



**McDonald's Merthyr
Tydfil, Heads of the
Valley Road**

Ecological Appraisal

Prepared by:
**The Environmental Dimension
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On behalf of:
McDonald's Restaurants Ltd

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(edp9069_d010a 21 July 2025 GYo/JCk)

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Executive Summary

- S1 This Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of McDonald's Restaurants Ltd, to inform proposed development of land at Merthyr Tydfil, Heads of the Valley Road (hereafter referred to as "the Site"). In brief, the development will comprise demolition of most of the existing buildings (with one building being retained) and construction of a McDonald's restaurant, together with the associated parking provision, sustainable drainage and landscaping.
- S2 To establish the ecological baseline of the Site and subsequently inform a planning application submission for its future development, a desk study, Extended Phase 1 Habitat survey and further detailed surveys for bats and badger (*Meles meles*) were completed by EDP during 2025.
- S3 With respect to designated sites, no international designated sites occur within 10km of the Site, with a single nationally designated site, Mynyddoedd Llangynidr a Llangatwg, Cefn yr Ystrad a Chomin Merthyr Site of Special Scientific Interest (SSSI), located within 2km. A number of non-statutory designated sites occur within 2km of the Site, including: Blaenmorlais Site of Interest for Nature Conservation (SINC); Pan March and Traed y Milwyr, Llechryd SINC; Merthyr Common North SINC; Cefn Gelligaer, west of Deri SINC; and Tair Carreg Moor, north-west of Fochriw SINC.
- S4 With respect to habitats, the Site is dominated by hard standing with encroaching ephemeral/short perennial and poor semi-improved grassland. Several derelict buildings together with dense scrub and scattered trees also occur onsite, with metal fencing and stone walls defining the Site's boundaries. The majority of habitats supported are considered to be of negligible ecological value per se, albeit with potential to provide suitable opportunities for a range of protected and notable species, with confirmed common pipistrelle (*Pipistrellus pipistrellus*) bat roosts supported within buildings **B2** and **B4**. Building **B3** is also considered to have low potential to support roosting bats although it sits outside of the development boundary.
- S5 Accordingly, EDP has contributed to the emerging masterplan design for the Site which has sought to locate development across those habitats of predominantly limited ecological value (namely hard standing and ephemeral/short perennial vegetation), whilst retaining habitats of greater ecological value, including mature trees, as far as possible. Such habitats will also be subject to further enhancement through habitat creation and sensitive management over the long term.
- S6 The proposed development will, however, result in the demolition of two buildings confirmed to support summer bat roosts of low conservation status. A European Protected Species (EPS) Development Licence from Natural Resources Wales (NRW) will therefore be required, requiring precautionary clearance methodologies and timings to be adhered to, together with the provision of compensatory roosting features on-site.
- S7 Subject to the implementation of suitable avoidance, mitigation and enhancement measures in respect of habitats and protected species present/potentially present on-site therefore, it is

considered that the development scheme can be implemented in accordance with national and local planning policy and wildlife legislation.

Section 1 Introduction

- 1.1 This Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of McDonald's Restaurants Ltd (hereafter referred to as "the Applicant"). This Appraisal considers the ecological implications of proposed development on land in Merthyr Tydfil, Heads of the Valley Road (hereafter referred to as "the Site").
- 1.2 This report has been prepared with reference to the following key guidance:
- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal¹;
 - CIEEM Guidelines for Ecological Impact Assessment²; and
 - British Standard: Biodiversity - Code of Practice for Planning and Development³.
- 1.3 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained at our website (www.edp-uk.co.uk).

SITE CONTEXT

- 1.4 The Site is centred approximately at Ordnance Survey Grid Reference (OSGR) SO 07929 08447. The Local Planning Authority (LPA) is Merthyr Tydfil County Borough Council (MTCBC).
- 1.5 The Site measures circa 0.36 hectares (ha) and comprises previously developed land located within a business park surrounded by existing development. The Site has been left largely derelict, with evidence of fly tipping and no current management in place. A number of built structures occupy the far eastern extents of the Site.

DEVELOPMENT PROPOSALS

- 1.6 In brief, proposed development relates to the construction of a McDonald's restaurant together with the associated parking provision, sustainable drainage and landscaping.
- 1.7 The proposals are to be the subject of a detailed planning application. The Proposed Site Plan is provided at **Appendix EDP 1**, with the Detailed Planting Plan provided at **Appendix EDP 2**.

¹ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester

² CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2*. Chartered Institute of Ecology and Environmental Management, Winchester

³ BSI (2013) *Biodiversity - Code of Practice for Planning and Development*. BS 42020:2013. British Standards Institute

- 1.8 The ecological sensitivities of the Site have influenced the final layout through an iterative design process. Thus, the masterplan incorporates a degree of 'inherent' mitigation to avoid or reduce the severity of potential ecological impacts.

SCOPE OF THE ASSESSMENT

- 1.9 This Ecological Appraisal describes the current ecological interest within and around the Site, which has been identified through standard desk- and field-based investigations. It then considers the potential ecological impacts and opportunities for ecological enhancement based on the final masterplan (incorporating inherent mitigation) in the context of relevant legislation and planning policy. Finally, this Appraisal identifies the necessary additional measures to avoid, mitigate or provide compensation for potential impacts, and the mechanisms for securing such measures.
- 1.10 The remainder of this report is structured as follows:
- **Section 2** summarises the methodology employed in determining the baseline ecological conditions within and around the Site (with further details provided within Appendices and on Plans where appropriate);
 - **Section 3** summarises the baseline ecological conditions (with further details also provided within Appendices and on Plans where appropriate) and identifies and evaluates any pertinent ecological features/receptors;
 - **Section 4** describes how the development design has responded to the ecological constraints and any embedded/inherent mitigation, and then considers the potential impacts of the proposals on pertinent ecological features;
 - **Section 5** proposes mitigation and enhancement measures for the current and possible future planning stages, in the context of relevant legislation and planning policy, and mechanisms to secure their delivery; and
 - **Section 6** summarises the Mitigation and Enhancement Strategy for the Site and provides the overall conclusions of the Appraisal.

Section 2

Baseline Methodology

- 2.1 This section of the Ecological Appraisal summarises the methodologies employed in determining the baseline ecological conditions within and around the Site. This has been undertaken by appropriately qualified ecologists using relevant best practice methodologies wherever possible. Reasons for any departure from best practice methodology are given and normally relate to the timing of EDP's commission and/or the availability of access to parts of the Site or wider study area. Full details of the techniques and process adopted are, where appropriate, provided within Appendices and on Plans to the rear of this report.

DESK STUDY

- 2.2 The desk study is an important element of undertaking an initial ecological appraisal of a site proposed for development, which entails the initial collation and review of contextual information, such as designated sites, together with known records of important habitats or species.
- 2.3 The desk study involved collating biodiversity information from the following sources:
- Biological Records Centre (Aderyn, SEWBrEC and BIS); and
 - Multi-Agency Geographic Information for the Countryside (MAGIC) website⁴.
- 2.4 The desk study was undertaken during January 2025 and involved obtaining the following information:
- International statutory designations (10km radius around the Site);
 - National statutory designations and non-statutory local sites (2km radius);
 - Annex II bat species⁵ records (6km radius);
 - All other protected, priority and notable species records (2km radius); and
 - All other notable habitat records (500m radius).
- 2.5 These search areas are considered sufficient to cover the potential zones of influence⁶ of the proposed development in relation to designated sites, habitats and species. The data request from SEWBrEC as detailed above was provided on 10 January 2025 and included an extended search for bat records (references: 0245-751. and 7100177).

⁴ www.magic.gov.uk

⁵ Bat species listed in Annex II of the EC Habitats Directive, namely Greater horseshoe, Lesser horseshoe, Barbastelle and Bechstein's bats

⁶ Zone of Influence - the areas and resources that may be affected by the proposed development

- 2.6 The adopted Merthyr Tydfil Replacement Local Development Plan (RLDP) was also reviewed as part of the desk study to understand local priorities with regard to protection of ecological features/biodiversity.

EXTENDED PHASE 1 HABITAT SURVEY

- 2.7 The main habitats within the Site, together with their dominant/characteristic plant species, were identified by undertaking an Extended Phase 1 Habitat survey in February 2025.
- 2.8 Full details of the habitat survey methodology are provided within **Appendix EDP 3**.

DETAILED (PHASE 2) SURVEYS

- 2.9 The scope of Phase 2 Surveys undertaken within the Site was defined following the initial studies described above.
- 2.10 The surveys 'scoped in' based upon the findings of the Extended Phase 1 Habitat survey are summarised in turn below, with reference to sources of further detailed information where applicable.

Bat Surveys

- 2.11 During the Extended Phase 1 Habitat survey, a number of mature trees together with six buildings occur within the Site, with potential to support roosting bats. Habitats onsite also have some, albeit limited, potential to support foraging and commuting bats. The following surveys for bats were therefore undertaken, with reference to best practice guidelines⁷:

Bat Roost Inspection Surveys - Trees

- Preliminary Ground Level Tree Assessment (GLTA) of trees for bat roosting suitability, undertaken on 13th February 2025.

Bat Roost Inspection Surveys – Buildings/Built Structures

- Preliminary roost assessment of all built structures onsite, where accessible, to search for evidence of bats and determine the suitability of features to support roosting, undertaken on 13 February 2025; and
 - Emergence and/or re-entry surveys of buildings confirmed as having potential to support roosting bats during the preliminary roost assessment, undertaken on 06 May, 05 June and 01 July 2025.
- 2.12 Full details of the bat survey methodologies, and any limitations encountered, are provided in **Appendix EDP 4**.

⁷ Collins, J. (ed.) (2023). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London

Badger Survey

- 2.13 A survey to record any evidence of badger activity within the Site was undertaken during the Extended Phase 1 Habitat survey on 13 February 2025.
- 2.14 During the survey, any signs of badger activity such as holes, latrines, trails, snuffle holes and hairs on fencing or vegetation were recorded. Where holes of a size and shape consistent with badgers were identified, the following signs of badger activity were searched for to determine whether they were currently in use:
- Fresh spoil outside entrances;
 - Bedding material (typically dried grass) outside entrances;
 - Holes being cleared of leaf litter/other debris;
 - Badger guard hairs; and
 - Footprints and fresh tracks leading to/from the holes.
- 2.15 Each hole was then categorised into the following⁸:
- Well used (active): these are clear of any debris or vegetation, and are obviously in regular use;
 - Partially used (partially active): these are not in regular use and have debris such as leaves or twigs in the entrance, or have moss and/ or other plants growing in or around the entrance. They could be in regular use after minimal amount of clearance; or
 - Disused: these have not been in use for some time, are partially or complete blocked and cannot be used without a considerable amount of clearance.
- 2.16 Several categories of badger setts are used to describe a sett, as described below:
- Main setts are defined as setts with a 'large number' entrance holes (although this can be fewer) associated with large spoil heaps and well-trodden paths. This is normally where cubs are raised and is in continuous use throughout the year;
 - Annexe setts - These setts are intermediate-sized (with 'several holes') and may be used by breeding badgers. These setts are normally close to a main sett (within 150m of the main sett) and connected to it by obvious paths. They may not be in use all the time, even if the main sett is very active;
 - Subsidiary setts - These are similar to annexe setts but are likely to be further away (at least 50m from the main sett) and not as well connected to the main sett as annexe setts. They are not continuously active; and

⁸ Harris, S., Cresswell, P. and Jeffries, D. (1989). Surveying Badgers. Occasional publication of Mammal Society, Number 9. Mammal Society

- Outlier setts - Outlier setts are small setts with one or two entrance holes which are used sporadically by badgers as a temporary refuge. Spoil heaps are likely to be small and there may not be obvious paths connecting to other setts. Use may be sporadic. There may be several outlier setts within one badger social group's territory.

Limitations

- 2.17 Badger surveys can be undertaken at any time of year and are, therefore, not limited by seasonal factors. Whilst access to areas beyond the southern boundary of the Site were limited due to the presence of an active construction compound, this area could be fully viewed from a vantage point within the Site and is therefore not considered to pose a limitation to the survey effort.

ECOLOGICAL SURVEYS SCOPED OUT

- 2.18 **Table EDP 2.1** summarises other survey types which, whilst occasionally required to inform a planning submission for development sites, are not deemed to be necessary/appropriate in this case.

Table EDP 2.1: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Detailed Botanical Survey	The Site is dominated by hardstanding, with only limited areas of poor semi-improved grassland, ephemeral/short perennial vegetation, scrub and scattered trees. Such habitats are species poor and lacking in structural diversity, whilst no notable plant species were recorded during the Extended Phase 1 Habitat survey. No further assessment of floristic communities is therefore considered necessary to inform a planning application.
Otter (<i>Lutra lutra</i>) and Water Vole (<i>Arvicola amphibicus</i>)	Given the absence of suitable habitat on or adjacent to the Site, otter and water vole are presumed absent from the Site. No further surveys are therefore considered necessary to inform a planning application.
Dormouse (<i>Muscardinus avellanarius</i>)	Given the absence of suitable habitat on or adjacent to the Site, dormouse is presumed absent from the Site. No further surveys are therefore considered necessary to inform a planning application.
Great Crested Newt (<i>Triturus cristatus</i>)	Given the absence of water bodies onsite or within 500m where not restricted by significant barriers, no further survey for this species is considered necessary.
Common Reptiles	The small extent of the Site and limited suitability of those habitats render the Site sub-optimal for common reptiles. Nevertheless, given their potential presence within the wider landscape, precautionary measures of clearance during the pre-construction phases of development are instead recommended to ensure no harm/disturbance to reptiles.

Survey Type	Reasons for Scoping Out
Breeding and Wintering Birds	Given the small size of the Site and nature of those habitats supported therein, no further breeding or wintering bird surveys are recommended. Precautionary measures of clearance during the pre-construction phases of development are instead recommended to ensure no harm/disturbance to nesting birds.

Section 3

Baseline Results

- 3.1 This section of the Ecological Appraisal summarises the baseline ecological conditions determined through the course of desk-based and field-based investigations described in **Section 2**. In particular this section identifies and evaluates those ecological features/receptors that lie within the Site's potential zone of influence, and which are pertinent in the context of the proposed development. Further technical details are, where appropriate, provided within Appendices and on Plans to the rear of this report.
- 3.2 Where a particular ecological feature/receptor has been confirmed to be present, or presence is inferred based on habitat suitability, its ecological importance is assessed. The level of ecological importance assigned to each ecological feature is based upon established geographical value systems and the uses the following scale: International and European (highest) > National > Regional > County > District > Local > Negligible (lowest).

DESIGNATED SITES

- 3.3 Information regarding designated sites was obtained during the desk study statutory designations (those receiving legal and planning policy protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

- 3.4 Statutory designations represent the most significant ecological receptors. Internationally important statutory designations include Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites (including potential SPAs, possible SACs and proposed Ramsars). These designations are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations).
- 3.5 Nationally important statutory designations include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). NNRs are also SSSIs, both of which are protected under the *Wildlife and Countryside Act 1981* (as amended).
- 3.6 The legal protection of SACs, SPAs, Ramsar Sites and SSSIs is also reflected in policies included within Planning Policy Wales 12 (February 2024) (PPW) and within Technical Advice Note 5: Nature Conservation and Planning (TAN5), which are a material consideration during the planning application process. Further consideration is afforded to the protection SSSIs within recent updates to Chapter 6 of PPW, published during October 2023, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living' landscape, and contribute to an ecologically coherent and resilient network of protected sites and linkages between these. Other development is considered unacceptable as a matter of principle.

3.7 Local level statutory designations include Local Nature Reserves (LNRs) and are generally considered to be of importance at the County level or lower. LNRs are designated under the National Parks and Access to the Countryside Act 1949, however protection of LNRs is given via local planning policies and/or by-laws.

3.8 Statutory designations are also recognised as key natural assets within the Merthyr Tydfil replacement Local Plan. Of note, policy EnW2 (Internationally and nationally protected sites and species) which states:

“Development likely to have an adverse effect either directly or indirectly on the conservation value of an internationally or nationally designated site, including the area, structure and function of designated features, will only be permitted where it is demonstrated that:

1. *There is no suitable alternative to the proposed development; and*
2. *It can be demonstrated that the benefits from the development clearly outweigh the special interest of the site; and*
3. *Appropriate compensatory measures are secured; or*
4. *The proposal contributes to the protection, enhancement and positive management of the site.”*

3.9 No part of the Site is covered by any statutory designations. Whilst none occur within 10km of the Site in respect of internationally designated sites, a single SSSI is located within 2km in respect of nationally designated sites. This Site is shown on **Plan EDP 1** and detailed in **Table EDP3.1**.

Table EDP 3.1: Statutory Designated Sites within 2km of the Site.

Designation	Approx. distance from Site	Interest Feature(s)
Mynyddoedd Llangynidr a Llangatwg, Cefn yr Ystrad a Chomin Merthyr Site of Special Scientific Interest	0.42km north-east of the Site.	A newly designated site confirmed as a SSSI in January 2025. The Site is designated for both its geological and botanical interest. The Site is noted to be designated for a number of habitats including blanket bog, raised bog, acid fen, wet dwarf shrub heath, dry dwarf shrub heath acid and base-rich mire, calcareous grassland and semi-natural broadleaved woodland, as well as fungi-rich grassland. The Site is also designated for the nationally important populations of hibernating lesser horseshoe bats (<i>Rhinopophus hipposideros</i>).

Non-statutory Designations

- 3.10 Non-statutory designations are also commonly referred to in planning policies as 'local sites', although such designations are typically considered to be of importance at a county level. In MTCBC, such designations are termed SINCS. Additional sites such as non-designated nature reserves (e.g. Wildlife Trust nature reserves) and Ancient Semi-natural Woodland (ASNW) are considered here when not covered by other designations. The importance of SINCS/LWSs is recognised in PPW 12 and in the Merthyr Tydfil replacement Local Plan, specifically Policy EnW3.
- 3.11 No part of the Site is covered by any non-statutory designations. Five SINCS occur within 2km of the Site however, as summarised in **Table EDP 3.2** and illustrated at **Plan EDP 2**.

