



**Land at the
Former MoD
Training Centre,
Caerwent**

**Preliminary
Ecological
Appraisal**

Prepared by:
**The Environmental
Dimension
Partnership Ltd**

On behalf of:
M2M Architects

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Executive Summary

- S1 This Preliminary Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of M2M Architects (hereafter referred to as 'the Client'), in relation to Land at the Former MoD Training Centre, Caerwent (hereafter referred to as 'the Study Site'). This Preliminary Ecological Appraisal provides a high-level assessment of the Study Site with respect to identifying key ecological constraints and opportunities to inform residential development. This report is to be submitted to Monmouthshire County Council (MCC) in support of the allocation of the Study Site within the emerging Local Development Plan (LDP).
- S2 To establish the ecological baseline of the Study Site, a desk study, Extended Phase 1 Habitat survey and detailed botanical survey was previously undertaken by EDP during 2019, and updated on 23 July 2021. Of further pertinence, detailed surveys of the Study Site for badger (*Meles meles*), dormouse (*Muscardinus avellanarius*), common reptiles and a bat and invertebrate assemblage have previously been undertaken in 2019.
- S3 With respect to designated sites, the Study Site is not located within or adjacent to any statutory designations. The closest is Nedern Brook Wetlands Site of Special Scientific Interest (SSSI) 275m south of the Study Site.
- S4 However, the Study Site is also located within 3.8km of Mwyngloddfa Mynydd-Bach SSSI and within 3.9km of the Wye Valley and Forest of Dean Bat Sites Special Area of Conservation (SAC) both designated for their populations of lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe (*Rhinolophus ferrumequinum*) bats. The Study Site is not, however, located within a Juvenile Sustenance Zone for bat roosts associated with these designations specifically. Nevertheless, consideration of the potential impacts of development on a local bat population will be required particularly given presence of a lesser horseshoe bat maternity roost and common pipistrelle (*Pipistrellus pipistrellus*) day roosts within onsite buildings, identified during 2019.
- S5 Regarding non-statutory designations, no Site of Importance for Nature Conservation (SINC) are present within or immediately adjacent to the Study Site. However, there are four SINC and one Wildlife Trust Reserve (WTR) located within 1km of the Study Site including Little Wood SINC, Slade Wood SINC, Brockwells Meadows WTR, Upper Rodge Wood SINC and Ballan Wood SINC. This is in addition to several other such designations within 2km of the Study Site. Given the spatial separation of these designated sites from the Study Site's boundaries no direct or indirect impacts are anticipated to arise as a result of future development.
- S6 With respect to habitats, the Study Site encompasses poor semi-improved grassland fields located within the northeast and north-west corners of the site, with each grassland area surrounded by dense scrub which dominates the Study Site and is slowly encroaching across the site. Several derelict buildings are located within the centre of the Study Site, whilst the southern area is dominated by semi-natural broadleaved

woodland. There are two open areas colonised by tall ruderal vegetation – one in the south-west that is particularly well established with a second area located in the south-east corner of the Study Site. Following assessment of the Study Site against SINC criteria¹, 10 indicator species were recorded in association with one discrete area of grassland habitat across the north-eastern extent of the Study Site and as such meet SINC requirements. Remaining areas grassland habitat across the Study Site support between 1 and 7 indicator species only and when assessed individually are not considered to meet SINC criteria nor are considered particularly species rich.

- S7 Proposed development of the Study Site will result in the loss and/or disturbance of habitats present onsite which are of value to protected species including badger, dormouse, common reptiles and a local bat and invertebrate assemblage. Additionally, dormouse, slow-worm (*Anguis fragilis*) and grass snake (*Natrix natrix*) have previously been confirmed onsite during surveys undertaken in 2019. As such, any vegetation clearance associated with future development will necessarily be undertaken in accordance with precautionary working methodologies and under a European Protected Species (EPS) Development Licence from Natural Resources Wales (NRW) with respect to dormouse, combined with the provision of new compensatory habitat to ensure populations of protected species can be maintained in the long-term. Furthermore, common pipistrelle and lesser horseshoe bat roosts have been identified in several of the derelict buildings onsite such that development will similarly need to be delivered in accordance with an EPS development licence with provision of suitable mitigation including but not limited to compensatory roost provision, retention and protection of habitat corridors around the boundaries of the Study Site as far as possible, and creation of new habitats of value to wildlife.

¹ Gwent Wildlife Trust (2004). Guidelines for the Selection of Wildlife Sites in South Wales by The South Wales Wildlife Sites Partnership.

Section 1

Introduction, Purpose and Context

- 1.1 This Preliminary Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of M2M Architects (hereafter referred to as ‘the Client’), in relation to Land at the Former MoD Training Centre, Caerwent (hereafter referred to as ‘the Study Site’). This Preliminary Ecological Appraisal provides a high-level assessment of the Study Site with respect to identifying key ecological constraints and opportunities to inform residential development. This report is to be submitted to Monmouthshire County Council (MCC) in support of the allocation of the Study Site within the emerging Local Development Plan (LDP). An Illustrative Masterplan is provided at **Appendix EDP 1**.
- 1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cheltenham and Cardiff. 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.
- 1.3 This report has been prepared with reference to CIEEM’S Guidelines for Preliminary Ecological Appraisal².

Background and Scope

- 1.4 The purpose of this assessment is to identify the Study Site’s ‘in principle’ suitability for development and thus inform its potential for inclusion as a candidate site for allocation within the emerging LDP for Monmouthshire. This report describes the current ecological interest within and around the Study Site, which has been identified through standard desk and field-based investigations and has been prepared with reference to recently published guidance issued by MCC³.

Site Context

- 1.5 The Study Site is centred approximately at Ordnance Survey Grid Reference (OSGR) ST 479 904 and the Local Planning Authority (LPA) is MCC. The location and extents of the Study Site are illustrated at **Plan EDP 1**. The Study Site is circa 4.2 hectares (ha) and encompasses several derelict buildings, located centrally within the site. Several bunkers are otherwise scattered across the Study Site and are largely overgrown with dense scrub. Rubble and debris piles from buildings historically demolished are also present. The Study Site is otherwise dominated by semi-natural habitat comprising poor semi-improved grassland fields located within the northeast and northwest corners of the

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

³ Monmouth County Council (2021). Local Development Plan Ecological Site Assessments in Monmouthshire 2021. Available at: <https://www.monmouthshire.gov.uk/planning-policy/candidate-sites/ecological-site-assessments-of-candidate-sites/>. [Accessed on 02 August 2021]

Study Site. Dense bramble (*Rubus fruticosus* agg.) scrub is, however, encroaching across these grassland fields and further colonising areas of hardstanding associated with the main site access and central buildings. The south-west corner of the Study Site is dominated by semi-natural broadleaved woodland and dense scrub which has colonised former woodland habitat. Open areas are colonised by tall ruderal vegetation and scattered scrub and shrubs. The south-east corner of the Study Site is similarly characterised by patches of existing and former woodland habitat whilst successional habitats including tall ruderal vegetation, grassland and dense scrub. The southern and eastern boundaries of the Study Site are delineated by an outgrown native hedgerow, whilst the western and northern boundaries of the site are demarcated by a metal fence line. The principal ecological features within the Study Site (identified through site survey) are illustrated on **Plan EDP 1**.

- 1.6 The wider landscape is largely dominated by agricultural fields and woodland units. The A48 abuts the southern boundary whilst the settlement of Caerwent lies to the south-west of the Study Site. The M4 motorway and town of Caldicot lies circa 750m south of the Study Site whilst land associated with an active MoD site lies to the north.

Development Proposals

- 1.7 Development proposals concern the construction of up to 68 dwellings and 12 flats, with double height industrial units in the south-east of the Study Site and a three-storey nursing home in the centre with a two-storey community hub to the east.

Scope of the Report

- 1.8 This Preliminary Ecological Appraisal describes the current ecological interest within and around the Study Site, which has been identified through standard field-based investigations. The remainder of this report is structured as follows:
- **Section 2** summarises the methodology employed in updating baseline ecological conditions within and around the Study 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 any pertinent ecological features/receptors that require further consideration. This section further provides an evaluation of the biodiversity value of the Study Site with reference to guidance provided by MCC and considers the potential of the Study Site in providing ecological connectivity; and
 - **Section 4** briefly summarises the findings that are relevant to inform its potential to support development and conclusions of initial survey findings.

