river edge. Otter may use the adjacent river and woodland to forage and

commute, and holts may be present along the riverbank, which is approximately 10m from the school fence line. It is unlikely that otter could venture onto the site due to the security fence around the school boundary.

- 3.23 The lighting posts will be installed within the site boundary, and no trees or scrub vegetation will be removed or affected during the works.
- 3.24 Otter may avoid foraging in lit areas, although the woodland will have some screening effect on light reaching the river edge and there will likely be dark areas remaining that otter can utilise, if present.
- 3.25 There may be a negative impact on European otter as a result of the proposed development, due to the introduction of artificial lighting. Particular consideration must be given to preserving dark areas preventing light spill on all boundary habitats.
- 3.26 Unmitigated it is unlikely to be adverse impacts on local otter populations as a result of the development.

Reptiles

- 3.27 The woodland edges to the west and railway lines to the east have suitability for reptiles, but the installation of lighting will be confined to the modified grassland and hardstanding areas, which are unsuitable for reptiles. Particular consideration must be given to preserving dark areas preventing light spill on all boundary habitats. This will be informed by the lighting plan.
- 3.28 There will not be a negative impact on reptile species as a result of the proposed development.

Hedgehogs

- 3.29 Hedgehogs are likely to forage and nest in the adjacent woodland and may occasionally venture on to site however, this is unlikely given the security fence around the site.
- 3.30 Hedgehog may avoid foraging in lit areas, although the woodland will have some screening effect and there will likely be dark areas remaining that hedgehog can utilise, if present.
- 3.31 The boundary of the site is surrounded by a wire mesh security fence or steel fence which presents significant barrier for badgers to gain access to the site. However, there is access to the for hedgehogs under the gates at the north-west entrance to the school.
- 3.32 No habitats suitable for nesting hedgehog will be affected by the development.

4 RECOMMENDATIONS

Priority, protected, and notable species

- 4.1 The recommendations laid down in the Wildwood Ecology WWE22004 Afon Taf High School PEA Final dated March 2022 remain valid for these proposed works and the potential construction of the floodlighting around the athletics track. These include:

Species	Recommendations
Bats	No trees are to be removed or cut back during the development. A sensitive lighting plan will be required with input from an ecologist, demonstrating consideration for all protected species. The lighting plan should focus on minimising light spill to the riparian habitat of the Taff and Rhondda Rivers SINC and the treeline to the west of site. The lighting plan should consider illuminance limits, luminaire specifications, column heights, directional luminaires and use of baffles, hoods and louvres in line with BCT guidance ‘Bats and artificial lighting in the UK’, 2023. OPTION A -If the proposed lighting is to be used between 5pm and 8pm during the winter months only (December - February), this should be imposed as a covenant or as an agreement within the terms of the planning permission. OPTION B - If lighting is to be used November – March, the lighting plan will need to demonstrate that the proposed lighting does not introduce light levels above 0.5 lux at the riparian habitat of the Taff and Rhondda Rivers SINC. and the boundary woodland features.
Common dormouse	A lighting plan will be required to minimise light spill to the riparian habitat of the Taff and Rhondda Rivers SINC.
European otter	A lighting plan will be required to minimise light spill to the riparian habitat of the Taff and Rhondda Rivers SINC. Ensure all excavations are covered overnight to ensure no animals get trapped, if this is not possible place a ramp type structure in the excavation to allow them to escape.
European badger	A lighting plan will be required to minimise light spill to the riparian habitat of the Taff and Rhondda Rivers SINC. Ensure all excavations are covered overnight to ensure no animals get trapped, if this is not possible place a ramp type structure in the excavation to allow them to escape.
West European hedgehog	A lighting plan will be required to minimise light spill to the riparian habitat of the Taff and Rhondda Rivers SINC. Ensure all excavations are covered overnight to ensure no animals get trapped, if this is not possible place a ramp type structure in the excavation to allow them to escape. Where security measures allow gaps 13cmx13cm should be created at the base of the steel fence on the eastern and

	northern boundaries. This may require the removal/ cutting of the bottom of a number of the vertical steel struts that form the fence.
Invasive plant species	It is recommended that a specialist contractor is commissioned to eradicate the Japanese Knotweed and Himalayan Balsam until confirmed otherwise by the specialist contractor, no construction works should be undertaken within 7m of the invasive species.