Table EDP 3.2: Non-Statutory Designations Within 2km of the Site

Designation	Approx. distance from Site	Interest Feature(s)
Blaenmorlais SINC	0.44km north-west	A large area supporting a mosaic of upland habitats at the western edge of Merthyr Common. Mainly acid grasslands with acidic flushes, grass-heaths, dry heathlands, marshy grasslands, bracken slopes and smaller areas of wet heathland and scrub. The Site also contains small disused quarries (Garth Quarries) and acid screes. A section of the Nant Morlais within the site has steep valley sides with rocky outcrops. A large pond in the south of the site supports a regionally rare plant, and several uncommon dragonflies.
Pan March and traed y Milwyr, Llechryd SINC	0.45km north-east	An extensive upland area supporting a mix of wet and dry acid grassland and heath. Dominant species include Purple Moor-grass, Heather, Bilberry, Mat Grass, Cross-leaved Heath, Deergrass, Heath Rush, Soft Rush, Common Cotton-grass and Sphagnum mosses.
Merthyr Common North SINC	0.55km north	Very extensive area of upland common land supporting a mosaic of both wet and dry moorland habitats. These include extensive areas of unimproved acid grassland, marshy grassland, dry heathland and grass-heath, together with areas of wet heath, acid flush, bracken stands, scree and exposed gritstone bedrock.

Designation	Approx. distance from Site	Interest Feature(s)
Cefn Gelligaer, west of Deri SINC	1.33km south-east	An extensive upland area of acid grassland, semi-improved acid grassland, marshy grassland and wet heath, locally forming mosaics and transitions between these communities. Other habitats include ponds, flushes, small streams and bare rock. The area north of Fochriw includes several areas of former mineral workings, which support dry heath, often with abundant bryophytes, lichens and grassland fungi. Some spoil-heaps have been reinstated as grassland and are developing a semi-natural character. Some of the more recent workings in the northern part support breeding Lapwings.
Tair Carreg Moor, Northwest of Fochriw SINC	1.38km south	The majority of this extensive upland area supports a mosaic of wet and dry acid grassland and heath. Dominant species include purple moor-grass, Mat grass, Cross-leaved heath, Heath rush, Soft rush, Common cotton-grass and Sphagnum mosses. Several ponds are present near to the SINC boundaries. Some parts of the area support more heavily grazed semi-improved acid grassland with Common bent and Soft rush.

HABITATS

3.12 There are several mechanisms by which habitats that lie outside of statutory and non-statutory designations are protected, or by which their importance is recognised at a national level. This includes the following:

- 'Important' hedgerows are protected from removal (out with the planning process) by the Hedgerows Regulations 1997;
- Certain habitats are listed priority habitats, which public authorities in Wales must seek to maintain and enhance (to promote ecosystem resilience) as part of policy or decision making under Section 6 of the *Environment (Wales) Act 2016*; and in so doing, deliver net benefits to biodiversity in accordance with Chapter 6 of PPW 12 through adoption of a stepwise approach by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort, compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on a site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact;
- PPW 12 includes a presumption against development which results in significant harm to biodiversity and ecosystem functioning, or results in the loss of irreplaceable habitat⁹.

⁹ Irreplaceable habitats are technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed. Habitats noted as irreplaceable within PPW are ancient woodland, semi-natural woodland, and ancient, veteran and heritage trees.

PPW 12 also sets out how planning authorities should fulfil their 'Biodiversity and Resilience of Ecosystems Duty' as required by the *Environment (Wales) Act 2016*. Pertinent to this, Chapter 6 of PPW 12 also afford further consideration to the protection of trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial green infrastructure function;

- Chapter 6 of PPW 12 places further emphasis on adopting a proactive approach to integration of green infrastructure within development plans/proposals, adopting building with nature standards and in so doing, supporting the delivery of ecosystem services and net benefits to biodiversity across site boundaries; and
- The importance of protecting habitats, and networks of habitats, is reflected in the Merthyr Tydfil replacement Local Plan, specifically Policy EnW1 and EnW3:

- Policy EnW1 states:

"Development proposals will be required to promote the resilience of ecosystems. In particular, proposals will be required to maintain and enhance biodiversity interests unless it can be demonstrated that:

1. *The need for the development clearly outweighs the biodiversity value of the site; and*
2. *The impacts of the development can be satisfactorily mitigated and acceptably managed through future management regimes."*

- Policy EnW3 states:

"Development proposals likely to have an adverse impact on Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves, or Priority Habitats and Species will only be permitted where it can be demonstrated that:

1. *The need for the development clearly outweighs the conservation value of the site;*
2. *Adverse impacts on nature conservation features or geological features can be avoided;*
3. *Appropriate and proportionate mitigation and compensation measures can be provided; and*
4. *The development maintains and where possible enhances biodiversity and geodiversity interests."*

3.13 The distribution of different habitat types within the Site is illustrated at **Plan EDP 3** with habitats described in **Appendix EDP 3**. A summary and qualitative assessment of these habitats is provided in **Table EDP 3.2**.

Table EDP 3.3: Summary of Habitats Within the Site

Habitat Type	Distribution	Intrinsic Ecological Importance*
Scattered Trees	A number of scattered trees occur across the Site, primarily in association with the north-western and north-eastern boundaries. Additionally, a tree line of Leyland Cypress (<i>Cupressus x leylandii</i>) occurs across the eastern extent of the Site.	Site, owing to the limited number, poor diversity/structure and lack of continuous canopy cover.
Hedgerows	A species-poor, defunct hedgerow borders the northeastern boundary of the Site. A short (c20m) section of species-poor, intact hedgerow also occurs in association with this boundary, to the immediate west of built structures.	Site, due to limited extent and poor botanical diversity/structure.
Poor Semi-improved Grassland and Scattered Scrub	Forming peripheral habitat in association with the north-eastern, north-western and south-western boundaries of the Site.	Site, due to limited extent and poor botanical diversity.
Ephemeral/Short Perennial Vegetation	Dominating the eastern extents of the Site in association with built structures, as well as occurring adjacent to areas of poor semi-improved grassland, encroaching upon areas of hard standing adjacent.	Site, due to limited extent and poor botanical diversity.
Dense Scrub	Establishing scrub occurring atop an embankment forming the south-western boundary of the Site, and in association with the northern boundary bordering metal fence.	Site, due to limited extent and poor botanical diversity.
Hard Standing	Dominates the Site, comprising concrete and gravel, with its southern section subject to disturbance arising from ongoing construction activities.	Negligible
Buildings	Six disused, built structures B1-B6 occur across the eastern extents of the Site.	Negligible per se, albeit with potential to support protected/notable species.

*Importance irrespective of any protected, priority or other notable species which may be present

- 3.14 As noted within **Table EDP 3.2**, the majority of the Site is made up of habitats which are of Local less than Local, or negligible, intrinsic importance.
- 3.15 However, a number of the habitats, including those which are of limited intrinsic importance, also require consideration in relation to their importance in maintaining populations of protected, priority or other notable species. This is discussed further below.

PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

- 3.16 Certain species receive legal protection in the UK and are commonly known as 'protected species'. In reality, the level of protection for different species varies considerably, from

protection solely against 'killing and injury' to full protection of the species and their places of refuge. Where pertinent, details of legal protection afforded to species/species-groups are provided below.

- 3.17 In addition to protected species there are other species/species-groups that do not receive legal protection, but which are notable owing to their conservation status. This includes priority species, which public authorities in Wales must seek to maintain and enhance as part of policy or decision making under Section 7 of the Environment (Wales) Act 2016. PPW recognises species as an important component of biodiversity, as does the Merthyr Tydfil Replacement Local Plan, specifically Policy EnW1.
- 3.18 The likelihood of presence, or confirmed presence, of protected, priority or other notable¹⁰ wildlife species within the Site is summarised below with reference to desk study records, habitat suitability and detailed surveys where relevant. Further details are made available within the appendices and plans where referenced.

Breeding Birds

- 3.19 All wild birds, their nests and eggs are protected under the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to:
- Intentionally kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird while it is in use or being built;
 - Take, damage or destroy the egg of any wild bird; or
 - To have in one's possession or control any wild bird (dead or alive) or egg, or any part of a wild bird or egg.
- 3.20 In addition, further protection is afforded to those wild bird species listed on Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended), prohibiting any intentional or reckless disturbance to these species while it is nest building, or at a nest containing eggs or young, or to recklessly disturb the dependent young of such a bird. A number of species are also included as priority species.
- 3.21 A large number of records of bird species were retrieved during the desk study, including 26 records of *Wildlife and Countryside Act 1981* (as amended) Schedule 1 species, and 89 records of species included on the latest Red and Amber lists of Birds of Conservation Concern in Wales¹¹. The vast majority of records received relate to species that would not normally breed in habitats found within the Site, however.
- 3.22 Trees, scrub and built structures provide suitable foraging and nesting resource for generalist bird species. However, due to the limited extent and distribution of these habitats, there is not

¹⁰ Notable species are those which are not legally protected but are formally identified as being of conservation concern

¹¹ Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. & Taylor, R.C. 2022. *Birds of Conservation Concern Wales 4: the population status of birds in Wales*. Milvus 2:1.

considered to be potential for a notable bird assemblage to be valued beyond a Site level context.

Bats

3.23 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) (referred to as the 'Habitats Regulations'). This affords strict protection to bats and their roosts, and makes it an offence to:

- Deliberately capture, injure or kill a wild animal of an EPS;
- Deliberately disturb wild animals of an EPS wherever they are occurring, in particular, any disturbance which is likely to impair their ability to survive, to breed or reproduce, to significantly affect the local distribution or abundance of the species to which they belong, or in the case of hibernating or migratory species, to hibernate or migrate; or
- Damage or destroy a breeding site or resting place of a wild animal of an EPS.

3.24 Additional protection for bats is also afforded under the *Wildlife and Countryside Act 1981* (as amended), making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place. In addition, soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*), greater horseshoe bat (*Rhinolophus ferrumequinum*), barbastelle bat (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), and lesser horseshoe bat (*Rhinolophus hipposideros*) are also listed as priority species.

3.25 The desk study returned 53 records for bats within the 2km search radius around the Site. These records relate to at least six different species, with the closest record of confirmed bat roosting being for brown Long-eared bat located approximately 1.82km from the Site.

3.26 179 records of Annex II species were returned within 6km of the Site. This included Lesser horseshoe and Greater horseshoe with the nearest roost being of Lesser horseshoe found 1.77km away from the Site.

3.27 While the Mynyddoedd Llangynidr a Llangatwg, Cefn yr Ystrad a Chomin Merthyr SSSI is designated for lesser horseshoe bat, this is largely covering the area also designated as part of the Usk Bat Sites SAC, which is located over 10km north-east of the Site.

Bat Roosting

Trees

3.28 No trees were identified during the GLTA as requiring further assessment or having Potential Roosting Features (PRF) for bats.

Buildings/Built Structures

3.29 The preliminary roost assessment/inspection of buildings identified a total of three buildings with suitable features for bat roosting, with buildings **B2** and **B3** considered to have low

suitability and building **B4** having moderate suitability suitable features for bat roosting. **B1, B5** and **B6** were otherwise considered to have negligible suitability to support roosting bats. Further details for each of the buildings inspected are provided in **Appendix EDP 4** and their locations are shown on **Plan EDP 3**.

- 3.30 Buildings **B2** and **B4** were therefore subject to further dusk emergence surveys to determine the potential presence/infer absence of bat roosts.
- 3.31 The first dusk emergence survey undertaken on 06 May 2025 recorded an emergence from building **B2** at 21:07, with a single common pipistrelle observed emerging from the northern corner of this building between the metal roof and wooden plank.
- 3.32 No further emergence from building **B2** was recorded during the second emergence survey on 05 June 2025. However, emergences by two individual common pipistrelle bats from building **B4** were recorded. The first emergence was observed from beneath the porch roof of the building at 21:53; the second observed from the brickwork around the vent on the northern side of this building at 22:11.
- 3.33 No emergences were recorded for either buildings **B2** or **B4** during the third emergence survey undertaken on 01 July 2025.
- 3.34 The results of the bat roost surveys are illustrated at **Plans EDP 3** and **EDP 4**.
- 3.35 It is thus considered that buildings **B2** and **B4** support summer day roosts for low numbers of common pipistrelle bats. In accordance with the Bat Mitigation Guidelines¹², such roosts are considered to be of low conservation status, with each roost site considered to be of Site Level importance given their usage by individual/small numbers of common and widespread species (non-maternity). Given the presence of up to three common pipistrelle day roosts potentially supported however, bat roosts supported by the Site is considered to be of Local Level importance overall.

Bat Foraging/Commuting Activity

- 3.36 Overall, habitats present within the Site are assessed as having low suitability for foraging and commuting bats, being dominated by hard standing and ephemeral/short perennial vegetation and subject to disturbance through ongoing construction activities in addition to street lighting adjacent, in association with adjacent business park units. Whilst areas of grassland and scrub could provide some opportunities, such habitats are limited in extent and distribution, with poor connectivity to the wider landscape, the Site being surrounded by roads and built development. The Site is therefore considered to be of only Site level importance to foraging and commuting bats within the wider landscape.

Dormouse

- 3.37 Hazel dormouse is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species

¹² Mitchell-Jones, A.J. (2004) Bat Mitigation Guidelines English Nature, Peterborough; Reason, P.F. and Wray S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for development affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield

under the *Wildlife and Countryside Act 1981* (as amended) as summarised above in respect of bats. This species is also listed as a priority species.

- 3.38 No records for dormouse were returned within 2km of the Site's boundaries during the desk study. Additionally, habitats onsite are considered unsuitable for dormice such that this species is likely absent from Site and thus not considered further within this report.

Otter

- 3.39 Otter is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the *Wildlife and Countryside Act 1981* (as amended) as summarised above in respect of bats. This species is also listed as a priority species.
- 3.40 Four records of otter were returned within 2km of the Site, the closest record being 0.48km from the Site found on the roadside of the A470.
- 3.41 No watercourses or waterbodies are present within or adjacent to the Site. In addition to the disturbed nature of the Site, the surrounding business park development separates the Site from nearby watercourse. As such, this species is likely absent from the Site and thus not considered further within this report.

Water Vole

- 3.42 Water vole and their burrows receive protection under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to:
- Intentionally kill, injure or take (capture) a water vole;
 - Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection; and
 - Intentionally or recklessly disturb water voles while they are in a place of shelter or protection.
- 3.43 Water vole is also listed as a priority species.
- 3.44 One records of water vole were returned within 2km of the Site's boundaries, the closest record being 0.65km south from the Site in Penywern pond.
- 3.45 No watercourses or waterbodies are present within or adjacent to the Site, with the Site considered to be unsuitable for this species given the lack of suitable vegetation otherwise supported and separation of the Site from more suitable habitat within the wider landscape. Water vole is therefore considered likely absent from Site and not considered further within this report.

Badger

- 3.46 Badgers and their setts are protected under the *Protection of Badgers Act 1992*, which makes it an offence (*inter-alia*) to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger; and
- Damage or interfere with a sett, by doing one of the following things:
 - Damage a badger sett or any part of it;
 - Destroy a badger sett;
 - Obstruct access to, or any entrance of, a badger sett;
 - Cause a dog to enter a badger sett; or
 - Disturb a badger when it is occupying a sett.

3.47 The 1992 Act defines a badger sett as “*any structure or place which displays signs indicating current use by a badger*”.

3.48 The protection afforded to badgers is primarily due to animal welfare issues and history of persecution rather than concerns over their unfavourable nature conservation status.

3.49 One record of badger was returned during the desk study, relating to road kill associated with a trunk road circa 2.1km south of the Site. No evidence of badger was identified for the Site during the badger survey.

3.50 Whilst areas of scrub and embankment offer some opportunities for badger, the limited extent of such habitats and their lack of connectivity to more suitable habitat in the wider landscape suggest their likely absence from the Site.

Other Mammal Species

3.51 Records of the following Priority mammal species were returned within 2km of the Site:

- Polecat (*Mustela putorius*) – two records with closest being 1.79km from the Site;
- European hedgehog (*Erinaceus europaeus*)¹³ – 11 records with closest being 0.28km from the Site; and
- Brown hare (*Lepus europaeus*) – five records with closest being 1.49km from the Site.

3.52 The Site supports limited suitable habitat for the above species. Whilst rabbit (*Oryctolagus cuniculus*) droppings were recorded during the initial Site visit, no other evidence of other mammal species was recorded.

Great Crested Newt

3.53 Great crested newt is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species

¹³ Hedgehog is also protected from capture or killing by specific methods under Schedule 6 of the WCA

under the *Wildlife and Countryside Act 1981* (as amended) as summarised above in respect of bats. This species is also listed as a priority species.

- 3.54 No records of great crested newt were returned within 2km of the Site.
- 3.55 No waterbodies occur on or within 500m of the Site where not separated from the Site by significant barriers. Given the limited extent and quality of habitats supported by the Site that could otherwise be used by this species during the terrestrial phase of their annual life cycle, great crested newt is considered likely absent from the Site and not considered further within this report.

Other Amphibian Species

- 3.56 Other legally protected amphibians are rare and have a very restricted distribution¹⁴, however common toad (*Bufo bufo*) is a widespread species which is listed as a priority species.
- 3.57 There are nine records for other amphibian species with there being three records each for common frog (*Rana temporaria*), common toad and palmate newt (*Lissotriton helveticus*). The closest being common toad found 0.64km from the Site.
- 3.58 Habitats onsite are considered unlikely to support common or widespread amphibians given the predominance of hardstanding and lack of connectivity to suitable habitat within the wider landscape. As such, common amphibians are likely absent from the Site.

Reptiles

- 3.59 All species of common reptile, namely common lizard (*Zootoca vivipara*), slow-worm, grass snake (*Natrix helvetica*) and adder (*Vipera berus*), receive at least limited protection from harm under the *Wildlife and Countryside Act 1981* (as amended), making it an offence to cause intentional killing and injuring of these species. In addition, these species are also listed as priority species.
- 3.60 Three reptile records were returned within 2km of the Site, relating to common lizard with the closest being 1.92km from the Site.
- 3.61 Habitats present onsite are considered to be of limited suitability to support a common reptile population, given its limited extent, poor structural diversity and lack of connectivity to more suitable habitat within the wider landscape. While grassland and ephemeral/short perennial vegetation may provide opportunities for basking reptiles, with scrub and gabion baskets offering suitable refugia, the Site remains isolated from adjacent suitable habitat, being surrounded by built development and roads, with limited opportunity for the Site to be colonised by reptiles. As such, the Site is unlikely to support a notable population of common reptiles should they be present within the surrounding area.