Section 2

Methodology (Baseline Investigations)

- 2.1 This section of the Preliminary Ecological Appraisal summarises the methodologies employed in determining the baseline ecological conditions within and around the Study Site. The assessment 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 Study Site or wider study area. Full details of the techniques and processes 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, enabling the initial collation and review of contextual information, such as designated sites, together with known records of protected and priority species⁴.
- 2.3 The desk study involved collating biodiversity information from the following sources:
- South East Wales Biodiversity Records Centre (SEWBRc); and
 - Multi-Agency Geographic Information for the Countryside (MAGIC) website⁵.
- 2.4 A desk study request to SEWBRc was undertaken during July 2021 and involved obtaining the following information:
- International statutory designations (10km radius around Study Site);
 - National statutory designations and non-statutory local sites (5km);
 - Annex II bat species⁶ records (6km);
 - All other protected/notable species records (2km); and
 - Ancient woodland sites (2km).

⁴ Species considered of key significance to sustain and improve biodiversity in Wales, as defined under Section 7 of Part 1 of the Environment (Wales) Act 2016.

⁵ www.magic.gov.uk

⁶ Bat species listed in Annex II of the EC Habitats Directive, namely greater horseshoe, lesser horseshoe, barbastelle and Bechstein's bats.

- 2.5 These search areas are considered sufficient to cover the potential zones of influence⁷ of the proposed development in relation to designated sites, habitats and species.
- 2.6 During the desk study assessment, a review of the following information was also undertaken:
- Current and historical planning applications within the last five years (publicly available for review) for development sites within circa 1km of the Study Site;
 - The Monmouthshire Ecological Connectivity Assessment;⁸ and
 - Any other existing assessments of the Study Site undertaken by MCC or representatives of MCC (where publicly available).

Extended Phase 1 Survey

- 2.7 The survey technique adopted for the initial habitat assessment was at a level intermediate between a standard Phase 1 survey technique⁹, based on habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey technique is commonly known as an Extended Phase 1 survey. This level of survey does not aim to compile a complete floral and faunal inventory for the Study Site.
- 2.8 The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition, any actual or potential protected species or species of principal importance are identified and scoped.
- 2.9 An Extended Phase 1 survey of the Study Site was previously completed by a suitably experienced surveyor from EDP on 20 February 2019 and updated on 23 July 2021, during which the weather was 27°C with 0% cloud cover and dry.

Limitations

- 2.10 February is considered to be outside the optimal period for undertaking an Extended Phase 1 survey, with most plant in vegetation state and flowering species not present, at this time. However, this was followed by a botanical assessment during June 2019 with a further update survey completed in July 2021. Both June and July are considered to be within the optimal period for undertaking an Extended Phase 1, such that this is assessment is not constrained by seasonal and climatic factors.

⁷ Zone of Influence - the areas and resources that may be affected by the proposed development.

⁸ Gwent Wildlife Trust (2010). Ecological Connectivity Assessment of Settlements in Monmouthshire Report. Available at: <https://www.monmouthshire.gov.uk/planning-policy/candidate-sites/ecological-site-assessments-of-candidate-sites/>. [Accessed on 02 August 2021]

⁹ Joint Nature Conservation Council (2004) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (reprinted with minor corrections for original Nature Conservancy Council publication).

Detailed Botanical Survey

- 2.11 A botanical survey of the Study Site was initially, predominantly focused on grassland and tall ruderal areas was initially undertaken during June 2019. In accordance with the methodology established for assessment of LDP Candidate Sites, an update botanical survey of the Study Site was undertaken alongside the Extended Phase 1 survey on 23 July 2021, to assess the Study Site's botanical value and to determine whether it currently meets the qualifying criteria for status as a SINC.
- 2.12 On each occasion the survey adopted the DAFOR methodology¹⁰ whereby all vascular plant species (and bryophytes where identifiable) were identified to the following abundance levels: D = Dominant; A = Abundant; F = Frequent; O = Occasional; and R = Rare. Where a species had a particularly localised status within a field it was noted with the prefix L (e.g. rare in the wider field but locally occasional = R/LO).
- 2.13 The botanical values of the habitats recorded were assessed against the criteria set out for habitat types within the *Guidelines for the Selection of Wildlife Sites in South Wales* by The South Wales Wildlife Sites Partnership (Gwent Wildlife Trust, 2004); this document is hereafter referred to as the GSWSSW.

Limitations

- 2.14 June and July are considered to be within the optimal period for undertaking a botanical assessment of grassland habitat, although early flowering species may not be present at this time. Given the nature of habitats supported by the Study Site, this was not considered a constraint to the survey.

Detailed (Phase 2) Surveys

- 2.15 In addition to an Extended Phase 1 survey during February 2019 and July 2021, further detailed assessments were undertaken in relation to bats and badger to further inform potential ecological constraints in relation to future development of the Study Site, as detailed further below.

Bats

Investigations of Bat Roosting – Trees

- 2.16 During the initial Extended Phase 1 Habitat survey, suitable tree standards were subject to a ground level visual assessment with reference to current best practice guidance¹¹. The tree survey involved a ground-based visual assessment of trees for the presence of, or potential to support, roosting bats. The survey of the Study Site trees was undertaken alongside the Extended Phase 1 survey on 20 February 2019 and 23 July 2021 by a

¹⁰ DAFOR botanical survey technique – whereby occurrence of a species is noted to be Dominant, Abundant, Frequent, Occasional, or Rare

¹¹ Bat Conservation Trust (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition*. Bat Conservation Trust, London.

suitably qualified ecologist. On each occasion, trees located within and adjacent to the survey area were searched as thoroughly as possible from ground level, with all elevations covered where accessibility allowed.

2.17 Suitable features for roosting bats sought for during the assessment included:

- Loss/peeling/fissured bark;
- Natural holes e.g. rot holes and holes from fallen limbs;
- Woodpecker holes;
- Cracks/splits or hollow tree trunks/limbs; and
- Thick-stemmed ivy.

2.18 Signs of roosting bats sought for included:

- Bat/s roosting *in-situ*;
- Bat droppings within or beneath a feature;
- Staining around or beneath a feature;
- Oily marks (staining) around roost access points;
- Audible squeaking from the roost;
- Large/regularly used roosts or regularly used sites may produce an odour; and
- Flies around the roost, attracted by the smell of guano.

2.19 Based upon the results of the visual assessment and features/evidence identified, the following ratings for trees were used during the assessment:

- **Known or confirmed roost** – European Protected Species (EPS) licence required for works to tree to be completed lawfully;
- **High potential** – Tree supports one or more features that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time;
- **Moderate potential** – Tree supports one or more features that could be used by bats but are unlikely to support a roost type of high conservation status;
- **Low potential** – Tree supports one or more features that could be used by individual bats opportunistically, or is of sufficient size and age to contain such features; and

- **Negligible potential** – Negligible features likely to support roosting bats.

Limitations

- 2.20 Visual assessments of trees for roosting bats can be undertaken at any time of year and this assessment was therefore not limited by seasonal or climatic factors.
- 2.21 Bats are mobile animals and will move between a series of different roost sites, frequently establishing and occupying new roost sites depending on seasonal requirements and resources available locally. This survey, therefore, only provides a snapshot of the conditions present at the Study Site at the time of survey.

Investigations of Bat Roosting – Buildings

- 2.22 An external visual inspection of all onsite buildings (**B1** - **B5**) and structures for any evidence of, or potential to support, roosting bats, was undertaken by a suitably qualified ecologist in accordance with best practice guidelines. The visual assessment was initially undertaken on 20 February 2019 and updated on 23 July 2021. The buildings were searched from ground level with all elevations covered where accessibility allowed.
- 2.23 Suitable features for roosting bats include:
- Large uncluttered spaces (preferably free of cobwebs), particularly when lined and insulated;
 - Gaps in mortar of brickwork;
 - Crevices between construction materials;
 - Access points to structure interior; and
 - Supporting ridge beam/main rafters and free of cobwebs.
- 2.24 Signs of roosting bats include:
- Bat/s roosting *in-situ* (live, dead or parts of);
 - Bat droppings within or beneath a feature/access point;
 - Staining around or beneath an access point/feature;
 - Oily marks (staining) around roost access points/features;
 - Audible squeaking from the roost (particularly on hot summer days);
 - Large/regularly used roosts or regularly used sites may produce an odour; and

- Flies around the roost, attracted by the smell of guano.