Biodiversity enhancement

- 4.2 Local authorities have a duty to seek to maintain **and enhance** biodiversity in the exercise of their functions.
- 4.3 Where possible, the existing onsite habitat of ecological importance will be retained to ensure that habitats and species that rely on them are not adversely affected by the development. Native species of local provenance (and grown in the UK) or ornamental plants with known wildlife value will be used for new onsite planting.
- 4.4 Further onsite habitat retention, creation or enhancement may be required as part of the required net benefit for biodiversity.
- 4.5 There is a grassland and wildlife area to the south-east of the proposed works area. This is owned by the school and is currently left wild to grow naturally, with the exception of narrow paths cut through the area as this is used for cross country pursuits by the school. This has the potential to be enhanced through the installation of hibernacula for reptiles, invertebrates and small mammals. The creation of bee hotels and potentially bird nesting boxes on poles.
- 4.6 It is proposed that the cutting regime for the retained modified grassland to the south of the MUGA is altered to leave a 3m buffer zone between the in-place wildlife area and the proposed MUGA site(Appendix IV). This buffer zone will not be cut other than an access strip to the wildlife area. This buffer zone will be left to grow/develop naturally, extending the wildlife area, provide compensation for the loss of modified grassland where the Muga will be located and provide a connectivity corridor between the riparian area to the west and the linear features alongside the railway track to the east.
- 4.7 Further enhancements for the on and offsite areas can be found within the GI statement.

APPENDIX I: SURVEY METHODS

Extended Phase 1 Habitat Survey

A field survey was undertaken on 18/06/2024.

All habitats present within the site with the suitability to support rare, protected, or otherwise notable species of flora or fauna (together with direct signs) were noted.

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 legislation (see Appendix VII);
- UK Post-2010 UK Biodiversity Framework priority species or Local Biodiversity Action Plan (LBAP) species;
- nationally rare or nationally scarce species; and
- Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red Lists).

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. However, many invasive species can be cryptic and therefore this survey does not provide a guarantee that an invasive species is not present and shouldn't be relied on to rule out absence of an invasive species.

An extended Phase 1 Habitat Plan was produced in QGIS, incorporating Target Notes used to highlight features of ecological interest (see Appendix II). The JNCC habitat codes were used to assess the running track and MUGA area for the 2022 report. This was prior to Wildwood Ecology switching to UK Habitat Classifications in 2023 and used to define the habitats pertinent to this report i.e. MUGA redline boundary.

APPENDIX II: HABITAT PLAN FROM THE 2022 REPORT USING JNCC CLASSIFICATION CODES



Key

○ Target notes

Points

- Broad-leaved scattered tree
- Coniferous scattered tree
- Boundary

Habitats

- A.1.1 Broad-leaved woodland, semi-natural
- G.2 Running water
- J.1.2 Amenity grassland
- J.3.6 Buildings

- Hard standing
- Path

Google Sat

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APPENDIX IV: PROPOSED COMPENSATION AND DARK CORRIDORS



Key

	Dark zones- No artificial light projection		Onsite wildlife area	Google Satellite
	Proposed compensation area		MUGA	

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APPENDIX V: SURVEY IMAGES



Figure 3 - Eastern view of the site



Figure 4 - Across the site looking west



Figure 5 - Eastern fence separating the railway line access



Figure 6 - Southern fence looking at wildlife area



Figure 7 - Footpath along the eastern boundary



Figure 8 - Vegetation growth and security fence on the western boundary of the site.

APPENDIX VI: SPECIES LIST

The site name: Afon Taf High School, Merthyr Tydfil, CF48 4ED **Provided by:** Wildwood Ecology

Grid reference: SO 07147 02046 **Verified by:** Ian Weller

Common name	Scientific name (if known)	Number	Comment
Ash	<i>Fraxinus excelsior</i>		
Beech	<i>Acer pseudoplatanus</i>		
Bindweed	<i>Convolvulus arvensis</i>		
Bracken	<i>Pteridium aquilinum</i>		
Bramble	<i>Rubus fruticosus agg.</i>		
Broadleaved plantain	<i>Plantago major</i>		
Buddleia	<i>Buddleja davidii</i>		
Cleavers	<i>Galium aparine</i>		
Creeping buttercup	<i>Ranunculus repens</i>		
Daffodil	<i>Narcissus pseudonarcissus</i>		
Daisy	<i>Bellis perennis</i>		
Giant butterbur	<i>Petasites japonicus</i>		
Harts tongue fern	<i>Asplenium scolopendrium</i>		
Hazel	<i>Corylus avellana</i>		
Hogweed	<i>Heracleum mantegazzianum</i>		
Holly	<i>Ilex aquifolium</i>		
Ivy	<i>Hedera helix</i>		
Oak	<i>Quercus spp.</i>		
Perennial ryegrass	<i>Lolium perenne</i>		
Queen of the meadow	<i>Filipendula ulmaria</i>		
Ribwort Plantain	<i>Plantago lanceolata</i>		
Thistle sp	<i>Cirsium sp</i>		
White clover	<i>Trifolium repens</i>		
Yarrow	<i>Achillea millefolium</i>		
Yorkshire fog	<i>Holcus lanatus</i>		
	Fauna		
Blackbird	<i>Turdus merula</i>		
Bullfinch	<i>Pyrrhula pyrrhula</i>		
Chaffinch	<i>Fringilla coelebs</i>		
House sparrow	<i>Passer domesticus</i>		

APPENDIX VII: FULL METHODOLOGY

This report has been informed by the following, with detailed methodology provided in Appendix I:

- Preliminary Ecological Appraisal

This report has been written in cognisance of the CIEEM Guidelines on: Ecological Report Writing, Preliminary Ecological Appraisal.