¹⁴ Natterjack toad (*Epidalea calamita*) and Northern pool frog (*Pelophylax lessonae*) are EPS, protected under WCA and priority species

Invertebrates

- 3.62 Notable species recorded within 2km of the site include Cinnabar (*Tyria jacobaeae*), Dindly Skipper (*Erynnis tages*), Marsh Fritillary (*Euphydryas aurinia*) and Small pearl-bordered fritillary (*Boloria selene*). Also found within 2km is White-clawed crayfish (*Austropotamobius pallipes*). Nearest record of any invertebrate to site being Cinnabar found 0.65km from the Site.
- 3.63 Whilst previously developed land has the potential to support a variety of niche habitats suitable for a wide range of invertebrate species, the small scale of the Site coupled with the homogenous nature of those habitats supported has limited the structural and floristic diversity of the habitats present. The Site is therefore considered unlikely to support a diverse or significant population of notable invertebrate species, with any invertebrate assemblage present considered to be of no more than Site level importance.

Rare/Scarce Plant Species

- 3.64 23 records of rare/scarce plants were returned within 2km of the Site. These include big blue pinkgill (*Entoloma bloxamii*), date waxcap (*Hygrocybe spadicea*), mossy saxifrage (*Saxifraga hypnoides*), Scot's pine (*Pinus sylvestris*) and sea-buckthorn (*Hippophae rhamnoides*). During the survey no rare/scarce plants species were recorded within the Site.

Invasive Non-Native Species

- 3.65 Section 14 of the *Wildlife and Countryside Act 1981* (as amended) makes it illegal to allow any animal which is not ordinarily resident in Great Britain, or is listed on Schedule 9 to the Act, to escape into the wild, or to release it into the wild; or to plant or otherwise cause to grow in the wild any plant listed on Schedule 9 of the Act.
- 3.66 Ten records of Invasive Non-Native Species were returned within 2km of the Site. The closest being Japanese rose (*Rosa rugosa*) found 0.1km from the Site. No invasive non-native species were recorded within the Site during the survey.

SUMMARY OF KEY SURVEY FINDINGS

- 3.67 The key ecological features/receptors pertinent to the development proposals, based on the survey findings described above, are set out in **Table EDP 3.3**.

Table EDP 3.4: Summary of Ecological Features

Feature	Key Attributes	Ecological Importance
Non-Statutory Designated Sites		

Feature	Key Attributes	Ecological Importance
Mynyddoedd Llangynidr a Llangatwg, Cefn yr Ystrad a Chomin Merthyr SSSI	A large SSSI covering a range of upland habitats including blanket bog, raised bog, acid fen, wet dwarf shrub heath, dry dwarf shrub heath acid and base-rich mire, calcareous grassland and semi-natural broadleaved woodland, as well as fungi-rich grassland. The Site is also designated for the nationally important populations of hibernating lesser horseshoe bats.	National
Blaenmorlais SINC	A large area supporting a mosaic of upland habitats at the western edge of Merthyr Common found off-site.	County
Pan March and traed y Milwyr, Llechryd SINC	An extensive upland area supporting a mix of wet and dry acid grassland and heath found off-site.	County
Merthyr Common North SINC	Very extensive area of upland common land supporting a mosaic of both wet and dry moorland habitats found off-site.	County
Cefn Gelligaer, west of Deri SINC	An extensive upland area of acid grassland, semi-improved acid grassland, marshy grassland and wet heath, locally forming mosaics and transitions between these communities. Other habitats include ponds, flushes, small streams and bare rock. This SINC is found off-site.	County
Tair Carreg Moor, north-west of Fochriw SINC	The majority of this extensive upland area supports a mosaic of wet and dry acid grassland and heath. This SINC is found off-site.	County
Habitats		
Scattered Trees	A number of scattered trees occur across the Site, primarily in association with the north-western and north-eastern boundaries. Additionally, a tree line of Leyland Cypress (<i>Cupressus x leylandii</i>) occurs across the eastern extent of the Site.	Site
Hedgerows	A species-poor, defunct hedgerow borders the northeastern boundary of the Site. A short (c20m) section of species-poor, intact hedgerow also occurs in association with this boundary, to the immediate west of built structures.	Site
Poor Semi-improved Grassland and Scattered Scrub	Forming peripheral habitat in association with the northeastern, northwestern and south-western boundaries of the Site.	Site

Feature	Key Attributes	Ecological Importance
Ephemeral/Short Perennial Vegetation	Dominating the eastern extents of the site in association with built structures, as well as occurring adjacent to areas of poor semi-improved grassland, encroaching upon areas of hard standing adjacent.	Site
Dense Scrub	Establishing scrub occurring atop an embankment forming the south-western boundary of the Site, and in association with the northern boundary bordering metal fence.	Site
Hard Standing	Dominates the Site, comprising concrete and gravel, with its southern section subject to disturbance arising from ongoing construction activities.	Negligible
Buildings	Six disused buildings B1-B6 occur across the eastern extents of the Site.	Negligible per se, albeit with potential to support protected/ notable species.
Species		
Birds	Habitats on-site are limited in extent and quality, offering foraging and breeding opportunities for common and widespread species only.	Site
Roosting Bats	Common pipistrelle summer bat roosts confirmed for buildings B2 and B4 , with building B3 considered to have low potential to support roosting bats.	Local
Foraging/Commuting Bats	The Site is of low suitability for foraging and commuting bats given the limited extent of suitable habitat on and adjacent to the Site and being subject to lighting associated with surrounding business park development.	Site
Badger	Limited habitats onsite for badger, however given the opportunistic nature of this species, their presence in future cannot be ruled out.	Site
Common Reptiles	Habitats onsite are considered sub-optimal for common reptiles. Nevertheless, opportunistic usage of the Site may arise should individuals be present within the wider landscape.	Site

Section 4

Impact Assessment

- 4.1 This section of the Ecological Appraisal first considers any avoidance/mitigation which is embedded within development design, as illustrated within the Proposed Site Plan provided at **Appendix EDP 1** and Detailed Planting Plan provided at **Appendix EDP 2**. It then considers the likely impacts of the development proposals on the pertinent ecological features identified in **Section 3** in the absence of additional mitigation.

EMBEDDED MITIGATION

- 4.2 EDP has provided input throughout the iterative design process so that the development layout reflects some important measures to avoid, mitigate or compensate for ecological impacts as well as other measures designed to provide long-term ecological enhancements, with reference to the stepwise approach promoted within Chapter 6 of PPW 12. This embedded mitigation comprises the following:
- Retention of the trees and hedgerows associated with the boundaries of the Site as far as possible, with losses limited to trees of predominantly low arboricultural quality, as indicated within the Arboricultural Impact Assessment prepared by EDP (report reference edp9069_r004) for submission alongside the planning application;
 - Sensitive design of the north-western and south-western boundaries of the Site, incorporating ornamental shrub and tree planting, together with the provision of formal hedgerow planting proposed along the south-eastern boundary of the Site, maximising habitat connectivity around the peripheries of the Site and connecting to further areas of open green space located across the eastern extents of the Site;
 - Inclusion of a sensitively designed area of green open space located across the eastern extent of the Site, incorporating an attenuation basin as part of a site-wide sustainable drainage strategy to maintain or improve the quality of surface water run-off. The attenuation area is proposed to support a permanently wet area subject to suitable marginal and aquatic planting, together with native structure planting, species-rich grassland and bulb planting, designed to maximise biodiversity. Tree planting, together with the provision of a species-rich native hedgerow is also proposed along the edge of the attenuation area; and
 - The provision of additional tree, grassland and native hedgerow planting along the north-eastern boundary of the Site, further strengthening green infrastructure provision across the eastern extents of the Site so as to maximise its biodiversity value.

IMPACTS ON DESIGNATED SITES

Statutory Designations

- 4.3 As detailed within Section 3, a single statutory designation of national importance is located within the potential zone of influence of the Site. Mynyddoedd Llangynidr a Llangatwg, Cefn yr Ystrad a Chomin Merthyr SSSI is located 0.42km north-east of the Site.
- 4.4 The SSSI is sufficiently distant from the Site such there will be no = impacts associated with habitat loss, degradation or disturbance. In addition, given the upstream location, no impacts as a result of surface water runoff or wastewater discharges are anticipated, and appropriate SUDS are proposed to manage and treat surface water runoff.
- 4.5 The SSSI is, in part, designated for the populations of hibernating lesser horseshoe bats. However, it is understood that these roosts are associated with the cave systems that are also a features of the Usk Bat Sites SAC which is located over 10km from the Site, while the majority of the SSSI, in close proximity to the Site, is associated with the habitat and geological features.
- 4.6 No direct impacts will occur on any roosts within the SSSI, with the closest known roost located 1.7km from the Site. The Site itself provides very limited suitability for foraging and roosting bats, consisting largely of hardstanding and existing built development with only small areas of scattered trees and grassland. The Site is surrounded by highways and built development with limited connectivity to the wider landscape. The suitability is also particularly limited for light sensitive species such as the lesser horseshoe, with lighting from the adjacent supermarket and council compound spilling across the Site. As such the Site is highly unlikely to provide suitable foraging/commuting habitat for lesser horseshoe bats associated with the SSSI.
- 4.7 The buildings on site, as detailed in Appendix EDP 4 provide limited suitability for lesser horseshoe bats. Buildings B1, B5 and B6 were considered to be of negligible suitability for roosting bats. Building B2, while potentially allowing flight paths for lesser horseshoe bats with features suitable for roosting, is very exposed to the elements, with water and light ingress. The building was subject to three emergence surveys, and whilst a single common pipistrelle was found to have emerged, no evidence of lesser horseshoe roosting was recorded during any of the surveys nor was activity of this species elsewhere across the Site recorded during the course of these dusk emergence surveys.
- 4.8 Building B4 was considered to have limited suitability for lesser horseshoe bats. Potential access points for the species are present on the broken windows on the first floor of the building. However, the open loft space and skylights allow significant light into the interior of the building, and external flood lighting from the adjacent compound was noted to be lighting the windows further limiting suitability for light sensitive bat species. In addition, three emergence surveys throughout the active bat season were undertaken of building B4, and no evidence of roosting lesser horseshoe bats, or foraging/commuting lesser horseshoe bats were recorded during the surveys.
- 4.9 Given the lack of suitable foraging or commuting habitat within the Site, and the absence of any lesser horseshoe bat roosts within the Site, no adverse impacts on lesser horseshoe associated within the SSSI are anticipated as a result of the proposals.

Non-statutory Designations

- 4.10 As described in **Section 3**, five statutory designations lie within the potential zone of influence of the Site.
- 4.11 Bleaenmorlais SINC, Pan March and Traed y Milwyr Llechryd SINC, and Merthyr Common North SINC occur within 1km north of the Site and are separated from the Site by existing business park development, with no direct habitat or hydrological connectivity. Cefn Gelligaer, west of Deri SINC and Tair Carreg Moor north-west of Fochriw SINC are also separated from the Site by significant barriers, being located circa 1.3km south of the Site, to the south of the A465 dual carriageway.
- 4.12 Given the small size of the Site, nature of proposed development and extent of existing business park immediately surrounding the Site, no significant direct or indirect effects are therefore considered to likely arise upon these SINCs, with the proposed development considered sufficiently distant and separated from such sensitive habitats. As such, no adverse effects upon non-statutory designations are considered likely to arise.

IMPACTS ON HABITATS

- 4.13 With respect to habitats, the Site comprises previously developed land dominated by areas of hardstanding and built structures. Only limited areas of vegetation are supported, primarily in association with the peripheries of the Site, including poor semi-improved grassland, ephemeral/short perennial vegetation, scrub, scattered trees and short sections of hedgerow, of Site level importance only.
- 4.14 Overall, the Site supports habitats of limited botanical value per se and thus are of negligible importance, such that potential impacts arising from their loss/removal are not considered significant. Inherent within the proposals however, as illustrated at **Appendices EDP 1 and 2**, are a number of biodiversity and amenity benefits including: the inclusion of tree, hedgerow, shrub, grassland, bulb and ornamental planting, alongside the provision of an attenuation basin incorporating a permanently wet area subject to suitable marginal and aquatic planting.
- 4.15 Such habitat creation measures will also be of value to protected/notable species including bats, birds, invertebrates and European hedgehog. The long-term management and maintenance of such habitats will also be implemented, thereby ensuring the delivery of net benefits for biodiversity and ecosystem resilience.
- 4.16 Notwithstanding the above, there remains the potential for physical damage and/or indirect impacts upon trees to be retained during construction works. Pollution events (e.g. contaminated surface water runoff, leaks and spills may also arise from demolition activities, site plant or sediment loads causing dust and spoil deposition, etc.) during the construction phase.
- 4.17 Indirect effects associated with increased levels of disturbance could also occur during the construction phase though the use of lighting and increased levels of vehicular traffic, machinery use and plant movement. Given that construction works will be undertaken during daylight hours however, the usage of artificial lighting will likely be limited to the early morning

and early evening hours, with greater requirements for artificial lighting during the winter months. This could potentially impact upon retained adjacent habitats and the species using them (see below).

- 4.18 In the absence of additional mitigation, impacts associated with disturbance and lighting may also persist during the operational phase following occupation of the Site. However, with the implementation of sensitive lighting strategy around enhanced and retained habitat will reduce the impact on protected species utilising the habitat as discussed below.

IMPACTS ON PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

Birds

- 4.19 The proposed development will require the removal of trees and scrub that may provide nesting habitat for common and widespread bird species during the bird breeding season. Potential impacts associated with the loss and/or disturbance of active nests may therefore arise if habitat clearance works is undertaken during the bird breeding season.
- 4.20 However, the legal protection afforded to birds and their nest (their eggs and young) and the requirement to avoid commencement of such works during the breeding bird season is considered inherent mitigation to ensure no effects relating to direct harm/injury arise in respect of the breeding bird assemblage. Therefore, a negligible impact is predicted.

Bats

Impacts on Roosting Bats

- 4.21 With respect to roosting bats, no trees with potential roost features for bats occur onsite.
- 4.22 Buildings **B2** and **B4** have been confirmed to support common pipistrelle bat roosts. Given the low numbers of bats recorded, the emergence timings and the small scale/extent of the feature, these roosts are confirmed as common pipistrelle summer roosts for individual roosting bats (non-maternity) of low conservation status.
- 4.23 No bat roosts were otherwise confirmed in respect of buildings **B1**, **B3**, **B5** and **B6**.
- 4.24 To facilitate development, buildings **B1**, **B2**, **B4**, **B5** and **B6** will be demolished, with only **B3** to be retained. The development proposals will therefore result in the loss of three common pipistrelle day roosts.
- 4.25 Additionally, increased amounts of traffic movements by vehicles, machinery and plant throughout the construction phase could increase the potential risk of road casualties upon the local bat assemblage, particularly when constructing access roads and removing vegetation across which species disperse and forage. However, given that such impacts will most likely be confined to daylight hours, no significant negative effects are considered likely to arise.

Impacts on Foraging/ Commuting Bats

- 4.26 The Site is considered to offer limited habitat for foraging and commuting bats, such that potential impacts arising from the permanent loss/damage of semi-natural habitat on-site (i.e., ephemeral short perennial vegetation) is not considered significant.
- 4.27 Potential disturbance impacts arising in respect of lighting and noise from development could impact the local bat population, however.
- 4.28 In addition, increased levels of traffic movement by vehicles, machinery and plant throughout the construction phase, could also result in increased risks of collision.

Common Reptiles, Badger and Other Notable Mammals

- 4.29 Development will require the loss of small areas of poor semi-improved grassland, ephemeral/short perennial vegetation, scrub, scattered trees and short sections of hedgerow, considered to provide only sub-optimal opportunities for common reptiles, badger and other notable mammals such as European hedgehog, should they be present in the locality.
- 4.30 Overall, the loss of predominantly low-quality habitat available to such populations is not considered significant. Nevertheless, in absence of additional mitigation, there is the potential for the killing and injury of this species during vegetation clearance, and following increased levels of traffic movements by vehicles, machinery and plant throughout the construction and operational phases of development.

Section 5

Mitigation and Enhancement Strategy

- 5.1 This section of the Preliminary Ecological Appraisal considers the impacts set out in **Section 4** and sets out the principles of any required mitigation measures necessary to firstly avoid or minimise any ecological impact, or else to mitigate unavoidable impacts arising from proposed development so as to comply with relevant planning policy and avoid any infringement of relevant legislation.
- 5.2 This section also sets out recommendations for ecological enhancements onsite, to accord with the requirements of PPW 12 and local planning policy, requiring developments to contribute to and enhance the natural and local environment, whilst providing a net biodiversity benefit.

HABITATS

- 5.3 The vast majority of on-site habitats, predominantly comprising hardstanding and built structures together with limited areas poor semi-improved grassland, ephemeral/short perennial vegetation, scrub, scattered trees and short sections of hedgerow, will be lost to development. Inherent within the proposals therefore is the inclusion of new planting in compensation for such losses whilst ensuring an overall net benefit to biodiversity and ecosystem resilience, as follows:
- Sensitive design of the north-western and south-western boundaries of the Site, incorporating ornamental shrub and tree planting, together with the provision of formal hedgerow planting proposed along the south-eastern boundary of the Site, maximising habitat connectivity around the peripheries of the Site and connecting to further areas of open green space located across the eastern extents of the Site;
 - Inclusion of a sensitively designed area of green open space located across the eastern extent of the Site, incorporating an attenuation basin as part of a site-wide sustainable drainage strategy to maintain or improve the quality of surface water run-off. The attenuation area is proposed to support a permanently wet area subject to suitable marginal and aquatic planting, together with native structure planting, species-rich grassland and bulb planting, designed to maximise biodiversity. Tree planting, together with the provision of a species-rich native hedgerow is also proposed along the edge of the attenuation area; and
 - The provision of additional tree, grassland and native hedgerow planting along the north-eastern boundary of the Site, further strengthening green infrastructure provision across the eastern extents of the Site so as to maximise its biodiversity value.
- 5.4 Additionally, in respect of those trees and hedgerows proposed for retention, protective fencing will be erected as recommended within BS5837:2012 Trees in Relation to Design, Demolition and Construction, to physically protect retained trees together with the establishment of Ecological Protection Zones (EPZs). Protective fencing and EPZs will be maintained throughout the duration of all site-enabling and pre-construction activities. No works (other than planting), including the storage of materials, plant and machinery, will be carried out within or immediately

adjacent to EPZs, so as to ensure no detrimental impacts to sensitive features arising from physical damage and/or pollution.