2.25 Based upon the results of the building assessments and the features/evidence identified (as above), each was assigned with a bat roost potential category, as shown in **Table EDP 2.1**.

Table EDP 2.1: Bat Roost Potential Categories for Buildings.

Bat Roost Potential	Description
Confirmed Roost	Evidence of bats found
High Potential	Many of the potential roosting features (listed above) present, with good foraging habitat nearby that is well connected to the site
Moderate Potential	A few potential roosting features (listed above) present with some foraging habitat nearby that is connected to the site
Low Potential	One or two roosting features present with foraging habitat nearby, but with limited connectivity
Negligible Potential	No features present

Limitations

- 2.26 Visual assessments of buildings/structures for roosting bats can be undertaken at any time of year. As such, this assessment was not limited by seasonal or climatic factors.
- 2.27 Bats are mobile animals and will move between a series of different roost sites, frequently establishing and occupying new roost sites depending on seasonal requirements and resources available locally. This survey, therefore, only provides a snapshot of the conditions present at the Application Site at the time it was undertaken.
- 2.28 There was no internal access to buildings **B1** - **B5** due to serious health and safety risks associated with asbestos and contamination. As such, an internal assessment was based on observations made from open doors and windows where possible. As such, evidence of roosting bats may have been missed. This is, however, not considered a significant constraint given an initial inspection was followed by dusk emergence and/or dawn re-entry surveys during 2019 to confirm presence/infer absence of roosting bats whilst no significant material changes to the buildings were recorded during July 2021 such that previous assessments remain valid/comparable.
- 2.29 There was no external or internal access to remaining, single storey bunkers located onsite due to the prevalence of dense bramble scrub which typically has grown over such structures in their entirety. Such structures are, however, relatively simple and uniform in appearance such that presence of roosting bats is considered unlikely. Nevertheless, pre-demolition inspections for roosting bats are recommended subject to vegetation clearance and remediation of contaminated waste associated with these structures.

Badger

- 2.30 Badger activity within the Study Site was assessed during the Extended Phase 1 survey on 20 February 2019 and then updated on 23 July 2021. During the surveys, 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 active use:

- Fresh spoil outside entrances;
- Old bedding material (typically dried grass) outside entrances;
- Holes being cleared of leaf litter;
- Badger guard hairs; and
- Fresh tracks leading to/from the holes.

Limitations

- 2.31 Dense vegetation was a limiting factor within the Study Site, causing difficulty to thoroughly search the dense scrub areas. Therefore, it is possible signs of badger activity have been missed. Badger surveys can be undertaken at any time of year such that there were no seasonal or climatic constraints to this survey. Dense bramble scrub prevalent across the Study Site did, however, prevent a thorough search of the site for badger such that evidence of this species may have been missed.

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Section 3

Results (Baseline Conditions)

- 3.1 This section of the Preliminary Ecological Appraisal summarises the baseline ecological conditions determined through the course of desk and field-based investigations described in **Section 2**. In particular, this section identifies and evaluates those ecological features/receptors that lie within the Study Site's potential zone of influence, and which are pertinent in the context of potential allocation of the Study Site. Further technical details are, where appropriate, provided within Appendices and on Plans to the rear of this report.

Designated Sites

- 3.2 Information regarding designated sites was obtained during the desk study from the MAGIC website and local records centre (SEWBRc). Statutory designations (those receiving legal protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

- 3.3 Statutory designations represent the most significant ecological receptors, being of recognised importance at an international and/or national level. International designations include Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites. National designations include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs).
- 3.4 No part of the Study Site is covered by any statutory designations. However, there are a number of such designations within the Study Site's potential zone of influence, as summarised in **Table EDP 3.1** and illustrated at **Plan EDP 2**.
- 3.5 Of particular pertinence, Mwyngloddfa Mynydd-Bach SSSI and Wye Valley and Forest of Dean Bat Sites SAC lie approximately 3.8km north and 3.9km north of the Study Site, respectively. The Wye Valley and Forest of Dean Bat Sites SAC is of European importance and Mwyngloddfa Mynydd-Bach SSSI is of national importance for their populations of lesser and greater horseshoe bat, both Annex II species. However, the Study Site is not located within a Juvenile Sustenance Zone for lesser horseshoe bat (i.e. within 600m of a maternity roost designated as a SSSI), nor is it located within a Juvenile Sustenance Zone for greater horseshoe bat (i.e. within 1km of a maternity roost designated as a SSSI)¹².

¹² Monmouth County Council (2021). Local Development Plan Ecological Site Assessments in Monmouthshire 2021. Available at: <https://www.monmouthshire.gov.uk/planning-policy/candidate-sites/ecological-site-assessments-of-candidate-sites/>. [Accessed on 02 August 2021]

Table EDP 3.1: Statutory designations within the Study Site's potential zone of influence.

Designation	Distance from site	Interest Feature(s)
Nedern Brook Wetlands, Caldicot SSSI	275m south	Designated wetland for its importance to overwintering and wading birds, such as Bewicks swan (<i>Cygnus columbianus bewickii</i>), redshank (<i>Tringa tetanus</i>) and wigeon (<i>Mareca</i> sp.).
Brockwells Meadows SSSI	920m south-west	Four meadows of limestone grassland with an archaeological heritage.
Dinham Meadows SSSI	Circa 1.2km north-west and north-east	Designated since 1987, due to its grassland meadows supporting birds, butterflies and reptiles.
Coombe Valley Woods SSSI	2.7km north-west	An ancient semi-natural high forest and old coppice-with-standards which contains important examples of calcareous woodland types with a diversity of canopy trees including beech (<i>Fagus sylvatica</i>), small-leaved lime (<i>Tilia cordata</i>), oak (<i>Quercus robur</i>), ash (<i>Fraxinus excelsior</i>), field maple (<i>Acer campestre</i>) and wych elm (<i>Ulmus glabra</i>).
Rectory Meadow – Rogiet SSSI	2.8km south-west	The only extant and recorded native site of meadow clary (<i>Salvia pratensis</i>) in Wales. This rare species is confined principally to a few sites in Oxfordshire and Gloucestershire and is here at the western edge of its range.
Gwent Levels – Magor and Undy SSSI	2.9km south and south-west	The Gwent Levels constitute the lowlands between Cardiff and Chepstow and are drained by an ordered network of drainage ditches. They are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain. The reens are rich in plant species and communities, many of which are rare or absent in other Levels systems.
Bushy Close SSSI	3.1km south-east	A small relic woodland with oak and hazel (<i>Corylus avellana</i>).
Severn Estuary Ramsar, SAC, SPA and SSSI	3.1km south	Designated for its estuaries, mudflats and sandflats as well as Atlantic salt meadows. Annex II species found in the Severn Estuary include sea lamprey (<i>Petromyzon marinus</i>), river lamprey (<i>Lampetra fluviatilis</i>) and twait shad (<i>Alosa fallax</i>).