A desk study was undertaken in relation to the site for the previous application in 2022/23. The sources consulted, and the type of information obtained are summarised below.

Source	Information and data sets	Search buffer from the site centre/boundary
South East Wales Biodiversity Records Centre (SEWBRc)	• Protected and priority species. • Non-statutory designations	• (2km) • (1km)
Multi-Agency Geographic Information for the Countryside (MAGIC)	• International statutory designations • National statutory designations • Bat consultation zones/core + juvenile sustenance zones	• (25km) • (2km/5km) • (10km)

The search buffers are sufficient to cover the Zone of Influence (Zoi) of the proposed development in relation to Protected and Priority species and designated sites.

The impact of the proposed development on the biological integrity of nearby designated protected sites has been fully considered.

Assessing ecological importance

The assessment of the importance of sites, habitats and species are made with reference to CIEEMs guidelines for EclA, where possible. These guidelines provide consistency in the approach to evaluating the importance of the ecological features within a site and the effects or impacts a proposed development will have on them.

Firstly, the sites, habitats and species are assessed using a framework which assigns a level of geographical importance to ecological features. This framework incorporates a wide range of legislation and governmental guidance in assessing each feature's importance.

Next, the effects/likely effects of the proposed development are predicted, considering different stages and activities within the development process. These effects/likely effects are then assessed for their significance, based upon the importance of the site, habitat or species being assessed. The assessment of effects/likely effects significance is considered before and after the proposed mitigation to give an overall indication of significance.

The importance of specific ecological receptors (sites, habitats or species) is assigned according to their level of importance using the following terms:

- International Importance;
- UK Importance;
- National Importance (i.e. England/Northern Ireland/Scotland/Wales);
- Regional Importance;
- County Importance;
- District Importance (or Unitary Authority, City, or Borough);
- Local or Parish Importance; and
- Of Importance within the site (the zone of influence or a larger defined area).

Contributor information

The PEA was undertaken by Ian Weller ACIEEM Consultant Ecologist. The report was written by Ian Weller ACIEEM Consultant Ecologist. The report was reviewed and approved by Dr Mererid Howells MCIEEM Principal Ecologist .

APPENDIX VIII: LIGHTING GUIDANCE

As foraging and commuting bats are confirmed to be present on or close to the site, Guidance Note 08/23 - 'Bats and artificial lighting at night' (The Bat Conservation Trust, BCT, and the Institution of Lighting Professionals, ILP) will be followed.

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

APPENDIX IX- BIBLIOGRAPHY

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APPENDIX X: PLANNING POLICY AND LEGISLATION

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

Planning and biodiversity (Wales)

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

Planning Policy Wales – Edition 12 (2024) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 12, February 2024) 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).

Section 6.2 of Planning Policy Wales (Edition 12) describes how elements of Green Infrastructure should be incorporated into new developments. Paragraph 6.2.12 states: “A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an onerous requirement for applicants. The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach (Paragraph 6.4.15) has been applied.”

Section 6.4 of Planning Policy Wales outlines how all developments should achieve net benefit for biodiversity by implementing the DECCA framework. Paragraph 6.4.5 states: “Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species (not including non- native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site. The step-wise approach outlined below is the means of demonstrating the steps which have been taken towards securing a net benefit for biodiversity. In doing so, planning authorities must also take account of and promote the resilience of ecosystems, in particular the following attributes, known as the DECCA Framework:

- diversity between and within ecosystems;
- the extent or scale of ecosystems;
- the condition of ecosystems including their structure and functioning;
- the connections between and within ecosystems; and

- adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example.”

Section 6.4.15 outlines how the step-wise approach should apply to all new developments. This has been summarised below:

Avoid

“The first priority for planning authorities is to avoid damage to biodiversity in its widest sense (i.e. the variety of species and habitats and their abundance) and ecosystem functioning.”

Proposals in statutory designated sites are, as a matter of principle, unacceptable and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable and must be safeguarded.”

Minimise

“When all locational, siting and design options for avoiding damage to biodiversity have been exhausted, applicants, in discussion with planning authorities, must seek to minimise the initial impact on biodiversity and ecosystems.”