- 5.5 This will be combined with the adoption of dust control measures during construction to minimise further potential impacts upon sensitive terrestrial and aquatic features that may arise, together with restrictions on traffic movement and/or speed, appropriate storage of materials and/or use of screens and fencing as necessary.
- 5.6 Such measures can be secured through the provision and implementation of a Construction Environmental Management Plan (CEMP) and/or Ecological Construction Method Statement (ECMS) secured by condition.
- 5.7 All habitats to be retained, created and enhanced will also be subject to sensitive management over the long term to increase their resilience and mitigate long-term disturbance effects.
- 5.8 Subject to the implementation of the measures summarised above, impacts on retained habitats will be avoided in accordance with relevant planning policy.

PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

Breeding Birds

- 5.9 The habitat protection measures described above will avoid harm to breeding birds present with retained habitats. However, some habitat loss will be required to facilitate the development, including trees, scrub and buildings which otherwise provides suitable breeding habitat for nesting birds.
- 5.10 Given the protection afforded to breeding birds, their nests, eggs and young, sensitive vegetation clearance and refurbishment to built structures required during the pre-construction and construction phases of development should be timed to avoid the main bird breeding season (May to August inclusive).
- 5.11 Should this seasonal constraint prove impracticable, then vegetation clearance outside of this period should only commence following the advice and under the supervision of a suitably qualified ecologist. Pre-commencement checks for active bird nests will be undertaken by a suitably qualified ecologist/Ecological Clerk of Works (ECoW) immediately prior to commencement. Where an active bird nest is identified, a 5-10m buffer (and potentially greater dependent on individual species requirements, as specified by the ecologist at the time) will be established around the active nest, with no construction activities permitted within this buffer until all young have fledged and the nest is confirmed inactive by the ECOW.
- 5.12 In addition, it is further recommended that suitable bird boxes/nesting chambers are installed upon retained trees or building **B3**, or for integration within built development where appropriate. Nest boxes should avoid south facing elevations and be installed in accordance with manufacturer's specifications at heights of at least 4-6m above ground level and be located away from clutter which may otherwise obstruct access by birds. Recommended bird boxes include 1B Schwegler nest boxes or similar to be installed on a retained tree within the Site. The final type and positioning of bird boxes will be advised upon by the project ecologist depending on availability, with woodcrete (or similar) material is recommended for longevity.

Bats

Roosting Bats

- 5.13 Dusk emergence surveys have confirmed the presence of three, non-breeding summer day roosts for common pipistrelle bat in association with buildings **B2** and **B4** onsite, proposed for demolition. As such, a Development Licence from NRW will be required prior to commencement to enable the lawful commencement of demolition works to these buildings.
- 5.14 Demolition works will necessarily be confined to the period between September and March inclusive so as to avoid the period when bats are at their most active (April to August inclusive) whilst also avoiding the main bird nesting season.
- 5.15 Prior to commencement, a minimum of three bat boxes/tubes will be installed on suitable trees, on building **B3** to be retained onsite or mounted on poles, following the advice of the named ecologist and/or accredited agents/assistants on the Development Licence. Locations are indicative and to be confirmed in line with the NRW development licence and on the advice of the project ecologist. Such features will act as suitable receptor sites for bats in the unlikely event that any individuals are found during demolition, and to compensate for roost loss arising as a result of proposed activities.
- 5.16 Bat boxes should comprise 1FF Schwegler bat boxes and/or 2F Schwegler bat box, or similar, to be installed in accordance with manufacturer's specifications, and ideally at heights of no less than 4m above ground level. Bat boxes/tubes should be installed away from any source of artificial lighting, should avoid being mounted above doorways or windows, and be located away from clutter which may otherwise obstruct access by bats. Suggested bat box locations are provided within the hard landscaping plan submitted with the application, and are located in areas of darkness assessed to be of complete darkness as part of the sensitive lighting strategy.
- 5.17 Tool-box talks will be provided to contractors prior to commencement outlining the legal protection of bats, licence conditions and methods of sensitive working practice to be followed, so as to ensure adherence to the NRW Development Licence.
- 5.18 Soft-stripping of any features deemed to have potential for roosting bats will be undertaken under the supervision of a licensed bat ecologist and in accordance with the NRW Development Licence where applicable. Contractors will remove all fascia's, bargeboards, soffits, roof tiles, etc., by hand, carefully checking for any evidence of bats.
- 5.19 Given the absence of bat roosts identified in association with buildings **B1**, **B3**, **B5** and **B6**, there is no requirement to obtain a Development Licence from NRW in respect of the proposed demolition of **B1**, **B5** and **B6**, or in respect of any refurbishment works to **B3**. Nevertheless, and particularly given the 'Low' suitability of **B3** to support roosting bats, a precautionary approach to the works is advised. Works to potential roosting features associated with such structures should ideally be undertaken between September to March so as to avoid the main bat roost and bird breeding seasons. Should this not be practicable, then pre-commencement checks carried out by a suitably qualified ecologist will be required immediately prior to the commencement of works.
- 5.20 Contractors carrying out the works should also be warned of the possible presence of roosting bats and nesting birds and of their protected status. Tool-box talks will be provided to site

contractors prior to the commencement, outlining the legal protection of bats and any sensitive working practices requiring implementation. Tool-box talks will seek to ensure works are carried out with care and vigilance for bats. In the event any bats (or occupied bird nests) are found during works, then all works should cease in the affected area until advice from a suitably qualified and licensed ecologist is sought.

- 5.21 In addition, should any works to buildings occur more than 12 months since the previous bat roost assessment, then an update assessment of the buildings by a suitably qualified and NRW bat licensed ecologist will be required. Should the results of the update assessment confirm the presence of bat roosts, then a Development Licence from NRW will be necessary, with sufficient mitigation and compensatory measures detailed within the accompanying Method Statement submitted for approval. Where further surveys infer likely absence of a roost, then a precautionary approach should instead be adopted given the opportunistic nature of bats, with a precautionary working method statement written and adhered to so as to ensure accordance with legislation. Should bats be recorded during any proposed future works, then all such works must cease and the advice of an NRW licensed bat ecologist sought, with a Development Licence potentially required before works can recommence.
- 5.22 To enhance the Site more generally for roosting bats it is further recommended that an additional three bat boxes are installed within the development. Such features can be mounted on poles for installation within areas of green open space proposed across the eastern extent of the Site; alternatively, such features can be integrated into built development where appropriate. Locations are indicative and to be confirmed in line with the NRW development license and on advice of the project ecologist.
- 5.23 Subject to the implementation of those key mitigation measures detailed above with respect to bats and previously with respect to habitats, no significant detrimental impacts upon the roosting and foraging/commuting bat assemblage utilising the Site are considered likely to arise.
- 5.24 With respect to trees, none are considered to have potential to support roosting bats such that works to trees may proceed without a Development Licence from NRW. Should any bats be discovered during the felling of these or any other trees however, then works will necessarily cease and a suitably qualified and NRW bat licensed ecologist contacted for further advice.
- 5.25 Given that the majority of the works will be undertaken during daylight hours, the usage of artificial lighting during construction will likely be limited to the early morning and early evening hours, with greater requirements for artificial lighting during the winter months. To minimise impacts to the local bat population during the construction phase therefore, night working should be avoided where possible, with temporary lighting kept to the working area, avoiding the peripheries of the Site and all retained vegetation. This may require the use of directional or timed lighting, or accessories to light fixtures such as hoods.
- 5.26 In addition to the above, a sensitive lighting strategy should be implemented during operation, secured by planning condition and designed to minimise light spill from street lighting onto retained/new bat foraging habitat on or adjacent to the development area. Around the cycle path lighting should be placed on the south side with the lighting directed across the path in a north and downwards direction. The sensitive lighting plan in place has no spill of light above 2m and limited back spill onto enhanced habitat. The bat boxes are to be placed between

3-5m meaning and have been confirmed to be in areas of darkness under the sensitive lighting strategy.

Foraging/Commuting Bats

- 5.27 With respect to a foraging/commuting bat assemblage, those habitat creation measures detailed above will provide adequate compensation for minor losses arising across the Site.
- 5.28 To avoid disturbance of a foraging/commuting bat assemblage during construction however, working at night and the use of night lighting should be avoided, with temporary lighting kept to the working area, minimising light spill upon retained habitats adjacent as far as possible, particularly in respect of the northern boundary, considered to have the most potential to be used as a flight line for the dispersal of a bat assemblage to the wider landscape.
- 5.29 This should be combined with the implementation of a sensitive lighting strategy during the operational phase of development to ensure that retained habitats adjacent to the Site used by light-sensitive species such as bats will not be adversely lit. Where lighting is required e.g., for security, lighting columns should be directed away from habitat edges to minimise disturbance and light spill. Lighting should include directional in a downwards facing, minimising the impact of up spill and back spill of lighting, timed and/or low lux lighting, utilising shields and/or hoods where required. The lighting plan in place has no up spill of light above 2m along the cycle path, this allows the enhanced habitat around the cycle path to be used for foraging and commuting bats without any negative impacts from lighting.
- 5.30 Subject to the implementation of those key mitigation measures detailed above with respect to bats and previously with respect to habitats, no significant detrimental impacts upon the roosting and foraging/commuting bat assemblage utilising the Site are considered likely to arise.

Reptiles, Badger and Other Notable Mammals

- 5.31 While no badger setts have been identified within the Site, given the mobility and widespread nature of badger, an update survey of the Site by a suitably qualified ecologist is recommended prior to the commencement of construction to determine whether any new badger setts have been established during the interim period.
- 5.32 More generally, the following precautionary measures are recommended and should be adhered to during the construction phase:
- All machinery will be operated by trained personnel only;
 - There will be no working at night;
 - All trenches/excavations will be covered up overnight and/or a means of escape provided (such as mammal ramps) to avoid wildlife becoming trapped; and
 - Any open pipework with an outside diameter of greater than 120mm must be covered at the end of each working day to prevent animals entering/becoming trapped.

5.33 Additionally, a precautionary approach to habitat clearance is recommended to ensure no harm to species. Clearance of any suitable vegetation should be undertaken in accordance with the following precautionary methods of working:

- Vegetation clearance should be undertaken between the late spring and early autumn months so as to avoid the main hibernation period (typically considered to be between October and March). Should the above seasonal constraint be considered impracticable, then clearance works between late October and March inclusive may require pre-commencement checks and/or supervision by a suitably qualified ecologist to ensure no disruption to potential hibernacula, with the adoption of additional precautionary measures as appropriate;
- A first cut should aim to reduce vegetation height to no less than 200mm and should be undertaken through the use of a hand-held strimmer or brush cutter. The second cut should be undertaken thereafter and within 24 hours of the initial cut, during which the vegetation should be reduced to ground level;
- Both cuts should be undertaken in a direction towards retained habitats, so as to allow for any wildlife present to disperse safely towards this resource;
- Any suitable refugia identified during clearance works will be subject to a finger-tip search by a suitably experienced ecologist with any species identified re-located to areas of retained vegetation. Thereafter, refugia will be dismantled by hand and relocated to areas of retained vegetation to ensure suitable refuge/hibernation opportunities are retained;
- In the event any protected/notable species are identified during site clearance, these will be captured by hand and immediately released into retained habitat located immediately adjacent to the construction footprint; and
- To facilitate the dispersal of European hedgehog and other small mammals across the Site during the operational phases of development, any fenced boundaries should include gaps measuring a minimum of 13cm x 13cm at their bases.

5.34 Further enhancements at the Site can be achieved through the creation of hibernacula and deadwood log piles within south facing habitat and/or within the natural/informal greenspace areas.

5.35 The mitigation and enhancement measures outlined above will ensure that effects upon common reptiles, badger and other notable mammals, if present in the locality, are avoided/minimised, with an overall positive increase in the availability of suitable habitat across the Site.

Section 6

Summary and Conclusions

6.1 **Table EDP 6.1** provides an overview of Mitigation and Enhancement Strategy described in **Section 5**.

Table EDP 6.1: Summary of Proposed Mitigation and Enhancement

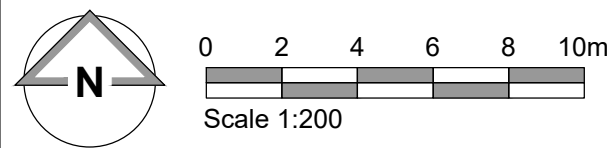
Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
Avoid by design	Retention of habitats with appropriate development buffers: Retention of trees and hedgerows associated with the peripheries of the Site as far as possible.	Habitat retention embedded in the Proposed Site Layout which will be an 'approved plan' to which future detailed designs must align.
Avoid or minimise construction impacts	Sensitive methods of operation during enabling and construction works: - Control of working hours; - Minimise noise and vibration; - Air quality measures/ dust suppression; - Control/eradication of invasive species; - Surface water management; - Storage of fuels/chemicals; and - Sensitive lighting.	CEMP secured via pre-commencement planning condition.
	Protection of retained habitats Fencing and signage to create development exclusion zones.	Arboricultural Method Statement (AMS) and ECMS secured via pre-commencement planning condition.
	Methods to avoid harming individuals or interfering with breeding of protected species prior to/during habitat destruction: - Pre-commencement checks/surveys; - Avoidance of trapping animals in excavations; - Timings to avoid sensitive periods/breeding seasons; - Capture and translocation of animals from construction footprint; - Phased vegetation clearance/draining of water bodies;	ECMS secured via pre-commencement planning condition.

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
	- Maintaining dispersal routes; - Destructive searches; and - Supervision by Ecological Clerk of Works (ECOW).	
Mitigate or compensate for habitat loss and deliver net gains	Habitat enhancement & creation measures: - Sensitive design of the north-western and south-western boundaries of the Site, incorporating ornamental shrub and tree planting, together with the provision of formal hedgerow planting proposed along the south-eastern boundary of the Site; - Inclusion of a sensitively designed area of green open space located across the eastern extent of the Site, incorporating an attenuation basin as part of a site-wide sustainable drainage strategy to maintain or improve the quality of surface water run-off; - Attenuation basin to include a permanently wet area subject to suitable marginal and aquatic planting, together with native structure planting, species-rich grassland and bulb planting to maximise biodiversity; - Tree planting, together with the provision of a species-rich native hedgerow is also proposed along the edge of the attenuation area; and - Provision of additional tree, grassland and native hedgerow planting along the north-eastern boundary of the Site.	Space for new habitat embedded in the Proposed Site Layout and Detailed Planting Plan which will be an 'approved plan' to which detailed designs must align. Landscape and Ecological Management Plan (LEMP) to be secured by planning condition.
	Habitat features to be provided in suitable locations: Provision of bird boxes to be installed upon retained trees/structures or integrated into built development where appropriate.	LEMP to be secured by planning condition.

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
	Implementation of a sensitive lighting strategy to avoid disturbance of nocturnal species, in particular foraging/commuting bats and bat roosts.	Detailed lighting design to be secured by planning condition.
	Species-specific mitigation potentially to be required should roosting bats be identified within the buildings. - Three bat boxes/tubes to be installed on retained trees/structures or mounted on poles to compensate for roost loss; and - Three bat boxes to be mounted on poles and/or integrated into built development where appropriate to further enhance the Site for roosting bats.	Any mitigation would be incorporated within the Proposed Development design, detailed within the LEMP and where necessary included within a NRW Development Licence and associated Method Statement.
Maintenance, Monitoring and Management post-construction	Habitat-specific, namely measures to: - Enhance retained habitat, and to ensure new habitat becomes established, to achieve target condition; and - Monitor and maintain habitats in good ecological condition once enhanced/established.	LEMP to be secured by planning condition.
	Species-specific, namely measures to: Maintain habitat features including bat and bird boxes in good condition or replace as necessary.	LEMP to be secured by planning condition.

6.2 EDP concludes that, in light of the embedded mitigation and subject to the full implementation of the additional measures summarised above, the proposed development is capable of compliance with relevant planning policy and legislation and can deliver net benefits for wildlife and biodiversity.

Appendix EDP 1
Proposed Site Plans
(Drawing Number 13888_AEW_2685_0004 Rev B and edp9069_d013e)



General Site Proposal Notes:

- 'DOT' denotes Department of Transport Signs installed in accordance with all Approved Documents and British Standards. For Signage type refer to AEW drawing no. 13888_AEW_2685_0008
- 'DK' denotes location of drop kerbs to be installed.
- Drop kerbs to be installed:
 - Along delivery routes
 - Around Accessible Parking Bays in accordance with AD M
 - At Pedestrian crossing point
- Yellow Thermoplastic Material to:
- All Drive Thru related road markings
 - Accessible parking bays in accordance with AD M
 - Parked order bays
- White Thermoplastic Material to:
- Car park related road markings to be in white thermoplastic material
 - Standard parking bays to be finished in white thermoplastic material
 - All junction road markings
 - All pedestrian crossings

NOTES

- All dimensions and levels are to be checked on site.
- Any discrepancies are to be reported to the architect before any work commences.
- Whist information on this sheet is issued to scale, scaling directly from this drawing may result in inaccuracies. For precise measurements, refer to the stated dimensions or contact the Architect.
- This drawing shall not be reproduced without express written permission from AEW.
- Title overlay drawings and ownership boundaries are produced using all reasonable endeavours. AEW cannot be responsible for the accuracy or scale discrepancy of base plans supplied to them.
- All works are to be undertaken in accordance with Building Regulations and the latest British Standards.
- All proprietary materials and products are to be used strictly in accordance with the manufacturers recommendations.