Designation	Distance from site	Interest Feature(s)
Mwyngloddfa Mynydd-Bach SSSI	3.8km north	Designated disused mine, cutting through old red sandstone rocks, home to greater horseshoe and lesser horseshoe bat roosts.
Wye Valley and Forest of Dean Bat Sites SAC	3.9km north	The Wye Valley and Forest of Dean Bat Sites SAC supports over a quarter of the UK's lesser horseshoe population and 6% of the greater horseshoe population. The site is considered particularly important for its high density of maternity roost sites and the presence of disused mines that hold nationally significant hibernation roosts of lesser horseshoe bats.
Llwyn Y Celyn Wetland SSSI	4.1km north	This site supports examples of calcareous spring mire and swamp plant communities, uncommon in Gwent. Species include carnation sedge (<i>Carex panicea</i>), purple moor-grass (<i>Molinia caerulea</i>), devil's-bit scabious (<i>Succisa pratensis</i>), tormentil (<i>Potentilla erecta</i>) and lesser pond-sedge (<i>Carex acutiformis</i>).
River Wye SAC SSSI	6.2km north-east	The River Wye is designated for its assemblage of Annex I habitats including water courses of plain to montane levels with the <i>Ranunculion fluitans</i> and <i>Callitricho-Batrachion</i> vegetation. It also supports populations of white-clawed crayfish (<i>Austropotamobius pallipes</i>), sea lamprey, brook lamprey (<i>Lampetra planeri</i>), river lamprey, twaite shad, Atlantic salmon (<i>Salmo salmo</i>), bullhead (<i>Cottus gobio</i>) and otter (<i>Lutra lutra</i>), all Annex II species.
Wye Valley Woodlands SAC	6.3km north-east	The Wye Valley is designated for its beech forests and yew (<i>Taxus baccata</i>) woodlands. Lesser horseshoe bats also utilise the area.
River Usk SAC	9.5km north-west	The River Usk is designated for its Annex II species such as sea lamprey, brook lamprey, river lamprey, twaite shad, Atlantic salmon, bullhead and otter.

Non-Statutory Designations

- 3.6 Non-statutory designations are also commonly referred to in planning policies as 'local sites', although in fact these designations are typically considered to be of importance at a County level. In Monmouthshire, such designations are named Sites of Importance for Nature Conservation (SINCs). Additional designated sites which should be considered at this level include Local Nature Reserves (LNRs) and Ancient Semi-natural Woodland (ASNW) where these are not covered by other designations.
- 3.7 No part of the Study Site is covered by any SINCs. However, there are a number of such designations within the Study Site's potential zone of influence, as summarised in **Table EDP 3.2** and illustrated at **Plan EDP 3**.

Table EDP 3.2: Non-statutory designations within the Study Site's potential zone of influence.

Designation	Distance from site	Interest Feature(s)
Little Wood SINC	440m north-east	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Slade Wood SINC	430m north-west	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Brockwells Meadows WTR	920km south-west	The meadows contain a diverse limestone flora. Notable species include green-winged orchid (<i>Anacamptis morio</i>), cowslip (<i>Primula veris</i>), large thyme (<i>Thymus pulegioides</i>), yellow-wort (<i>Blackstonia perfoliata</i>) and salad burnet (<i>Sanguisorba minor</i>).
Upper Rodge Wood SINC	940m south-west	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Ballan Wood SINC	1km south-east	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Sunny Bank SINC	1.2km east	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Shirefield Meadow SINC	1.3km south-west	The site is located very near to Brockwells Meadows Reserve SSSI. It is a very species-rich site with a mixture of calcareous grassland, scrub and areas of more neutral grassland.
Priest Wood SINC	1.3km north-east	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Rich's Brake SINC	1.6km north-west	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Dinham Valley Woods SINC	1.7km north	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Cobblers Pitch SINC	1.7km south-west	Comprising of woodland to the north and amenity grassland to the west of the SINC. The flora is characteristic of unimproved limestone grasslands with common twayblade (<i>Listera ovata</i>), common hedgenettle (<i>Betonica officinalis</i>) and Devil's bit-scabious (<i>Succisa pratensis</i>).
Part of Sloughpool Wood SINC	1.8km north	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.
Westwood Meadow SINC	1.8km west	A small field supporting neutral hay meadow with a good species diversity. Species include: ribwort plantain (<i>Plantago lanceolata</i>) and bulbous buttercup (<i>Ranunculus bulbosus</i>), lesser knapweed (<i>Centaurea nigra</i>) and red clover (<i>Trifolium pratense</i>).
Lower Rodge Wood SINC	1.8km west	Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites.

Designation	Distance from site	Interest Feature(s)
Whitehall Fields SINC	1.8km west	Large floodplain field of species-rich neutral grassland adjacent to the River Usk. The majority of the site comprised flat, slightly rank, damp/wet meadow vegetation, including frequent soft rush (<i>Juncus effusus</i>), marsh bird's-foot trefoil (<i>Lotus pedunculatus</i>), hairy sedge (<i>Carex hirta</i>) and meadowsweet (<i>Filipendula ulmaria</i>).

Other Pertinent Information

- 3.8 As part of the desk study assessment, EDP undertook a review of current and historical planning applications within the last 5 years (publicly available for review) within circa 1km of the Study Site, to provide additional contextual information on ecological features potentially present within the wider landscape. A summary of the pertinent findings is provided within **Table EDP 3.3** below.

Table EDP 3.3: Pertinent planning proposals within the Study Site's potential zone of influence.

Planning Reference and Details	Pertinent Findings
DC/2016/00784: Caerwent Quarry, Sandy Lane, Caerwent Brook, Caerwent. Land reclamation scheme at Caerwent Quarry.	Ecological surveys undertaken by Acer Ecology in 2016 and Celtic Ecology in 2017. Great crested newt (<i>Triturus cristatus</i>) identified during reptile survey. 91 invertebrate species identified during invertebrate survey, including one nationally important species – six-belted clearwing moth (<i>Bembecia ichneumoniformis</i>) – and five locally important species - cinnabar moth (<i>cinnabar moth</i>), least furrow bee (<i>Lasioglossum minutissimum</i>), painted nomad bee (<i>Nomada fucata</i>), Adonis' ladybird (<i>Hippodamia variegata</i>) and glow-worm (<i>Lampyrus noctiluca</i>).
DC/2017/00458: Bradburys Farm, Crick, Monmouthshire Discharge of conditions relating to DC/2012/00918 – repairs and alterations to two barns and their surrounding site into a dwelling property.	Ecology findings in relation to planning application DC/2012/00918. Just Mammals Consultancy undertook internal and external bat roost inspections in 2012 finding evidence of brown long-eared bat (<i>Plecotus auritus</i>) roost in the loft of the farmhouse.

Planning Reference and Details	Pertinent Findings
DM/2018/00880: Land to east of Church Road, Caldicot, Monmouthshire Outline application (with all matters other than access reserved for future determination) for the erection of up to 130 dwellings.	Ecological surveys undertaken by EDP between 2017 and 2018, including breeding bird, winter bird, great crested newt, badger (<i>Meles meles</i>) and bat activity. Surveys identified: a population of hornet robberfly (<i>Asilus crabroniformis</i>); a positive eDNA result for great crested newt in a pond 370m east of the site; and a local bat assemblage with low registrations for Leisler's (<i>Nyctalus leisleri</i>), greater horseshoe, lesser horseshoe, serotine (<i>Eptesicus serotinus</i>) and Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>) bats.

Existing Survey Information

3.9 Ecological assessments of the Study Site were previously undertaken by EDP between February and September 2019 comprising detailed surveys for bats, dormouse, badger,, common reptiles, and invertebrates. In brief, the following value ecological resources were identified for the Study Site during baseline investigations undertaken during 2019:

- Lesser horseshoe bat maternity roost within building **B2**;
- Presumed presence of a summer day roost comprising low numbers of lesser horseshoe and common pipistrelle bats within building **B1**¹³;
- Common pipistrelle summer day roost within building **B5**;
- Several trees with low-moderate potential to support roosting bats;
- Confirmed presence of dormouse onsite;
- Suitable habitat for badger with a single latrine identified onsite during February 2019;
- Suitable habitat for nesting birds and notable mammal species including European hedgehog (*Erinaceus europaeus*);
- Low population of slow-worm and grass snake onsite; and
- An invertebrate assemblage of Local importance.

¹³ Due to the complexity of B1, and health and safety considerations which preclude a thorough inspection of this building, it is difficult to conclusively determine whether bats were truly emerging from a roost within the building or commuting through it. In undertaking a precautionary assessment, however, B1 is considered to support a summer day roost for low numbers of lesser horseshoe and common pipistrelle bat.