Restore/mitigate

“Where, after measures to minimise impact, biodiversity and ecosystems could still be damaged, or lost through residual impacts, the proposed development should mitigate that damage.”

“Effective mitigation or restoration measures should be incorporated into the design proposal following the consideration of steps one and two above. Mitigation or restoration measures must be designed to address the specific negative effects by repairing damaged habitats and disturbed species. They should seek to restore in excess of like for like, accounting for disturbance and time lags for the recovery of habitat and species, and in every case, mitigation or restoration measures should seek to build ecosystem resilience within the site and where possible the wider area.”

Compensate onsite

“When all the steps above have been exhausted, and where modifications, alternative sites, conditions or obligations are not sufficient to secure biodiversity outcomes further on-site/immediately proximate, as a last resort off-site compensation for unavoidable damage must be provided.”

“Off-site compensation should normally take the form of habitat restoration, or habitat creation, or the provision of long-term management agreements to enhance existing habitats and deliver a net benefit for biodiversity.”

“The Green Infrastructure Assessment should be used to identify suitable locations for securing off-site compensation.”

“Where compensation for specific species is being sought, the focus should be on maintaining or enhancing the population of the species within its natural range.”

“Any proposed compensation should be place based, take account of the Section 6 Duty (Biodiversity and Resilience of Ecosystems Duty), the DECCA framework and appropriate ecological advice from the local authority Ecologist, NRW or a suitably qualified ecologist.”

Compensate offsite

"Each stage of the step-wise approach must be accompanied by a long-term management plan of agreed and appropriate avoidance, minimisation, mitigation/restoration and compensation measures alongside the agreed enhancement measures."

Refuse planning permission

"Finally, where the adverse effect on biodiversity and ecosystem resilience clearly outweighs other material considerations, the development should be refused."

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.

Future Wales: The National Plan 2040

Policy 9 of Future Wales: The National Plan 2040 (Resilient Ecological Networks and Green Infrastructure) states: “In all cases, action towards securing the maintenance and enhancement of biodiversity (to provide a net benefit) the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, nature-based approaches to site planning and the design of the built environment.”

Policy 30 of Future Wales: The National Plan 2040 (Green Belts in the South-West) states: “The Welsh Government supports the use of Strategic Development Plans to identify and establish green belts to manage urban form and growth in the South-West, particularly around Swansea Bay and Llanelli”

Policy 34 of Future Wales: The National Plan 2040 (Green Belts in the South-East) states: “The Welsh Government requires the Strategic Development Plan to identify a green belt to the north of Cardiff, Newport and the eastern part of the region to manage urban form and growth. The Strategic Development Plan must consider the relationship of the green belts with the green belt in the West of England. Local Development Plans and development management decisions should not permit major development in the areas shown for consideration for green belts, except in very exceptional circumstances, until the need for green belts and their boundaries has been established by an adopted Strategic Development Plan.”

Wellbeing of Future Generations (Wales) Act 2015

The Wellbeing of Future Generations (Wales) Act 2015 aims to create:

- A globally responsible Wales;
- A prosperous Wales;
- A resilient Wales;
- A healthier Wales;
- A more equal Wales;
- A Wales of cohesive communities; and
- A Wales of vibrant culture and thriving Welsh language.

As part of the National Well-being Indicator Framework, 46 wellbeing indicators have been identified including Healthy Ecosystems (43) and Biological Diversity (44). These indicators have been identified as central to all seven of the goals that the Wellbeing of Future Generations (2015) Wales Act has set out to achieve.

The Future Generations Commissioner for Wales acts as a guardian for the interests of future generations in Wales, supporting 48 public bodies in assuring sustainable development (defined as acting “in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs”) in line with each of the seven wellbeing goals. The public bodies listed within the act include Natural Resources Wales, Local Authorities and National Park Authorities. Therefore, planning proposals submitted to the aforementioned parties should be in aligned with the goals listed within the Wellbeing of Future Generations (Wales) Act 2015, and should aim to have a positive impact on the indicators identified with the National Well-being Indicators Framework.

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 (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.

Badger

Badger 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-treat¹ a Badger, or attempt to do so; and
- to intentionally or recklessly interfere with a sett² (this includes disturbing badger 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 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; and
- 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:

¹ 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

² 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.

- 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 Resources Wales, 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.

Hazel dormouse

The hazel 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 dormouse; and
- damage or destroy a breeding site or resting place of a dormouse.

In addition, 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.

Otter

Otter 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; and
- damage or destroy a breeding site or resting place of an otter.

In addition, 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:

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

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

Reptiles

Adder, slow worm, grass snake and common lizard 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 site works can commence.

Smooth snake and sand lizard 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; and
- 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.
- disturb a water vole while it is occupying a structure or place which it uses for shelter or protection; or
- obstruct access to such a place.

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