Project Notes

- All drawings to be read in conjunction with all other drawings as noted on issue sheet.
- Drawing based on:
 - Glanville's Survey drawing 4240241-4101A dated: 13/01/2025
 - OS Promap 100022432
- Existing below ground utilities/services unknown, Intrusive surveys required

Application Boundary:

Parking Schedule		
Bay Type	Existing	Proposed
Accessible Bays	0	2
Grill Bays	0	1
General Bays	0	27
EVC Bays	0	2
Total Car Bays	0	32
Cycle Spaces	0	6
Motorcycle Bays	0	2

Schedule of Areas	
Site Area (Hectares)	0.39
Building GEA (m²) (exc. Corral)	309

Site Features Key	
150mm Diameter stainless steel protective bollard	BOL
Cranked bollards Painted Black	CB
Tactile Blister Paving	
Target Bin	
"LP" Denotes Lamppost	LP
Proposed 1800mm high Close Boarded Timber Fence	
Proposed 600mm high Timber Knee Rail Fence	

B	18/06/2025	AK	TSS
Application boundary amended, ADL cycle path shown			
A	13/06/2025	AK	TSS
Totem added whitelining amended, attenuation basin and cycle path indicated			
-	26/03/2025	AK	TSS/LMD
Initial Issue			
REV	Date	Drawn by:-	Checked by:-

For Information

drawing stage **Planning**

client **McDonald's Restaurants Ltd**

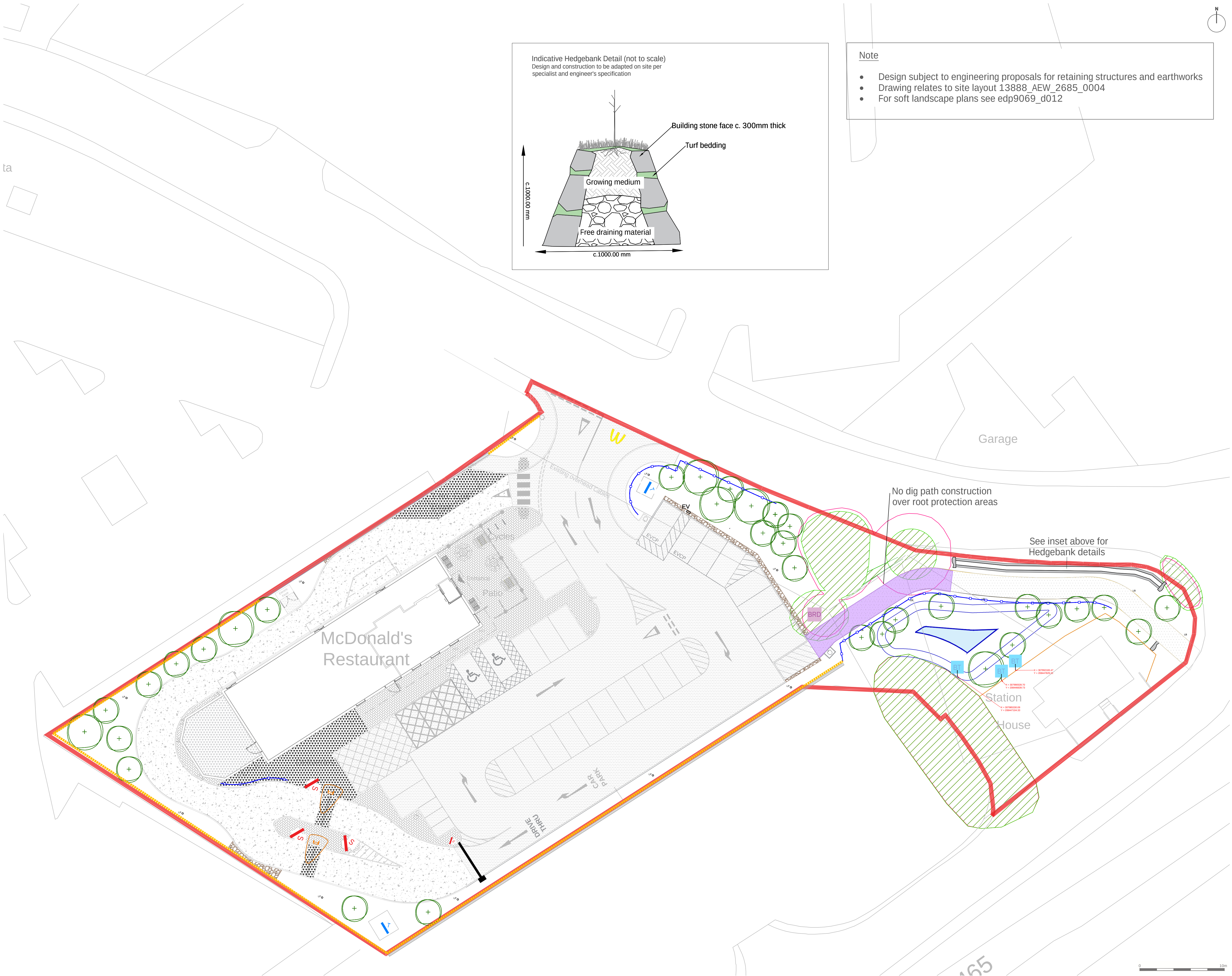
project **Merthyr Tydfil, Heads of the Valley Rd** store **2685**

drawing title **Proposed Site Plan**

date **26/03/2025** drawn **AK**
scale@A1 **1:200** checked **TSS**

Planning

Site Plan
Scale 1:200
Proposed Site Plan



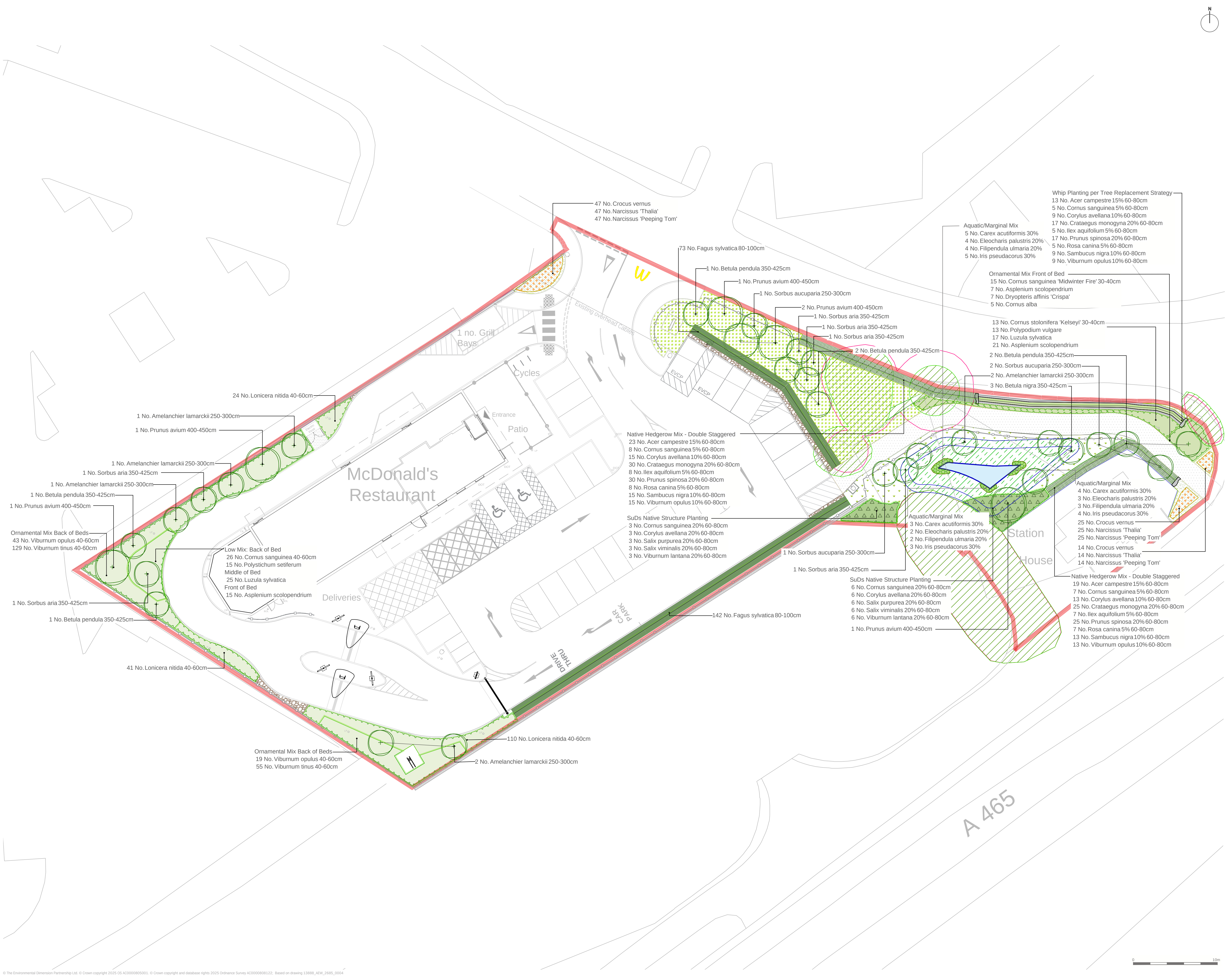
- Site Boundary
- Existing Tree/Vegetation to be Retained
Refer to the Arboricultural Report
- Proposed Tree Planting
- Proposed Cycleway Permeable Surface
Resin bound gravel to engineers specification
- Proposed Tarmacadam
To engineers specification
- Proposed Imprinted Concrete
Entrained with full layer works,hardening agent and curing system; Colour: Grey, Pattern: London Cobble
- Proposed Charcoal Brushed Concrete
To engineers specification
- Proposed Brushed Concrete
To engineers specification
- Proposed Block Paving
Product: Marshalls Keyblock (200 x 100 x 80mm)
Colour: Charcoal
- Proposed Ornamental Gravel
- Proposed Information Sign
- Proposed Totem Sign (12m)
- Proposed Timber Knee Rail (0.6m Tall)
- Proposed Fence to Residential (1.8m Tall)
Composite To be specified alongside residential works
- Proposed Post and Rail Fence (1.1m Tall)
Anti-climb to be specified to engineers specification
- Proposed Retaining Wall
To engineers specification
- Proposed Levered Vehicle Barrier
- Proposed Canopy to Vehicle Barrier
- Proposed Cycle Stands
Sheffield Cycle Hoop or similar
- Proposed Outdoor Furniture
Refer to McDonalds Product Specifications
- Proposed Target Bin
- Proposed SuDS Feature
- Proposed EV Charging Station
- Proposed Lighting Pole
To lighting engineers specification
- Proposed Lighting Bollard
To lighting engineers specification
- Proposed Bird Boxes
Tree mounted:
Specific location determined by project ecologist
- Proposed Bat Boxes
Post Mounted x 2 per post: (1FF Sowhlegler or similar)
Location per project ecologist advice
- Proposed Feature Boulder
To hedge/Hedgebank edge
- Proposed Hedgebank
See inset

EOP designs are assessed for any significant risks under the Construction (Design and Management) Regulations 2015 and provided in a separate Design Risk Register. All risk identification matters are to be interpreted in conjunction with any other designs and coordinated by the Principal Designer (CDM).

This drawing is to be read in conjunction with all other drawings and specifications within the package. These drawings have been prepared for design development and costing purposes only. All dimensions in millimeters unless otherwise specified. Do not scale off this drawing, except for planning purposes. Written dimensions to be taken only. EOP will accept no responsibility for errors by others in 'scaling' from this drawing. All base plans used are provided by the client and architect, except where otherwise expressly agreed in writing. EOP shall have no responsibility or liability for any loss direct or consequential. This drawing must not be copied in whole or part without prior written consent from EOP.

purpose of issue				PLANNING
e	Amends to bat boxes per LPA comments	18/12/2025	JWe	
d	Amends following architects specification	16/09/2025	JWe	
c	Amends following lighting plan and internal QA comments.	08/09/2025	JWe	
rev	description	date	by	
client				
McDonald's Restaurants Ltd				
project title				
McDonalds Merthyr Tydfil Heads of the Valleys Road				
drawing title				
Hard Landscape Plan				
				Sheet 1
date	18 DECEMBER 2025	drawn by	JWe	
drawing number	edp9069_d013e	checked	HMc	
scale	1:200 @ A1	QA	JFr	

Appendix EDP 2
Detailed Planting Plan
(edp9069_d012d 08 September 2025 JWe/HMc)



Site Boundary

Existing Trees/Groups to be Retained
In Accordance with BS5837
Refer to the Arboricultural Report

Existing Vegetation to be Retained
In Accordance with BS5837
Refer to the Arboricultural Report

Proposed Tree

Proposed Formal Hedgerow Planting
Topsoil Depth: 450mm
Mulch: 75mm Depth Bark Mulch

Proposed Native Hedgerow Planting
Topsoil Depth: 450mm
Mulch: 75mm Depth Bark Mulch

Proposed Amenity Grass
Product: TBC or Similar Approved
Supplier: Rolawn
Topsoil Depth: 150mm

Proposed Species-rich Meadow Grass
Product: EM1 Basic General Purpose Meadow Mixture
Supplier: Emorsgate Seeds
Sowing rate: 4g/m² Topsoil Depth: 150mm

Proposed Flowering Lawn
Product: EL1 Flowering Lawn Mixture
Supplier: Emorsgate Seeds
Sowing rate: 4g/m² Topsoil Depth: 150mm

Proposed Wetland Grass (TO ATTENUATION BANKS)
Product: EP1 Pond Edge Mix
Supplier: Emorsgate Seeds
Sowing rate: 4g/m²

Proposed Ornamental Shrub Planting
Topsoil Depth: 450mm
Mulch: 75mm Depth Bark Mulch

Proposed Native Shrub Planting
Topsoil Depth: 450mm
Mulch: Jute/Hessian Mulch Mats
Density 4-6 per sqm

Proposed Marginal/Aquatic Planting

Proposed Permanently Wet/Pond Area
Lined Section to Basin. Refer to Engineering Drawings for Information

Proposed Bulb Planting

Proposed Ornamental Gravel
Product: Golden Gravel 20-30mm diameter, or similar approved, to be laid over a Weed Suppressor Membrane

Whip Planting per Tree Replacement Strategy
13 No. Acer campestre 15% 60-80cm
5 No. Cornus sanguinea 5% 60-80cm
9 No. Corylus avellana 10% 60-80cm
17 No. Crataegus monogyna 20% 60-80cm
5 No. Ilex aquifolium 5% 60-80cm
17 No. Prunus spinosa 20% 60-80cm
5 No. Rosa canina 5% 60-80cm
9 No. Sambucus nigra 10% 60-80cm
9 No. Viburnum opulus 10% 60-80cm

Aquatic/Marginal Mix
5 No. Carex acutiformis 30%
4 No. Eleocharis palustris 20%
4 No. Filipendula ulmaria 20%
5 No. Iris pseudacorus 30%

Ornamental Mix Front of Bed
15 No. Cornus sanguinea 'Midwinter Fire' 30-40cm
7 No. Asplenium scolopendrium
7 No. Dryopteris affinis 'Crispa'
5 No. Cornus alba

13 No. Cornus stolonifera 'Kelsey' 30-40cm
13 No. Polypodium vulgare
17 No. Luzula sylvatica
21 No. Asplenium scolopendrium
2 No. Betula pendula 350-425cm
2 No. Sorbus aucuparia 250-300cm
2 No. Amelanchier lamarckii 250-300cm
3 No. Betula nigra 350-425cm

Aquatic/Marginal Mix
4 No. Carex acutiformis 30%
3 No. Eleocharis palustris 20%
3 No. Filipendula ulmaria 20%
4 No. Iris pseudacorus 30%
25 No. Crocus vernus
25 No. Narcissus 'Thalia'
25 No. Narcissus 'Peeping Tom'
14 No. Crocus vernus
14 No. Narcissus 'Thalia'
14 No. Narcissus 'Peeping Tom'

Native Hedgerow Mix - Double Staggered
19 No. Acer campestre 15% 60-80cm
7 No. Cornus sanguinea 5% 60-80cm
13 No. Corylus avellana 10% 60-80cm
25 No. Crataegus monogyna 20% 60-80cm
7 No. Ilex aquifolium 5% 60-80cm
25 No. Prunus spinosa 20% 60-80cm
7 No. Rosa canina 5% 60-80cm
13 No. Sambucus nigra 10% 60-80cm
13 No. Viburnum opulus 10% 60-80cm

SuDs Native Structure Planting
6 No. Cornus sanguinea 20% 60-80cm
6 No. Corylus avellana 20% 60-80cm
6 No. Salix purpurea 20% 60-80cm
6 No. Salix viminalis 20% 60-80cm
6 No. Viburnum lantana 20% 60-80cm
1 No. Prunus avium 400-450cm

Aquatic/Marginal Mix
3 No. Carex acutiformis 30%
2 No. Eleocharis palustris 20%
2 No. Filipendula ulmaria 20%
3 No. Iris pseudacorus 30%

Low Mix: Back of Bed
26 No. Cornus sanguinea 40-60cm
15 No. Polystichum setiferum
Middle of Bed
25 No. Luzula sylvatica
Front of Bed
15 No. Asplenium scolopendrium

Ornamental Mix Back of Beds
43 No. Viburnum opulus 40-60cm
129 No. Viburnum tinus 40-60cm

Ornamental Mix Back of Beds
19 No. Viburnum opulus 40-60cm
55 No. Viburnum tinus 40-60cm

EDP designs are assessed for any significant risks under the Construction (Design and Management) Regulations 2015 and provided in a separate Design Risk Register. All risk identification matters are to be interpreted in conjunction with any other designs and coordinated by the Principal Designer (CDM).