Monmouthshire Ecological Connectivity Assessment

- 3.10 The Ecological Connectivity Assessment undertaken by Gwent Wildlife Trust in 2010¹⁴ identifies routes of habitat connectivity within the town of Monmouth and the wider county, as well as considers connectivity to primary habitat for dormouse, otter and great crested newt specifically. There is no specific assessment for Caerwent; however, the assessments of settlements for Caldicot, Magor and Undy encompasses the Study Site.
- 3.11 Areas of existing connectivity within and/or adjacent to the Study Site include the native hedgerow network across land adjacent to the Study Site's northern eastern and western boundaries which provides some links between woodland/scrub habitat across the Study Site and non-statutory designations in the wider landscape.
- 3.12 In addition to the above, the Nedern Brook to the south of the Study Site, beyond the A48, is important for the maintenance of connectivity across the wider landscape. Of further importance is the suitability of the surrounding landscape to support a dormouse population previously identified onsite, with the native hedgerows and large areas of broadleaved woodland, providing links to the SINC network within 1km of the Study Site.

Habitats

- 3.13 Information on habitats within and around the Study Site was obtained during the desk study, initial and update Extended Phase 1 undertaken in February 2019 and July 2021 as well as botanical assessments undertaken during June 2019 and July 2021. The distribution of different habitat types within and adjacent to the Study Site is illustrated at **Plan EDP 1** and further described below. The results of a DAFOR assessment are provided at **Appendix EDP 2**. Illustrative photographs are provided at **Appendix EDP 3**.

Broadleaved Semi-Natural Woodland

- 3.14 The southern boundary of the Study Site is characterised by broadleaved semi-natural woodland comprising pedunculate oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*), hazel (*Corylus avellana*), holly (*Ilex aquifolium*) and goat willow (*Salix caprea*), with an understorey characterised by hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*) and spindle (*Euonymus europaea*). Ground flora comprises creeping cinquefoil (*Potentilla repens*), bramble, willowherb (*Epilobium* sp.), hart's-tongue (*Asplenium scolopendrium*) and common nettle (*Urtica dioeca*), with old man's beard (*Clematis vitalba*) covering large areas.

Dense Continuous and Scattered Scrub

- 3.15 The majority of the Study Site comprises unmanaged dense continuous scrub circa 2-3m in height. Bramble is dominant, whilst buddleia (*Buddleja davidii*) and goat willow are abundant. Spindle and field maple (*Acer campestre*) saplings were recorded amongst the bramble scrub, with large areas also covered in old man's beard. Across the eastern

¹⁴ Gwent Wildlife Trust (2010). Ecological Connectivity Assessment of Settlements in Monmouthshire Report. Available at: <https://www.monmouthshire.gov.uk/planning-policy/candidate-sites/ecological-site-assessments-of-candidate-sites/>. [Accessed on 02 August 2021]

extent of the Study Site and particularly surrounding open grass habitats and blackthorn (*Prunus spinosa*) is dominant.

Native Hedgerow

- 3.16 The southern boundary of the Study Site is delineated by an outgrown, defunct hedgerow which is contiguous with woodland habitat adjacent. Circa 4m high and 1m wide the hedgerow is characterised by semi-mature and mature oak trees with shrub species dominated by hawthorn and a ground flora community dominated by common ivy (*Hedera helix*). The eastern boundary of the Study Site is similarly delineated by an outgrown, defunct native hedgerow comprising semi-mature and mature trees with underlying shrub. Access here was, however, limited such that a thorough assessment could not be completed.

Poor Semi-improved Grassland

- 3.17 Three distinct areas of poor semi-improved grassland are located within the north-west, southwest and north-east corners of the Study Site. Poor semi-improved grassland is characterised by an unmanaged, tussocky sward (circa 0.7m high) with encroaching scattered scrub. Yorkshire fog (*Holcus lunatus*) and false-oat grass (*Arrhenatherum elatius*) are dominant whilst cock's foot (*Dactylis glomerata*), creeping bent (*Agrostis stolonifera*) and red fescue (*Festuca rubra*) are abundant. Perennial rye-grass (*Lolium perenne*) is also abundant across distinct areas. Sweet vernal grass (*Anthoxanthum odoratum*), selfheal (*Prunella vulgaris*), burdock (*Arctium* sp.) and common vetch (*Vicia sativa*) occur frequently, whilst broadleaved dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*) and ragwort (*Jacobaea vulgaris*) occur occasionally.

Semi-improved grassland

- 3.18 A small area of grassland, subdivided from remaining grassland habitat by dense scrub is characterised by a more species-rich grassland sward supporting several neutral grassland indicator species. Here false oat-grass and lady's bedstraw (*Galium verum*) is locally dominant whilst cock's-foot and sweet vernal grass is abundant is locally abundant. Common knapweed (*Centaurea nigra*), creeping cinquefoil (*Potentilla repens*), creeping buttercup, lesser stitchwort (*Stellaria graminea*), and germander speedwell (*Veronica chamaedrys*) occur frequently. Agrimony (*Agrimonia eupatoria*), creeping thistle (*Cirsium arvense*), common spotted orchid (*Dactylorhiza fuchsia*), sheep's fescue (*Festuca ovina*), common vetch (*Vicia sativa*), great mullein (*Verbascum thapsus*), St. John's wort (*Hypericum perforatum*), imperforate St. John's wort (*Hypericum maculatum*) and meadow vetchling (*Lathyrus pratensis*) occur rarely.

Tall Ruderal Vegetation

- 3.19 Tall ruderal vegetation across open areas to the north of the broadleaved semi-natural woodland, east and west of the access road to the Study Site. The eastern area was previously identified as ephemeral/ short perennial vegetation in early 2019 but vegetation here has become more established following absence of management.

- 3.20 Across the western area creeping buttercup is dominant whilst lady's bedstraw and perforate St. John's wort is abundant. Common field speedwell (*Veronica persica*), broadleaved dock (*Rumex obtusifolius*), field forget-me-not (*Myosotis arvensis*) and imperforate St. John's wort occur frequently. Yorkshire fog, common vetch, hogweed (*Heracleum sphondylium*), cleaver (*Galium aparine*), creeping soft grass (*Holcus mollis*), rough meadow grass (*Poa trivialis*), common ragwort (*Seneciaa jacobaea*), cut-leaved crane's-bill (*Geranium dissectum*) and dove's foot crane's-bill (*Geranium molle*) are also present. The eastern area is characterised by a similar species assemblage although common nettle (*Urticia dioecia*) is locally dominant here.

Buildings and Hardstanding

- 3.21 The Study Site encompasses five buildings located centrally within the Study Site (**B1** – **B5**) all of which are unoccupied. This is in addition to several bunkers scattered across the Study Site which have become so overgrown with bramble scrub as to render them inaccessible. The main buildings are constructed of brick with pitched corrugated asbestos roofs, and all have either broken windows and/or open doors. Further details are provided below in relation to roosting bats.

Habitat Overview and Assessment against SINC Criteria

- 3.22 The Study Site is dominated by dense continuous scrub and predominantly poor semi-improved grassland with localised patches of species-rich grassland habitat which typically form a mosaic with tall ruderal and ephemeral vegetation. The southern boundary is an overgrown native hedgerow contiguous with woodland habitat which both comprise habitats of Principal importance for Wales¹⁵.
- 3.23 Overall, the Study Site has low botanical diversity with no species of particular note recorded. However, 10 indicator species were recorded in association with one discrete area of grassland habitat across the north-eastern extent of the Study Site and as such this area meets SINC requirements. Remaining areas of grassland habitat across the Study Site support between 1 and 7 indicator species only and when assessed individually are not considered to meet SINC criteria nor are considered particularly species-rich. Although there are several mature and semi-mature trees scattered across the Study Site, none are considered to qualify as Veteran trees. However, there is one over-mature tree (**T2**) located within the woodland in the southeast of the Study Site.
- 3.24 With respect to hedgerows, these were predominantly species-poor and almost indistinguishable from the woodland habitat. Dormouse was, however, confirmed present onsite such that boundary hedgerows are considered 'Important' in accordance with the Wildlife and Landscape criteria under the Hedgerow Regulations 1997.

¹⁵ Habitats considered of key significance to sustain and improve biodiversity in Wales, as defined under Section 7 of Part 1 of the Environment (Wales) Act 2016.

Protected and/or Notable species

- 3.25 The likelihood of presence, or confirmed presence, of protected/and or notable wildlife species within the Study Site is summarised below with reference to habitat suitability and detailed surveys where relevant. Further details are made available within Appendices and Plans where referenced.

Breeding Birds

- 3.26 A relatively large number of records for bird species within 2km of the Study Site were returned by SEWBRc during the desk study, which include several Schedule 1 species and species identified by Birds of Conservation Concern in Wales (BoCC3¹⁶).
- 3.27 Records of Schedule 1 species within 2km of the Study Site include kingfisher (*Alcedo atthis*), fieldfare (*Turdus pilaris*), peregrine falcon (*Falco peregrinus*) and redwing (*Turdus iliacus*).
- 3.28 A number of other priority species have also been recorded within 2km. Red listed species returned during the desk study include starling (*Sturnus vulgaris*), lapwing (*Vanellus vanellus*), kestrel (*Falco tinnunculus*), linnet (*Linaria cannabina*) and yellowhammer (*Emberiza citrinella*). Amber listed species include song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), swift (*Apus apus*), long-tailed tit (*Aegithalos caudatus*), cormorant (*Phalacrocorax carbo*) and goldcrest (*Regulus regulus*).
- 3.29 Dense scrub and woodland and hedgerow habitat provide suitable nesting opportunities and a foraging resource for a common and generalist breeding bird assemblage, whilst derelict buildings onsite provides additional nesting opportunities. Given the nature of those habitats supported therein and their current management, however, a notable bird assemblage is unlikely to be present.

Bats

- 3.30 SEWBRc returned multiple records of roosting bats within 2km of the Study Site for the following bat species: brown long-eared, common pipistrelle, and Natterer's bat (*Myotis nattereri*). The closest records include a Natterer's bat and brown long-eared day roost recorded in 2011 circa 900m west of the Study Site.
- 3.31 With respect to Annex II species, several records of roosts for lesser horseshoe bat (*Rhinolophus hipposideros*) were returned within the last ten years, with the closest record for a hibernation roost 1.9km south-east of the Study Site.

¹⁶ Bladwell S, Noble DG, Taylor R, Cryer J, Galliford H, Hayhow DB, Kirby W, Smith D, Vanstone A, Wotton SR (2018) *The state of birds in Wales 2018*. The RSPB, BTO, NRW and WOS. RSPB Cymru, Cardiff

- 3.32 Multiple records of foraging/commuting bats were recorded within 2km of the Study Site including common pipistrelle, soprano pipistrelle (*Pipistrellus pygaemus*), serotine noctule (*Nyctalus noctula*), brown long-eared, *Myotis* sp. and Natterer's bats. Nathusius' pipistrelle (*Pipistrellus nathusii*) was also recorded foraging circa 4km north-west of the Study Site. In respect of Annex II species, records of Bechstein's bat (*Myotis bechsteinii*) were returned at 4.3km north of the Study Site; western barbastelle (*Barbastella barbastellus*) at 4.5km north-east; and greater horseshoe (*Rhinolophus ferrumequinum*) at 3.3km north-west.
- 3.33 The Study Site is considered to offer some suitable habitat for foraging and commuting bats, including woodland, hedgerow and dense scrub habitat which also provide linear features for dispersal of a bat population across the Study Site. In addition, mature trees scattered across the Study Site provide potential roosting opportunities as well as the several derelict buildings.

Investigations of Bat Roosting – Trees

- 3.34 The initial ground level assessment of trees within the Study Site during February 2019 identified four mature trees with moderate potential to support roosting bats. Following further detailed aerial inspections of those trees with moderate-high potential during August and September 2019, no bats or evidence of bats were seen during the visual inspections. Tree **T4** was, however, confirmed to be of moderate potential to support roosting bats whilst **T1** - **T3** were downgraded to low potential. Trees with bat roosting potential are illustrated at **Plan EDP 1**, with further details provided within **Table EDP 3.4**.
- 3.35 An update ground level assessment undertaken during July 2021 noted no changes on the existing baseline with respect to trees **T1**, **T3** and **T4** has, however, suffered storm damage and partially fallen since last assessed.

Table EDP 3.4: Summary of the findings of the bat tree assessment.

Tree No.	Species	Comments (PRFs – Potential Roost Features)	Bat Roosting Potential/ Confirmed
T1	Black Poplar Hybrid – mature (<i>Populus x canadensis</i>)	T1 has undergone pollarding in the past. No recent pollarding has, however, taken place and several limbs have failed creating several tear wounds. These features are all superficial with regards to providing potential roosting features. Areas of stressed bark beginning to peel were identified but do not offer any shelter at present.	Low
T2	Poplar – mature (<i>Populus</i> sp.)	T2 has undergone pollarding in the past, but nothing recently. The tree also has failed limbs. There is a tear wound on the main stem at 10m but does not offer sufficient shelter for roosting bats. Several small knot holes and sections of deadwood are also present but do not offer sufficient shelter.	Low

Tree No.	Species	Comments (PRFs – Potential Roost Features)	Bat Roosting Potential/ Confirmed
T3	Pedunculate oak – semimature (<i>Quercus robur</i>)	Has moderate ivy cover and a failed limb on the north side at 2m. The latter offers small crevices within the split timber, but these are very clustered and obscured by vegetation. The ivy does not offer sufficient shelter for bats due to its current diameter and foliage cover.	Low
T4	Pedunculate oak – mature (<i>Quercus robur</i>)	The tree supports dense arboreal ivy which provides multiple crevices which are suitable for crevice dwelling bat species. However, a second survey visit following rain noted that there were limited dry crevices present between the ivy and main stem which would affect the period of potential usage by roosting bats. There is a horizontal hazard beam within the centre of the cavity at 12m on the east side which contains 4-inch inwards travelling cavity suitable for roosting bats.	Moderate

Investigations of Bat Roosting – Buildings

- 3.36 There are five main buildings located centrally within the Study Site (**B1 – B5**) all of which are unoccupied. This is in addition to several bunkers scattered across the site which have become so overgrown with bramble scrub as to render them inaccessible.
- 3.37 Of the five buildings subjected to a visual assessment one was considered to have high potential to support roosting bats, one building with moderate potential and three buildings with low potential to support roosting bats. A description of each building assessed during February 2019 and July 2021 and their value for roosting bats is summarised within **Table EDP 3.5**.

Table EDP 3.5: Preliminary Building Inspection Results of Potential to Support Bat Roost.

Building Number & Description	Bat Roost Potential	Building Photographs
B1: Central, main building constructed of brick with pitched corrugated asbestos roof. The building is of varying height with single storey and 2-storey sections. Internally (as seen from entrances to the building), the building is very light with dropped ceiling supported by a metal frame considered unlikely to offer suitable roosting opportunities for a significant bat assemblage. In several places, ceiling tiles are missing exposing the underside of the roof. The roof is also damaged in places allowing light ingress. All doors are open or missing whilst multiple windows on all elevations are smashed or missing windowpanes, providing access for bats to the building interior.	Presumed bat roost	 
B2: Single-storey brick-built building with a profiled composite pitched asbestos roof. There is a central two storey tower with flat roof associated with the building. The northern elevation is bordered by dense scrub which is creeping up the exterior walls of the building. All doors remain wide open whilst several windows are missing or smashed providing internal access to the building for bats. Internally (as seen from open doors), the building comprises a dropped ceiling supported by a metal frame. Some of the ceiling panels remain in place creating a void circa 1.5m high. Interior of building is fairly light during the daytime.	Confirmed roost	

Building Number & Description	Bat Roost Potential	Building Photographs
B3: Building similar in structure to B2 but with no two-storey tower. Dense scrub borders the northern elevation. Open door and windows provide multiple access points for bats whilst internally, suitable roosting features appear limited with no visible roof voids. The roof is missing at the western elevation.	Low summer roosting and negligible hibernation potential.	
B4: Single storey building with profiled composite, pitched asbestos roof. Open doors and windows provide internal access. Internally, the building is very light which would deter a notable bat assemblage. Roosting features are limited to small gaps under the roof beams.	Low summer roosting and negligible hibernation potential Evidence of nesting swallow	
B5: A single-storey boiler room north of B1 . Brick built; the building has a pitched asbestos roof with no void or lining. Roosting opportunities are thus limited. Large open double doors provide internal access. Internally, however, the building is very light and drafty with no roof void.	Moderate summer roosting and negligible hibernation potential	

Badger

- 3.38 Nine records for badger were returned by SEWBRc during the desk study. All the records related to road mortalities associated with the A48. [REDACTED]
- 3.39 Semi-improved grassland, dense scrub and woodland habitat provides a suitable foraging resource for badger in addition to suitable cover for setts. No setts were recorded during the Extended Phase 1 Habitat survey nor were any noted during subsequent site visits; however, a single latrine was identified within woodland habitat in the south-west corner of the Study Site during February 2019 with a mammal path travelling north to south indicating movement of badger between the Study Site and offsite habitats to the south.