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purpose of issue			PLANNING
D	Amendments following LPA comments.	18/12/2025	JWe
C	Amendments following lighting plans and internal QA comments.	08/09/2025	JWe
B	Amendments following client comments.	21/08/2025	JWe
rev	description	date	by
client			
McDonald's Restaurants Ltd			
project title			
McDonalds Merthyr Tydfil Heads of the Valleys Road			
drawing title			
Detailed Planting Plan			
			Sheet 1 of 2
date	18 DECEMBER 2025	drawn by	JWe
drawing number	edp9069_d012d	checked	HMc
scale	1:200 @ A1	QA	JFr

Planting Schedule

Trees						
Number	Common Name	Species	Girth	Height	Specification	Density
7	Juneberry	Amelanchier lamarckii		250-300cm	RB :Heavy Standard :Clear Stem 175-200	Counted
3	River birch	Betula nigra	12-14cm	350-425cm	Half Standard :Clear Stem min. 200 :3x	Counted
7	Common Silver Birch	Betula pendula	12-14cm	350-425cm	Half Standard :Clear Stem min. 200 :3x	Counted
6	Wild Cherry	Prunus avium	14-16cm	400-450cm	3 :Extra Heavy Standard :Clear stem 175-200cm :5 brks :RB	Counted
6	Whitebeam	Sorbus aria	12-14cm	350-425cm	3x :Heavy Standard :Clear Stem 175-200 :RB :5 brks	Counted
4	European mountain ash	Sorbus aucuparia		250-300cm	RB :Heavy Standard :Clear Stem 175-200	Counted
Total :33						

Shrubs						
Number	Common Name	Species	Height	Pot Size	Specification	Density
5	Red-barked Dogwood	Cornus alba		5L		1/m²
26	Common Dogwood	Cornus sanguinea	40-60cm	3L	Branched: 4 brks	3/m²
15	Dogwood 'Midwinter Fire'	Cornus sanguinea 'Midwinter Fire'	30-40cm	5L	Bushy	3/m²
13	Red Osier Dogwood 'Kelsey'	Cornus stolonifera 'Kelsey'	30-40cm	5L	Several shoots :2 brks	3/m²
175	Box Honeysuckle	Lonicera nitida	40-60cm	5L	Bushy :5 brks :Bushy :5 brks	3/m²
75	Guelder Rose	Viburnum opulus	40-60cm	5L	Branched :4 brks	1/m²
221	Laurustinus	Viburnum tinus	40-60cm	5L	Branched :Branched :4 brks	3/m²
Total :530						

Bulbs					
Number	Common Name	Species	Bulb Size	Specification	Density
86	Dutch crocus	Crocus vernus		Grade 7/8	15/m²
86	Cyclamineus Daffodil	Narcissus 'Peeping Tom'		Grade 7/8	15/m²
86	Orchid daffodil	Narcissus 'Thalia'		Grade 7/8	15/m²
Total :258					

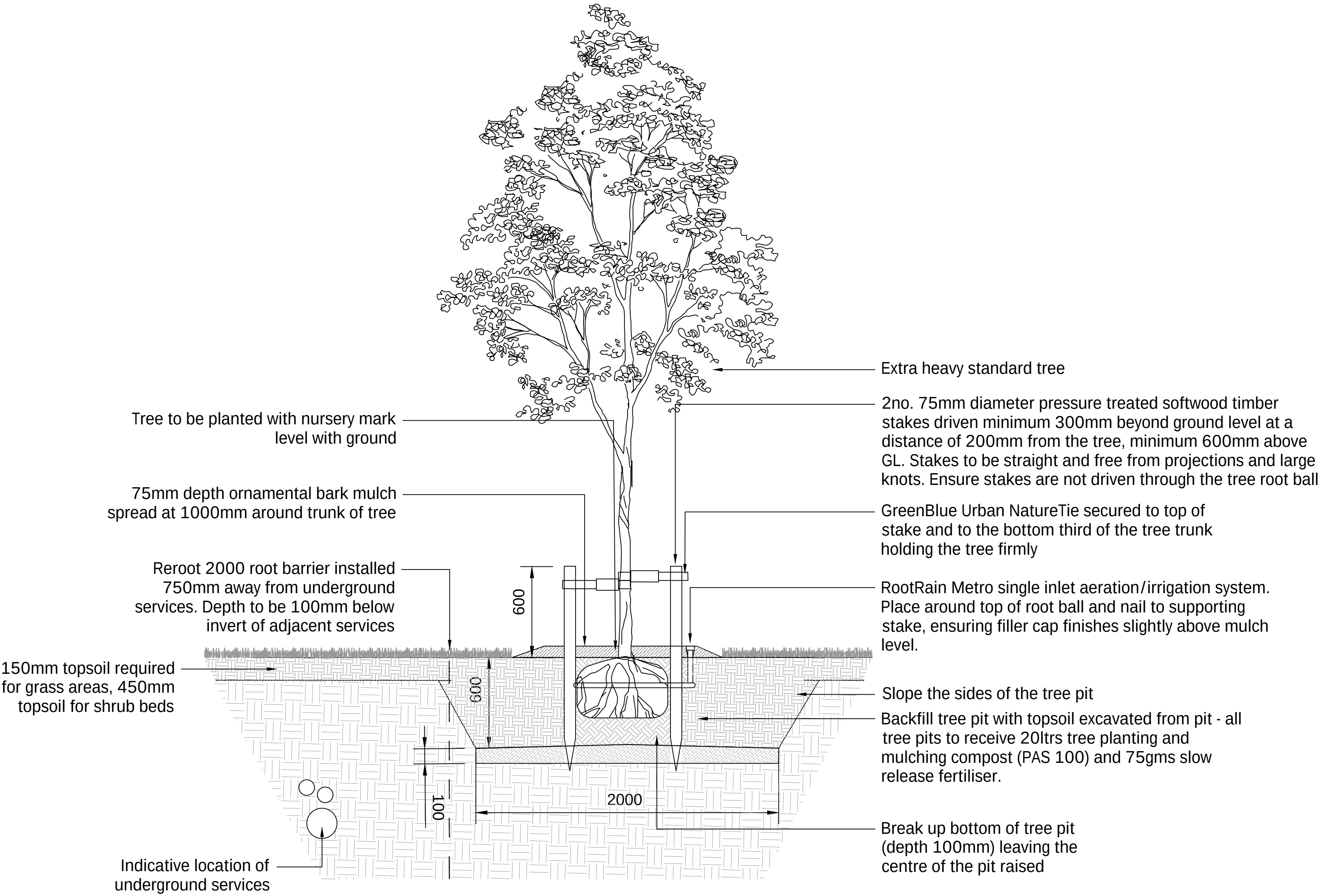
Ferns					
Number	Common Name	Species	Pot Size	Specification	Density
21	Hart's Tongue Fern	Asplenium scolopendrium	3L		5/m²
22	Hart's Tongue Fern	Asplenium scolopendrium	3L	Full Pot	3/m²
7	Crisped Golden Scale Fern	Dryopteris affinis 'Crispa'	3L	Full Pot	3/m²
13	Common Polypody	Polypodium vulgare	3L		3/m²
15	Soft Shield Fern	Polystichum setiferum	3L	Full Pot	3/m²
Total :78					

Grasses				
Number	Common Name	Species	Specification	Density
42	Great Wood-rush	Luzula sylvatica	Full Pot	4/m²
Total :42				

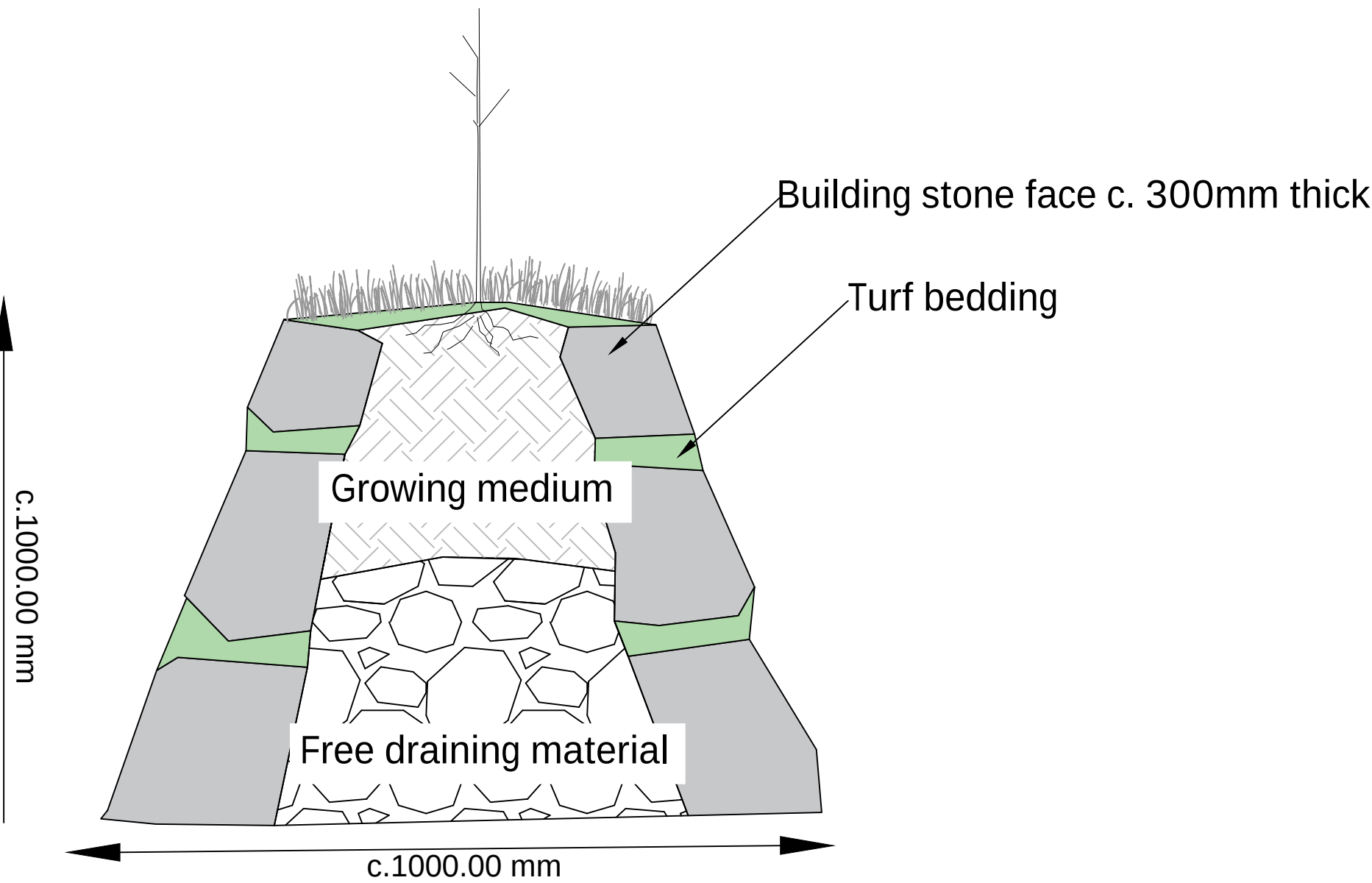
Hedges					
Number	Common Name	Species	Height	Specification	Density
215	Common Beech	Fagus sylvatica	80-100cm	Branched :C :4 brks	3/m
Total :215					

Native Hedgerow Mix				
Number	Common Name	Species	Specification	Density
42	Common Maple	Acer campestre	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
13	Common Maple	Acer campestre	Branched :1+1 :B	0.3Ctr
15	Common Dogwood	Cornus sanguinea	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
5	Common Dogwood	Cornus sanguinea	Branched :1+1 :B	0.3Ctr
28	Common Hazel	Corylus avellana	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
9	Common Hazel	Corylus avellana	Branched :1+1 :B	0.3Ctr
55	Common Hawthorn	Crataegus monogyna	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
17	Common Hawthorn	Crataegus monogyna	Branched :1+1 :B	0.3Ctr
15	Common Holly	Ilex aquifolium	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
5	Common Holly	Ilex aquifolium	Branched :1+1 :B	0.3Ctr
55	Blackthorn	Prunus spinosa	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
17	Blackthorn	Prunus spinosa	Branched :1+1 :B	0.3Ctr
15	Dog Rose	Rosa canina	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
5	Dog Rose	Rosa canina	Branched :1+1 :B	0.3Ctr
28	Common Elder	Sambucus nigra	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
9	Common Elder	Sambucus nigra	Branched :1+1 :B	0.3Ctr
28	Guelder Rose	Viburnum opulus	Branched :1+1 :B	0.3Ctr Double Staggered at 0.5m offset
9	Guelder Rose	Viburnum opulus	Branched :1+1 :B	0.3Ctr
Total :370				

Aquatic/ Marginal Mix					
Number	Common Name	Species	Specification	Density	Percentage Contribution
12	Lesser Pond Sedge	Carex acutiformis	Full pot :Sept to April planting :British native origin	0.4Ctr	30%
9	Common Spike Rush	Eleocharis palustris	Full pot :June to Sept planting :British native origin	0.4Ctr	20%
9	Meadowsweet	Fillipendula ulmaria	Full pot :Sept to April planting :British native origin	0.4Ctr	20%
12	Yellow flag iris	Iris pseudacorus	Full pot :Sept to April planting : British native origin	0.4Ctr	30%
Total :42					



Indicative Hedgebank Detail (not to scale)
Design and construction to be adapted on site per specialist and engineer's specification



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client				
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Heads of the Valleys Road				
drawing title				
Detailed Planting Plan				Sheet 2 of 2
date	18 DECEMBER 2025	drawn by	JWe	
drawing number	edp9069_d012d	checked	HMc	
scale	Not to Scale @ A1	QA	JFr	

Appendix EDP 3

Extended Phase 1 Habitat Survey Results

METHODOLOGY

Extended Phase Habitat Survey

- A3.1 The survey technique adopted for the Extended Phase 1 Habitat survey was at a level intermediate between a standard Phase 1 survey technique, involving habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey involved identifying and mapping the main habitat types (including priority habitats) and scoping any potential protected or priority species populations. This level of survey is not intended to compile a complete floral and faunal inventory for the Site.
- A3.2 The Extended Phase 1 Habitat survey was undertaken by a suitably experienced surveyor on 13 February 2025, during which the weather was overcast and cool with clear visibility.

Limitations

- A3.3 Access to the southern part of the Site was limited due to the presence of active, ongoing construction, with no defined boundary between the construction footprint adjacent and the Site itself. As such, the southern part of the Site was assessed from a suitable vantage point from within the Site. As such, this was not considered to pose a constraint to the findings of the survey.

RESULTS

- A3.4 The principal habitats within the Site together with their dominant/characteristic plant species identified during the survey are discussed in turn below, with their distribution illustrated at **Plan EDP 3**.

Ephemeral/Short Perennial Vegetation

- A3.5 Ephemeral/short perennial vegetation occurs onsite, dominating the eastern extents of the Site where it is establishing across areas of hardstanding and covered in a layer of tipping waste, in addition to encroaching towards the centre of the Site from grassland and hedgerow habitat present along its north-western and south-western peripheries. Such habitat is dominated by mosses, exhibiting a very short sward height but taller stands occurring in association with grassland habitat adjacent. Species include Cock's-foot (*Dactylis glomerata*), curled dock (*Rumex crispus*), dandelion (*Taraxacum officinale*), perennial ryegrass (*Lolium perenne*), creeping buttercup (*Ranunculus repens*), soft rush (*Juncus effusus*), sweet vernal grass (*Anthoxanthum odoratum*) and common couch grass (*Elymus repens*).



Image EDP A3.1: Areas of ephemeral/short perennial habitat occurring in association with built structures across the eastern extents on-site.



Image EDP A3.2: Ephemeral/short perennial vegetation encroaching into the centre of the Site across areas of hard standing.

Dense Scrub

- A3.6 Two sections of dense scrub occur within the Site. A linear belt of dense scrub extends across an earthen embankment towards a concrete wall and metal fence forming the south-western boundary of the Site. Species supported include occasional blackthorn (*Prunus spinosa*) and scattered, immature silver birch (*Betula pendula*). Ornamental species planted adjacent to the Site also occurs along the metal fence line demarcating the Site's south-western boundary, including Portuguese laurel (*Prunus luitamica*) and box (*Buxus* sp.). A small area of dense scrub is also present in the northeastern part of the Site, comprising entirely of dogwood (*Cornus sanguinea*), bound by fencing along the Site's north-eastern boundary.



Image EDP A3.3: Dense scrub along the north-eastern edge of the Site.



Image EDP A3.4: Dense scrub along the south-western boundary of the Site.

Scattered Trees

- A3.7 A number of scattered trees occur across the Site, primarily in association with the north-western and north eastern boundaries. Species recorded include pine (*Pinus sp.*), willow (*Salix sp.*), sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), silver birch, lime (*Tilia sp.*), elder (*Sambucus nigra*) and common alder (*Alnus glutinosa*).
- A3.8 Additionally, a tree line of Leyland Cypress occurs across the eastern extent of the Site, reaching heights of circa 3m and forming a visual screen for the residential properties adjacent. A willow (*Salix sp.*) was also recorded growing out of building **B2**, measuring circa 3m tall.

Poor Semi-improved grassland and Scattered Scrub

- A3.9 An area of poor semi-improved grassland dominated by perennial ryegrass and cock's-foot occurs atop a slight bank occurring along part of the northeastern boundary of the Site, exhibiting a sward height of between 15–30cm. Other species recorded include occasional hogweed (*Heracleum sphondylium*), curled dock and dandelion. Scattered silver birch trees and European gorse (*Ulex europaeus*) are also present here.
- A3.10 Additionally, poor semi-improved grassland is present across the northwestern and southwestern boundaries of the Site, located atop an embankment (likely comprising spoil/arising from adjacent construction), and supported in some areas by gabion baskets bound by fencing and concrete walls with steel supports, with concrete and gravel otherwise occurring either side. Sward height varies between 5 – 15cm high, dominated by species

including perennial ryegrass and cock's-foot. Other species occasionally present include bracken (*Pteridium aquilinum*), willow (*Salix* sp.), scattered immature silver birch trees, hart's-tongue fern (*Asplenium scolopendrium*), spear thistle (*Cirsium vulgare*) and willow herb (*Epilobium* sp.). Along the top of the bank, ivy (*Hedera helix*) is locally dominant. Scattered gorse scrub occurs throughout, in addition to occasional buddleia (*Buddleja* sp.) scrub and bramble (*Rubus fruticosus* agg.) (**Target note (TN) 1, Plan EDP 3**).