Dormouse

- 3.40 Several records for dormouse were returned by SEWBreC during the desk study. The closest record of which was 760m east of the Study Site. Many breeding and lactating females with juveniles have been identified within the wider landscape of the Study Site.
- 3.41 Nest tube surveys undertaken over the course of 2019 confirmed the presence of dormouse onsite. Evidence of dormouse, including nests and individuals were recorded over the course of 2019 across nest tubes deployed across woodland habitat which delineates the southern boundary of the Study Site, both east and west of the main site access. No evidence of dormouse was identified within dense bramble scrub habitat within the northern half of the Application Site.
- 3.42 Woodland, dense shrubs and hedgerow boundaries are considered to provide an optimal foraging resource as well as offering additional opportunities for breeding and hibernation. Dense bramble scrub, in contrast, is considered sub-optimal. Although it provides a foraging resource and facilitates dispersal it is likely to offer less opportunities to this species. Habitat connectivity across the Study Site to the wider landscape is, however, quite limited with offsite hedgerows appearing defunct whilst the boundaries of the Study Site, particularly in the west, are defined by fence lines.

Otter and Water Vole

- 3.43 Two records for otter within 2km of the Study Site were returned by SEWBreC and are associated with a viaduct under the M48 for the Nedern Brook 740m south of the Study Site and a road casualty on the M48. A single water vole record were returned at 760m south-east of the Study Site.
- 3.44 No suitable habitat for either species exists on or adjacent to the Study Site. Both species are therefore not considered to pose a constraint to the development proposals such that they are not considered further within this report.

Great Crested Newt

- 3.45 Three records for great crested newt were returned by SEWBreC during the desk study from within the last ten years. All records are from the same area, 1.8km south-west of the Study Site. Six records of smooth newt (*Lissotriton vulgaris*) were identified in the same area. Records for common frog (*Rana temporaria*) and common toad (*Bufo bufo*) were also returned, just over 920m north-west and 1.5km south-east of the Study Site respectively.
- 3.46 Unmanaged grassland, scrub and woodland habitat onsite is considered optimal terrestrial habitat for great crested newt whilst the remains of previously demolished bunkers/building provide suitable hibernacula for this species. A treeline/hedgerow delineating the eastern boundary of the Study Site meanwhile provides a linear corridor for dispersal of this species to the north. The western and northern site boundaries, however, comprises an unvegetated fence line and, therefore, are not considered particularly significant wildlife corridors although seminatural habitat is present

immediately adjacent to the north and west. Such habitat, however, comprises more frequently managed grassland which may be considered less optimal for this species whilst links to offsite hedgerows (wildlife corridors) appear fragmented. Nevertheless, some dispersal of great crested newt and between the Study Site and land to the north is possible. In the south, however, the A48 dual carriageway is considered a significant barrier to the dispersal of this species across the local landscape should they be present within the area.

- 3.47 With respect to suitable aquatic habitat there are no waterbodies present onsite. A single waterbody was identified 200m north of the Study Site and which is associated with a Sewage Treatment Works and MoD land, but which no access to was possible. Nevertheless, given the distance of the waterbody from the Study Site managed nature of surrounding habitats which may limit dispersal, great crested newt is presumed likely absent from the Application Site.

Common Reptiles

- 3.48 SEWBRc returned only one record of common reptile within the last ten years. A single grass snake (*Natrix helvetica*) at 1.5km southeast from the Study Site. A desk study did, however, return more historical records for slow-worm and adder (*Vipera berus*).
- 3.49 During a reptile survey undertaken on seven occasions during May 2019, a small population of slow worm were recorded onsite with a peak count of seven recorded during any one visit. Slow-worm were predominantly recorded in association with grassland habitat in the eastern half of the Study Site although some individuals were also recorded in the western half. A grass snakeskin was also found during a bat emergence survey on 05 June 2019 to the northeast of building **B1** and a single grass snake was identified underneath a reptile mat during a dormouse survey on the 18 July 2019 in the far east field.
- 3.50 Unmanaged grassland, scrub and woodland habitat onsite is considered optimal terrestrial habitat for a reptile population and further facilitates dispersal of a population between the Study Site and any suitable habitats adjacent, whilst the remains of previously demolished bunkers/building provide suitable hibernacula for this species.

Other Species Potentially Supported

Mammals

- 3.51 SEWBRc returned six records for European hedgehog (*Erinaceus europaeus*) during the desk study, the closest located 610m west of the Study Site in Caerwent village. Two records for polecat (*Mustela putorius*) in relation to the M48, were also returned 1km east of the Study Site. Habitats supported by the Study Site, namely woodland and scrub, likely provide suitable cover for these species.

Invertebrates

- 3.52 The desk study returned records for a limited assemblage of invertebrates within 2km of the Study Site within the last ten years. The desk study returned records of two species within the Study Site, long-winged cone-head (*Conocephalus Discolor*) and speckled bush-cricket (*Leptophyes punctatissima*), both locally important species for the area with the former listed as a Nationally Scarce species. A further three species were returned within 2km of the Study Site within the last ten years that are considered to be locally important: red-eyed damselfly (*Erythromma najas*), short-winged cone-head (*Conocephalus dorsalis*) and black-tailed skimmer (*Orthetrum cancellatum*). Records for hornet robberfly (*Asilus crabroniformis*), a Priority Species under Section 7 of the Environment Act 2016, was also returned. A single historic record of white-letter hairstreak (*Satyrrium w-album*) was returned from 1976. This species is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
- 3.53 A survey of the onsite invertebrate assemblage was undertaken over two daytime visits in August and September 2019, during which a total of 140 terrestrial invertebrate species were positively identified. Of these, just eight are considered to be of conservation interest, including:
- the nationally scarce large yellow-face bee (*Hylaeus signatus*);
 - small heath (*Coenonympha pamphilus*) and cinnabar moth (*Tyria jacobaeae*) both listed under Section 7 of the Environment Act 2016; and
 - the nationally local dung beetle, *Onthophagus joannae*.
- 3.54 Of further pertinence, *Cryptocephalus fulvus* (a leaf beetle), acorn weevil (*Curculio glandium*), cabbage-stem flea beetle (*Psylliodes chrysocephala*) and *Sciaphilus asperatus* (a weevil) recorded during surveys were also considered to be of conservation interest because of their localised, scarce or rare status within Wales.
- 3.55 Overall, however, a low species total was recorded onsite likely due to the prevalence of dense scrub which has resulted in the loss of habitat diversity and resulted in spatial homogeneity. Nevertheless, there remains a mosaic of habitat types, albeit each limited in extent with provides suitable opportunities for a locally important assemblage.

Notable Plants

- 3.56 The desk study returned records for bluebell (*Hyacinthoides non-scripta*), a species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) in association with farmland 750m to the south. No notable species were identified during the Extended Phase 1 survey and botanical assessments.
- 3.57 Both Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*) was recorded within the Study Site. Their locations are illustrated by **TN1** and **TN2** respectively on the **Plan EDP 1**. These species are both listed on the Schedule 9 under the Wildlife and Countryside Act 1981 (as amended).