Image EDP A3.5: Poor semi-improved grassland atop embankments extending across the western parts of the Site.



Image EDP A3.6: Gorse scrub occurring in association with areas of poor semi-improved grassland.

Hedgerows

- A3.11 A species-poor, defunct hedgerow aligns part of the northeastern boundary of the Site, dominated by dogwood.
- A3.12 Additionally, a short section of species-poor, intact hedgerow with trees occurs between the main portion of the Site and built structures occurring to the east, measuring circa 20m in length. Species recorded include frequent blackthorn (*Prunus spinosa*), occasional sycamore, elder, bramble and dogwood, and rarely laurel. This hedgerow is bordered by a wooden fence and concrete wall on one side and ephemeral vegetation on the other.

Buildings

- A3.13 Six built structures, **B1-B6 (Plan EDP 4)**, occur across the far eastern extent of the Site.
- A3.14 **B1** comprises a shipping container, with **B2** and **B6** being small sheds, **B3** and **B4** comprising disused, residential buildings and **B5** being a dilapidated garage. Structures **B2-B6** are in a poor state of disrepair and lacking structural integrity, with broken windows and collapsed roofs, together with scrub encroachment evident.
- A3.15 A detailed description of the buildings is provided within **Appendix EDP 4**.



Image EDP A3.7: Derelict Built Structure B4.



Image EDP A3.8: Built Structure B2 with willow growing through.

Hard Standing

The majority of the Site is dominated by hard standing comprising a mix of broken concrete and gravel. The largest of the three sections extends towards the Site entrance, with ephemeral/perennial vegetation and scrub encroaching. The area of hardstanding occurring outside the southeastern boundary of the Site was part of an active construction compound at the time of the Site visit, and subject to regular disturbance including the temporary deposition of spoil/arising (TN2, Plan EDP 3).



Image EDP A3.9: Hard standing dominating the centre of the Site.

Appendix EDP 4

Bat Surveys

METHODOLOGY

- A4.1 The scope of bat surveys undertaken at the Site was determined following completion of the Extended Phase 1 Habitat survey and review of relevant desk study findings and with reference to best practice guidelines published by the Bat Conservation Trust¹⁵.

Tree Roost Surveys

Ground Level Tree Assessment

- A4.2 Owing to the presence of suitably mature trees within or adjacent to the Site, a Ground Level Tree Assessment (GLTA) of these trees was undertaken to record any external evidence of roosting bats or any features capable of supporting roosting bats that can be seen from the ground.
- A4.3 The survey was completed on 13 February 2025 by a suitably experienced ecologist in accordance with the good practice guidelines referred to above. The trees were searched as thoroughly as possible from ground level with all elevations covered where these could be accessed.
- A4.4 Suitable features for roosting bats (Potential Roost Features - PRFs) recorded (where present) include features formed by disease, decay, damage and association as listed within the guidelines published by the Bat Conservation Trust and detailed within the '*Bat Roosts in Trees*' book¹⁶. In addition, bat, bird and dormouse boxes are also considered to provide potentially suitable roosting opportunities.
- A4.5 Signs of roosting bat presence recorded (where present) include seeing a bat within a PRF, or finding bat droppings within, around or beneath a PRF. Other signs which could indicate a roost include smoothing of the entrance to a PRF, staining around or beneath a feature, audible squeaking from the roost at dusk or during warm weather, and large/regularly used roosts may produce a distinctive odour.
- A4.6 The roost suitability of each tree was categorised as either:
- None – Either no PRFs in the tree or highly unlikely to be any;
 - Further Assessment Required (FAR) – Tree is of a size, age or condition that is likely to have PRFs, further assessment is therefore required to establish if PRFs are present in the tree;
 - PRF – Tree supports at least one PRF which is visible from the ground; and

¹⁵ Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London

¹⁶ Andrews, H (2018). *Bat Roosts in Trees. A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*. Pelagic Publishing, Exeter.

- Confirmed roost – Signs of roosting bat presence were found within or around a PRF.

A4.7 For those trees categorised as having a 'PRF', an estimate was made as to whether each PRF visible from the ground was likely to be suitable for individual bats (PRF-I) or multiple bats (PRF-M). It should be noted that this categorisation from ground level is an estimate only, as it is often not possible to establish the internal extent of a tree feature from ground level.

A4.8 For those trees categorised as having a 'PRF', an estimate was made as to whether each PRF visible from the ground was likely to be suitable for individual bats (PRF-I) or multiple bats (PRF-M). It should be noted that this categorisation from ground level is an estimate only, as it is often not possible to establish the internal extent of a tree feature from ground level.

Limitations

A4.9 As with any ground level assessments of trees, certain features may not be visible or fully visible from the ground. However, with the time of year the survey was undertaken the trees were free of vegetation so were not limited in visibility due to this. Also, majority of the trees were immature so no further survey would be required to find other potential features.

A4.10 It should be noted that this type of assessment is based on features visible from ground level and is not considered to be a definitive bat roosting survey.

Buildings/Built Structures Surveys

Preliminary Roost Assessment

A4.11 Owing to the presence of potentially suitable buildings within or adjacent to the Site, a Preliminary Roost Assessment (PRA) of these buildings was undertaken to record any evidence of roosting bats or any features capable of supporting roosting bats.

A4.12 The survey was completed on 13 February 2025 by a suitably experienced ecologist and assistant in accordance with the good practice guidelines referred to above. All external features considered potentially suitable for bats were assessed using binoculars from all aspects, where access allowed. Building **B2** was also subject to a further endoscope assessment on 05 June 2025 to inspect the external cladding of the building.

A4.13 Suitable features for roosting bats recorded (where present) during the external assessment include the following:

- Cracks/crevices in stone/brickwork/timber;
- Missing/broken/raised roof/ridge/hanging tiles;
- Loose/lifted lead flashing/bitumen felt;
- Loft voids (particularly if relatively undisturbed, potential bat access points present, clear flight space with simple truss formation, roof lining and insulation present);
- Gaps between lintels above doors and windows;
- Gaps in soffits, barge boards or fascias; and

- Cavity walls with potential bat access.

A4.14 Signs of roosting bat presence recorded (where present) include the following:

- Bat(s) roosting *in situ*;
- Bat droppings or urine splashes within or beneath a feature/access point;
- Feeding remains (e.g. insect wings and beetle wing cases);
- Oily marks, smoothly worn surfaces or staining around a feature/access point;
- Audible squeaking from the roost; and
- Large/regularly used roosts may produce a distinctive odour.

A4.15 Based upon the evidence/features identified, each building was assigned to one of the following categories:

- Known or confirmed roost – Evidence of bat use found, European Protected Species (EPS) licence may be required for modifications, and will be required for demolition, to be completed lawfully;
- High suitability – Structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat;
- Moderate suitability - Structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only);
- Low suitability - Structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. These roost sites do not provide enough space, shelter, protection, appropriate conditions and suitable surrounding habitat to be used on a regular basis or by larger numbers of bats;
- Negligible suitability - No obvious features to support roosting bats, although some apparently unsuitable features present; and
- None – No features on site likely to be used by roosting bats at any time of year.

A4.16 During the PRA, an initial assessment of potential for winter roosting (hibernation) within each building was also undertaken, based on the presence of suitable features, accessibility for bats, surrounding habitat and the temperature and humidity conditions likely to be present within the building over the winter period.

Limitations

A4.17 Preliminary roost assessments of buildings can be undertaken at any time of year and these assessments were therefore not limited by seasonal or climatic factors.

A4.18 No internal assessment of the buildings could be undertaken due to a lack of safe access. **B1** was externally sealed and given the nature of the structure as a shipping container was assessed to be negligible suitability. **B2** while assessed to have features to support bats, was in very poor condition and a large tree was supporting the structure. The brickwork and roof was collapsing and areas of render fell off during the inspection. As such it was not considered safe to enter. **B4** was a residential property which appeared to have partially completed construction works, with scaffolding supporting the rear and works inside the building appearing to be partially completed when viewed from outside. Wood on the outside of the building was observed to fall loose in the wind during the surveys. As such, given the partially completed construction and suspected unstable nature of materials, an internal inspection was not considered safe. The roof of **B5** was partially collapsed, and as such it was not considered safe to enter. **B6** was a small electrical box housing, it was able to be inspected from the open doorway and no evidence of bats was identified. However, given the exposed wiring, the surveyors avoided contact with the internal materials of the structure.

A4.19 B3, while assessed initially, was located outside of the development footprint and as such no further surveys were undertaken.

A4.20 Whilst no access to the interiors of the buildings was possible, this was not considered a limitation to the survey given that further dusk emergence surveys were able to be undertaken.

Dusk Emergence Surveys

A4.21 Owing to the presence of buildings with features suitable for roosting bats which are at risk of impacts from development, dusk emergence surveys of these buildings were conducted in accordance with the good practice guidelines. Survey dates and information regarding the number of surveyors and Night Vision Aids (NVA) used for each relevant building (see **Plan EDP 5**) are set out in **Table EDP A4.1**.

Table EDP A4.1: Dusk Emergence Surveys

Building Reference	Date	Number of Surveyors	Number of Night Vision Aids
B4, B2	06/05/2025	4	5
B4, B2	05/06/2025	3	5
B4, B2	01/07/2025	3	5

A4.22 During each survey, the suitably qualified ecologists and Night Vision Aids [(infrared-capable video cameras (Canon XA11/Nightfox Whisker) with external lighting arrays (JC Infrared 12-Led 90° Wide Angle High-Power IR Illuminator))] were positioned in appropriate locations, as shown on **Plan EDP 5**, so that all the relevant building elevations/features could be observed. The dusk surveys commenced 15 minutes prior to sunset and continued until at least [one and a half hours] after, as per good practice guidelines. The surveyors used Elekon Batlogger M bat detectors to record the echolocation calls of any bats observed during the survey. The weather conditions were suitable for such surveys, as detailed in **Table EDP A4.2**.

Table EDP A4.2: Weather Conditions During Emergence Surveys

Survey Date	Sunset Time	Start-Finish Time	Start-Finish Temperature (°C)	Cloud Cover (%)	Wind (Beaufort)	Precipitation
06.05.2025	20:45	20:30 22:15	13°C 10°C	5% 5%	2	Nil
05.06.2025	21:26	21:11 22:56	13 °C 12 °C	100% 90%	2	Nil
01.07.2025	21.35	21.20 23.05	20 °C 20 °C	95% 95%	1	Nil

A4.23 All sonogram recordings made during the surveys were later analysed using BatExplorer sound analysis software to confirm species identification.

A4.24 All footage made by NVAs was reviewed after the survey using VLC media player software.

Limitations

A4.25 Limited access to the north-western side of **B4** but during the PRA no features were recorded. Access elsewhere on-site was otherwise not limited, with all surveys carried out in optimal conditions.

RESULTS

Tree Roost Surveys

Ground Level Tree Assessment

A4.26 The GLTA identified no trees as having potential roost features considered suitable for bat roosting, nor any trees where a further assessment is required.

Buildings/Built Structures Surveys

Preliminary Roost Assessment

A4.27 The preliminary roost assessment/inspection of buildings identified a total of three buildings with suitable features for bat roosting, with buildings **B2** and **B3** considered to have low suitability and building **B4** having moderate suitability suitable features for bat roosting. **B1**, **B5** and **B6** were otherwise considered to have negligible suitability to support roosting bats.

A4.28 Further details on each of the buildings inspected are provided in **Table EDP A4.3** and their locations are shown on **Plan EDP 4**.

Table EDP A4.3: Preliminary Bat Roost Assessment of Buildings

Building Ref. No.	Photograph	Description and Potential Bat Features
B1		Corrugated steel shipping container, likely poor insulation. Large, sealed pipe on western edge, assumed to lead to drainage and two small holes on southern door, potentially leads inside. Unclear the level of use and no internal access. Negligible suitability for roosting bats.
B2		Small brick one-storey outhouse. Areas of render falling off in large plates along with collapsing brickwork and leaving gaps behind between the render and the brickwork. Potentially suitable for individual crevice dwelling bats but likely exposed and potentially wet. Tree growing out of the building above the doorway causing roof to collapse exposing more of the building. External features endoscopes on the 5 June 2025 which confirmed cracks in mortar, brickwork and render potentially suitable for individual bats, but no evidence of bats found. Low suitability for roosting bats.

Building Ref. No.	Photograph	Description and Potential Bat Features
B3		Stone and pebbledash walls on a two-storey residential building, in good condition, with no obvious cracks or gaps in the mortar. Roof not entirely visible but appear in good condition along with all windows and door well sealed and no clear entrance into the main building. Gaps under the soffit boxes where they meet the house, and in the corners of the soffits on the south-east, south and north faces of the building. Potentially allows access for small numbers of bats. Open vents on the north side of the building but unclear if these lead into the building itself. Lean to on the north side of the building – open gate into the lean-to allowing access but unable to see whether this then opened into the building at all due to lack of internal access. Internal lining of the lean-to roof appeared to be fully lined but unable to access. Slight lifting of the tiles on the lean-to roof above the gutter, and small edges of the flashing lifting.

Building Ref. No.	Photograph	Description and Potential Bat Features
B4		Brick two-storey derelict residential building in poor condition with a tiled roof that appear in good condition. Scaffolding on eastern side may suggest recent renovation to the roof. On the west side of the building, a broken window on the first floor is partially boarded but allows access through a broken section. A second window on the ground floor is also partially boarded, with a gap between the boarding and the window below allowing access. One of the main ground floor doors has a broken window area, and a large gap at the base, both large enough to allow bat access. Through the western windows, the interior of the building is partially visible. Appears to be no loft space, with roof beams and skylights visible. Poor condition scaffolding along the back of the building prevented access. Lean to on the north side of the building with a vent on the west side of the lean to with small gap around the edge. Vent and missing bricks on the east side of the lean to allowing a gap into the wall and potentially into the internal area of the building. Moderate suitability for roosting bats.
B5		Breeze block walled garage partially constructed walls. Corrugated plastic roof that is largely collapsed. Metal door and frame very rusted and open in places leaving entire structure to be exposed to elements, unlikely to support roosting bats. Negligible suitability for roosting bats.

Building Ref. No.	Photograph	Description and Potential Bat Features
B6		Small electrical shed of breeze blocks and corrugated metal roof with opening at the front which leaves the shed exposed to the elements with lighting and water ingress seen. Electrical board present that is slightly lifted and that allow small opportunity for roosting bat. Although it is low and open to elements so very unlikely to be used. Internally viewed on 12 February 2025 from the open doorway, although inspection limited due to exposed wiring. Water and light ingress and low level of any suitable features confirmed the building to be of negligible suitability, with no evidence of roosting bats found. Negligible suitability for roosting bats.

Dusk Emergence Surveys

- A4.29 The first dusk emergence survey undertaken on 06 May 2025 recorded an emergence from building **B2** at 21:07, with a single common pipistrelle observed emerging from the northern corner of this building between the metal roof and wooden plank and flying to the north and outside the Site. Only very low levels of foraging/commuting bat activity were recorded during this survey more generally, with low numbers of common pipistrelle recorded over the hardstanding to the south-east of building B4.
- A4.30 No further emergence from building **B2** was recorded during the second emergence survey on 05 June 2025. However, emergences by two individual common pipistrelle bats from building **B4** were recorded. The first emergence was observed from beneath the porch roof of the building at 21:53 with the bat recorded to forage over the hardstanding south-east of the building before exiting the Site to the south. The second emergence was observed from the brickwork around the vent on the northern side of this building at 22:11, with the bat appearing to exit the Site to the north. Limited foraging and commuting behaviour of both common pipistrelle and soprano pipistrelle individuals was otherwise recorded during this survey around the east and south-east of the building.
- A4.31 No emergences were recorded for either buildings **B2** or **B4** during the third emergence survey undertaken on 01 July 2025.

A4.32 It is thus considered that buildings **B2** and **B4** support summer day roosts for low numbers of common pipistrelle bats. In accordance with the Bat Mitigation Guidelines¹⁷, such roosts are considered to be of low conservation status, with each roost site considered to be of Site Level importance given their usage by individual/small numbers of common and widespread species (non-maternity). In addition, foraging within the Site was very limited during all three surveys, with only occasional common and soprano pipistrelle recorded around the south and east of building B4. Given the presence of up to three common pipistrelle day roosts potentially supported however, bat roosts supported by the Site is considered to be of Local Level importance overall.

A4.33 **Table EDP A4.4** provides a summary of the roosts confirmed during the surveys, with the findings further illustrated at **Plan EDP 5**.

Table EDP A4.4: Bat roosts identified within buildings

Building Number	Bat Species	Estimated Number of Individuals	Roost Location/ Access Point	Roost Status
B2	Common Pipistrelle	1	Northern corner of the building under wooden plank.	Summer day roost
B4	Common Pipistrelle	1	Underneath the roof of the porch on western side of building.	Summer day roost
B4	Common Pipistrelle	1	Gap within the brickwork around vent on lean-to on north side of building.	Summer day roost

A4.34 **Table EDP A4.5** below includes the still shots of the darkest point of survey from each of the Night Vision Aids to show sufficient lighting of the features.

Table EDP A4.5: Night Vision Aids - still shots of the darkest point of survey

Date of Survey	Building	Location	Photograph
6 May 2025	B2	North	

¹⁷ Mitchell-Jones, A.J. (2004) Bat Mitigation Guidelines English Nature, Peterborough; Reason, P.F. and Wray S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for development affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

Date of Survey	Building	Location	Photograph
	B4	South	
		West	
		South	
		North	

Date of Survey	Building	Location	Photograph
5 June 2025	B2	North	
		South	
	B4	West	
		South	

Date of Survey	Building	Location	Photograph
		North	 06/06/2025 22:55:42
1 July 2025	B2	North	
		South	
	B4	West	

Date of Survey	Building	Location	Photograph
		South	
		North	

Evaluation of Overall Bat Assemblage

- A4.35 Buildings **B2** and **B4** onsite support three common pipistrelle roosts however, albeit supporting only single individual/low numbers of bats, with building **B4** considered to have low suitability to support roosting bats.
- A4.36 In respect of the local bat population more generally, only common pipistrelle and soprano pipistrelle were recorded during the surveys. Overall, hard standing which dominates the Site is of limited importance to a foraging/commuting bat assemblage given its poor botanical diversity. Dense continuous scrub and hedgerows is of greater importance to a bat assemblage although such habitats are limited in extent and quality on-site. The surrounding landscape, being a business park, well lit, and with a dual carriageway aligning the southern edge of the Site, further limits the potential for commuting or foraging activity.
- A4.37 Taking into account the diversity of bat species utilising the Site and the extent of their roosting, foraging and commuting activity observed during the surveys, the overall bat assemblage using the Site is therefore judged to be of Local Level importance.

Plans

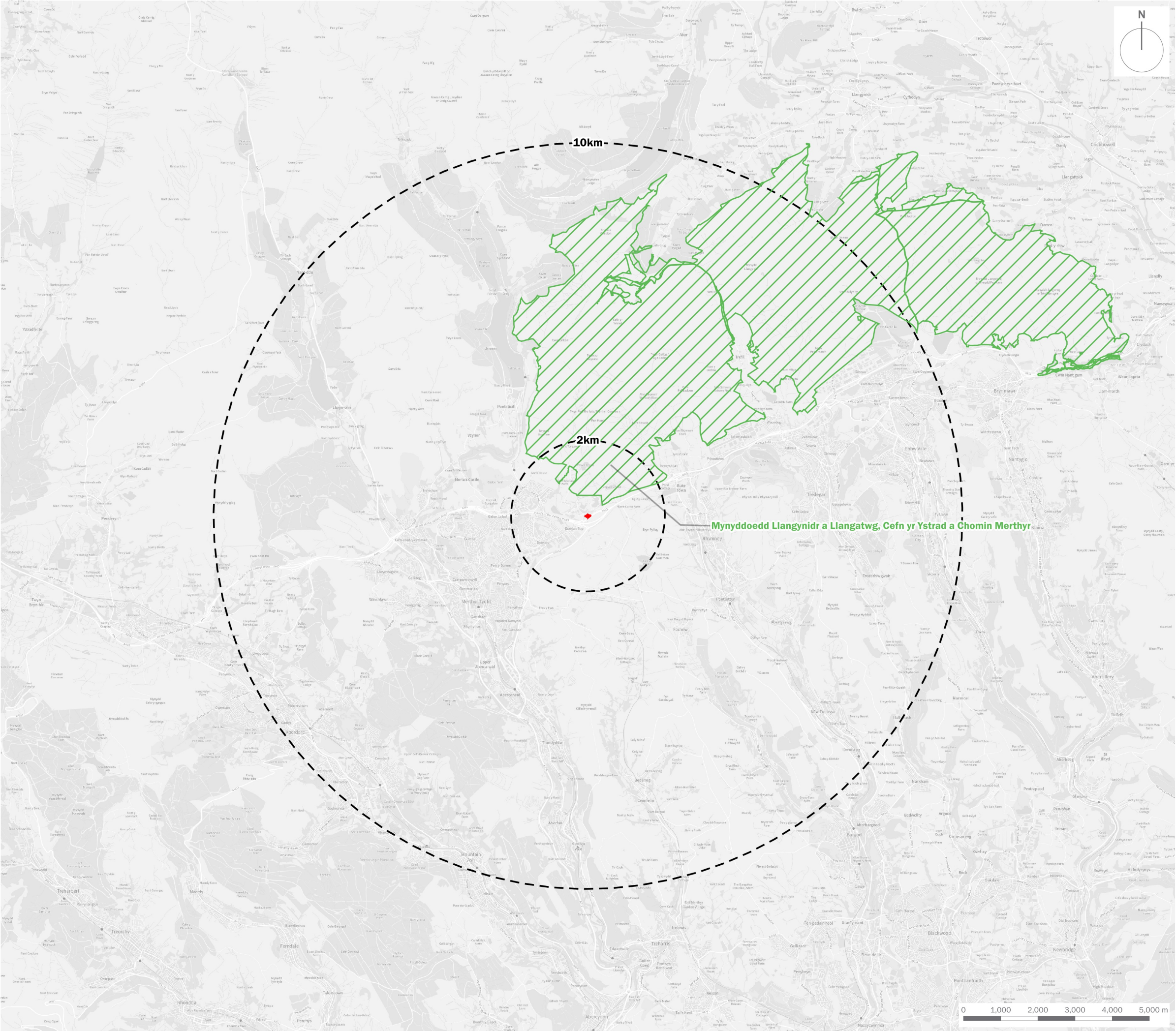
Plan EDP 1: Statutory Designations
(edp9069_d015 10 December 2025 JLe/IBo).

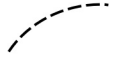
Plan EDP 2: Non-statutory Designations
(edp9069_d008a 21 July 2025 VMW/JCk)

Plan EDP 3: Habitat Plan
(edp9069_d009a 21 July 2025 GYo/JCk)

Plan EDP 4: Preliminary Roost Assessment Results
(edp9069_d010a 21 July 2025 GYo/JCk)

Plan EDP 5: Bat Roost Survey Results
(edp9069_d014a 01 August 2025 GYo/JCk)



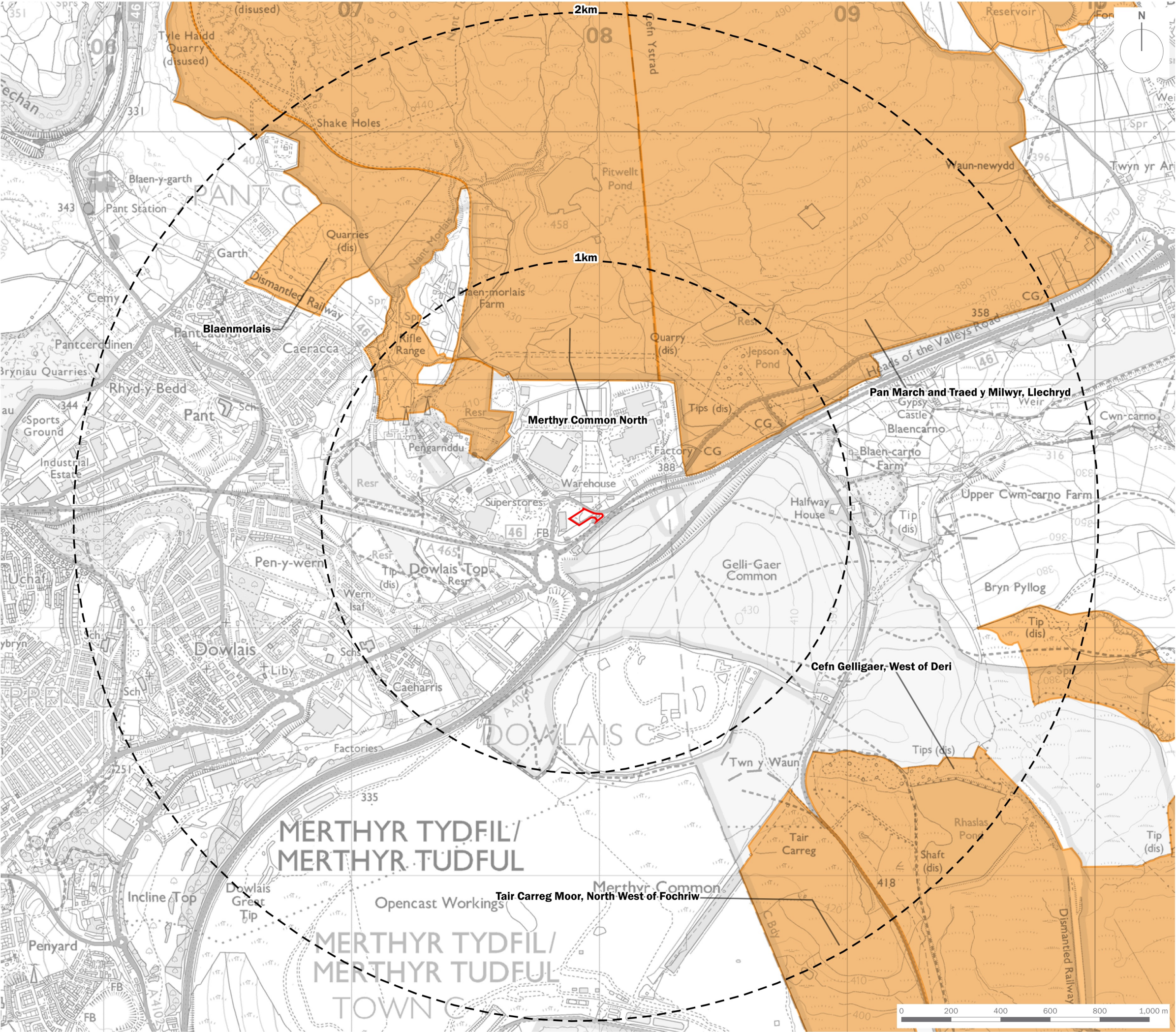
-  Site Boundary
-  Range Rings (at 2km and 10km)
-  Site of Special Scientific Interest (SSSI)

client			
McDonald's Restaurants Ltd			
project title			
McDonald's Merthyr Tydfil, Heads of the Valleys Road			
drawing title			
Statutory Designated Sites			
date	10 DECEMBER 2025	drawn by	JLe
drawing number	edp9069_0015	checked	IBo
scale	1:100,000 @ A3	QA	JFr



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Survey Boundary

Range Rings (at 1km intervals)

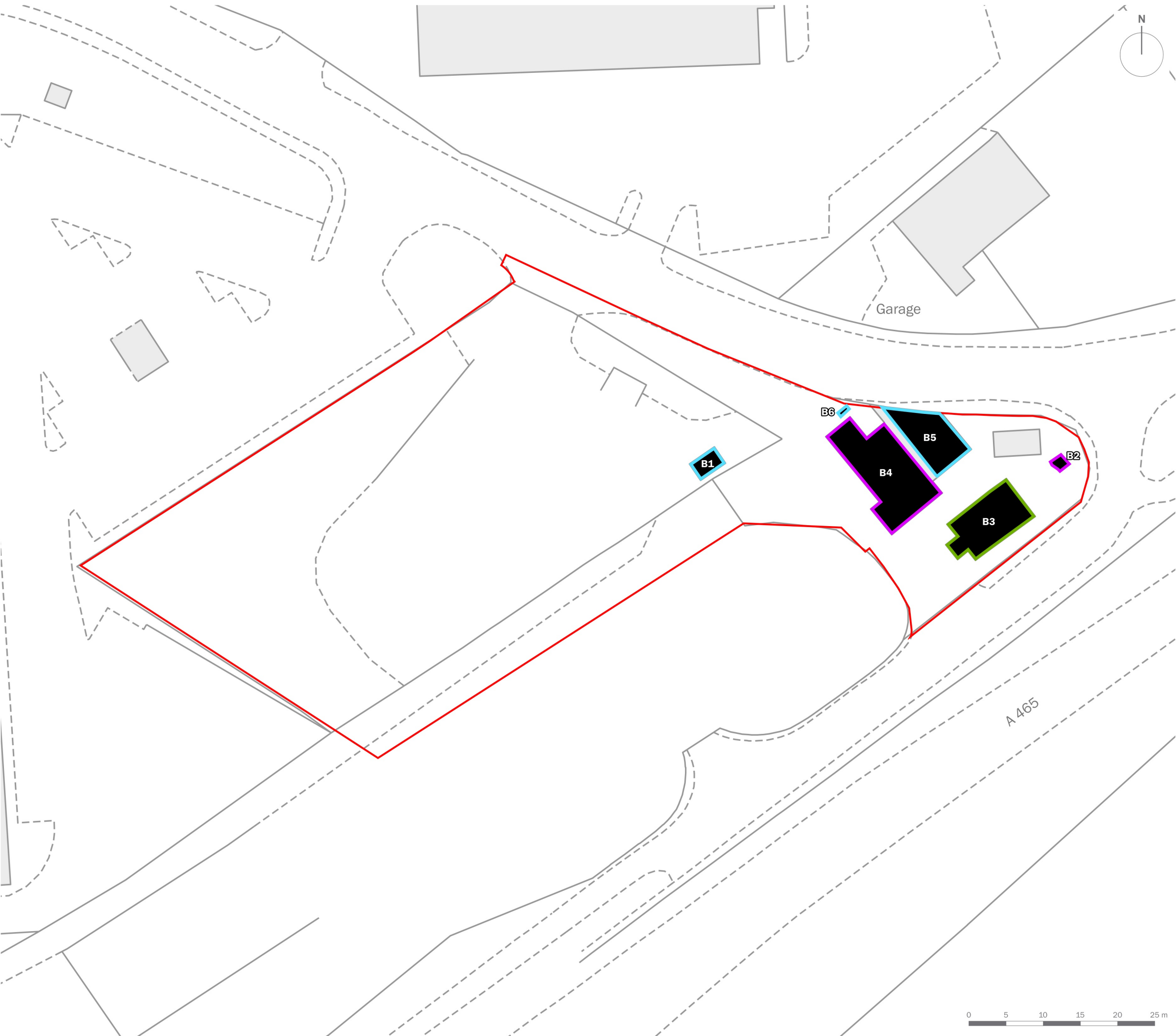
Wildlife Site/SINC (Adopted)

client			
McDonald's Restaurants Ltd			
project title			
McDonald's Merthyr Tydfil, Heads of Valley Road			
drawing title			
Non-statutory Designations			
date	21 JULY 2025	drawn by	VMS
drawing number	edp9069_d008a	checked	JCh
scale	1:15,000 @ A3	QA	RBa

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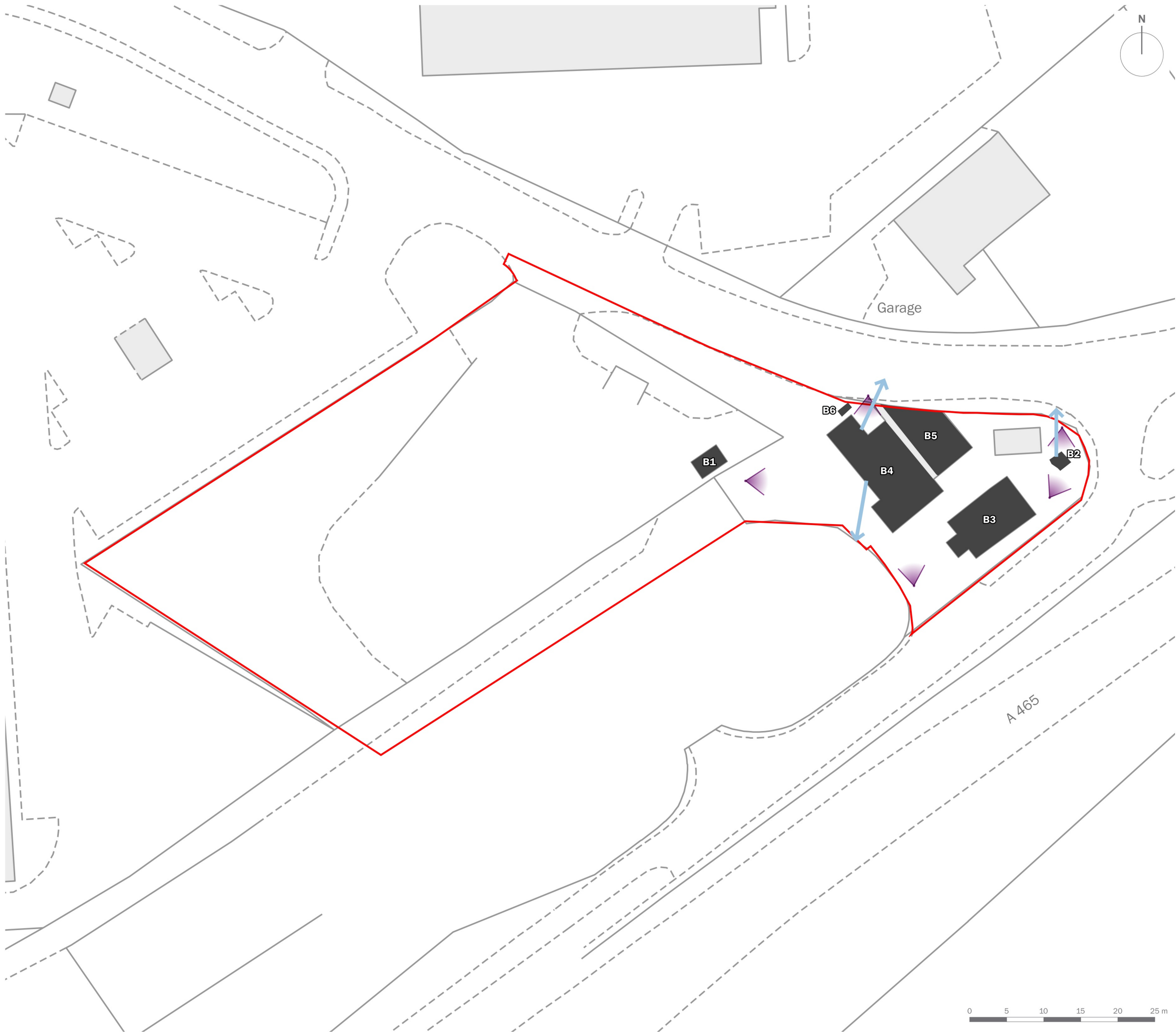
- Survey Boundary
- Confirmed Bat Roost
- Low Bat Roost Suitability
- Negligible Bat Roost Suitability

client			
McDonald's Restaurants Ltd			
project title			
McDonald's Merthyr Tydfil, Heads of Valley Road			
drawing title			
Preliminary Roost Assessment Results			
date	21 JULY 2025	drawn by	GYo
drawing number	edp9069_d010a	checked	JCh
scale	1:500 @ A3	QA	RBa



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Survey Boundary

B1

Building and Number

Surveyor Location

Bat Emergence

Common Pipistrelle

client			
McDonald's Restaurants Ltd			
project title			
McDonald's Merthyr Tydfil, Heads of Valley Road			
drawing title			
Bat Roost Survey Results			
date	01 AUGUST 2025	drawn by	GYo
drawing number	edp9069_d014a	checked	JCh
scale	1:500 @ A3	QA	JFr

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