Biodiversity Evaluation

- 3.58 An evaluation of the Study Site with respect to its biodiversity value and potential level of impacts associated with its development has been based on the criteria issued by MCC. With reference to this guidance the Study Site has been assessed as Medium due to the following:
- Nedern Brook Wetlands, Caldicot SSSI within 275m of the Study Site;
 - Small areas of grassland onsite meet the criteria for designation as a SINC;
 - Presence of an over-mature tree (**T2**);
 - Site of existing value for connecting semi-natural habitats in the landscape as identified in the ecological connectivity assessment and during field surveys;
 - Site within the Juvenile Sustenance Zone of a non-designated horseshoe maternity roost; and
 - Protected species recorded within the Study Site including dormouse, roosting bats, common reptiles and invertebrate species of conservation interest. However, such species are unlikely to prevent development if appropriate mitigation and compensation is provided.
- 3.59 The Study Site is not designated as a SINC/Ancient Woodland and is not situated within the Juvenile Sustenance Zone of a Wye Valley Forest of Dean Bat Sites SAC Maternity Roost SSSI. A Biodiversity Evaluation Plan is Provided at **Plan EDP 4**, whilst a Site Summary Form is provided at **Appendix EDP 4**.

Section 4

Summary and Conclusions

- 4.1 This Preliminary Ecological Appraisal has been prepared by EDP on behalf of M2M Architects, in relation to Land at the Former MoD Training Centre, Caerwent. This Preliminary Ecological Appraisal provides a high-level assessment of the Study Site with respect to identifying key ecological constraints and opportunities to inform residential development. This report is to be submitted to MCC in support of the allocation of the Study Site within the emerging Local Development Plan. An Illustrative Masterplan is provided at **Appendix EDP 1**.
- 4.2 With respect to designated sites, the Study Site is not located within or adjacent any statutory designations. However, the Study Site is located within 3.8km of Mwyngloddfa Mynydd-Bach SSSI and within 3.9km of the Wye Valley and Forest of Dean Bat Sites SAC both designated for their populations of lesser horseshoe and greater horseshoe bats. The Study Site is not, however, located within a Juvenile Sustenance Zone for roosts of either bat species associated with these designations. Of further pertinence, the River Wye SAC and SSSI and River Usk SAC are located 6.2km north-east and 9.5km north-west of the Study Site, respectively, such that any development proposals which will result in an increase in residential units may have potential impacts upon each designation as a result of increased phosphorus loading from receiving sewage treatment works STW to these watercourses. The Study Site is, however, located outside the phosphorus sensitive area for each of these catchments¹⁷ such that the potential for significant negative effects from increased sewage effluent is unlikely. Similarly, there is no hydrological connectivity between the Study Site and the River Usk and Wye. The Nedern Brook is, however, located 275m of the Study Site and discharges directly into the Severn Estuary. Indirect negative effects associated with increased surface runoff from the development and subsequent changes to water quality within the Nedern Brook may, therefore, arise. Inherent within an emerging masterplan is the provision of attenuation features, predominantly along the southern boundaries of the Study Site south-west corner of the Study Site to manage surface water runoff from proposed development.
- 4.3 With respect to non-statutory designations, no SINC is present within or immediately adjacent to the Study Site. There are, however, several SINCS and one WTR within 2km of the Study Site including areas of ancient semi-natural woodland. However, given the spatial separation of these designated sites from the Study Site and nature of qualifying features no significant effects are anticipated to arise as a result of future development.
- 4.4 To establish the ecological baseline of the Study Site, a desk study, Extended Phase 1 Habitat survey and detailed botanical survey was previously undertaken by EDP during 2019 and updated on 23 July 2021. Of further pertinence, detailed surveys of the Study Site for badger, dormouse, common reptiles and a bat and invertebrate assemblage have previously been undertaken in 2019.

¹⁷ https://www.monmouthshire.gov.uk/app/uploads/2021/02/Phosphorus_pdf.pdf

- 4.5 The Study Site encompasses poor semi-improved grassland fields located within the northeast and north-west corners of the site, with each grassland area surrounded by dense scrub which dominates the Study Site and is slowly encroaching across the site. A small area of species-rich grassland which meets the criteria for designation of a SINC are typically present in the north-east corner of the Study Site. Several derelict buildings are located within the centre of the Study Site, whilst the southern area is dominated by semi-natural broadleaved woodland. There are two open areas colonised by tall ruderal vegetation – one in the southwest that is particularly well established with a second area located in the southeast corner of the Study Site.
- 4.6 Dense scrub, grassland and tall ruderal vegetation is considered to be of limited ecological importance, Broadleaved woodland and native hedgerows along the southern extents of the Study Site are, however, considered to be of greater ecological importance and, furthermore, comprises priority habitats for Wales. Proposed development should seek to retain these habitats as far as possible and offset these from development through inclusion of habitat buffers, incorporating the root protection zones of retained vegetation as well as areas of open green space. Such measures are particularly pertinent given the presence of dormouse, a European Protected Species (EPS). Where loss cannot be avoided, new tree, shrub and woodland planting elsewhere across the Study Site will be required to compensate for habitat loss and also deliver a net biodiversity gain. There are indeed opportunities for new hedgrow creation along the western and northern boundaries of the Study Site, replacing existing fence lines. This should be combined with the enhancement of retained hedgerows through infill planting of gaps and control of bramble scrub to promote species-rich and structurally diverse habitat corridors, combined with the sensitive management of retained woodland habitat to promote structural diversity.
- 4.7 Although the Study Site is dominated by habitats of inherent low ecological importance, they nevertheless have potential to support protected and notable species, including dormouse referenced above. Surveys undertaken during 2019 identified a low slow-worm and grass snake population onsite whilst several invertebrate surveys of conservation importance with identified in association with mosaic habitats. Such habitats of further value to a breeding bird and foraging/commuting bat assemblage whilst a lesser horseshoe maternity and day roost and common pipistrelle day roost were identified within buildings onsite. Proposed demolition of buildings will result in the loss of such bat roosts and as such will need to be undertaken in accordance with an EPS licence form NRW with provision of suitable compensatory roosting features either integrated into new buildings or as a standalone bat building. More generally, however, proposed public open space and attenuation features across the southern, southwestern and south easter extents of the Study Site provide opportunities for the creation of new botanically and structurally habitats of value to these species in compensation for habitat loss of species-poor, homogeneous habitat elsewhere across the Study Site.

- 4.8 Should the Study Site come forward for development, update species surveys will be required to update the ecological baseline of the Study Site given the time that has elapsed and to ensure a final masterplan design and mitigation strategy is sufficient to offset potential impacts to ecological receptors supported by the Study Site, as summarised in **Table EDP 4.1** below:

Table EDP 4.1: Scope of further detailed protected species surveys.

Survey Type	Description
Bat Building Assessment	An external visual assessment of all buildings accessible within the Study Site were undertaken on 20 February 2019 and updated on 23 July 2021. During 2019, one building was considered to have high potential to support roosting bats, one building with moderate potential and three buildings with low potential to support roosting bats. Subsequent bat emergence and dawn re-entry surveys of onsite buildings confirmed presence of a common pipistrelle day roost and lesser horseshoe bat maternity and day roost. Further update dusk emergence/dawn re-entry surveys will be required to confirm continued presence of these roosts or otherwise determine if other bat roosts have established in the interim.
Bat Tree Assessment	Ground based visual assessments of onsite trees for the presence of, or potential to support, roosting bats were initially undertaken on 20 February 2019 and updated on 23 July 2021. Further detailed aerial tree inspections were completed for trees in August and September 2019 with no evidence of roosting bats identified. Update aerial inspections of any trees with moderate-high potential will be required to confirm presence/infer absence of tree roosting bats.
Bat Activity Surveys	Static detector surveys for the Study Site were completed each month between April and September 2019. A total of 9 species/species groups were recorded utilising the site for foraging/commuting with activity dominated by common pipistrelle. Noctule, long-eared, soprano pipistrelle and lesser horseshoe bats were recorded occasionally. Single registrations of barbastelle, serotine and Nathusius's pipistrelle bats were recorded on occasion. Dense scrub across the Study Site precludes safe access for manual transect surveys; however, update automated detector surveys may be required to inform a future planning application.
Badger	Badger surveys were undertaken for the Study Site alongside the Extended Phase 1 surveys on 20 February 2019 and 23 July 202 during which no setts were identified although a single latrine was recorded during February 2019. Given the ability of this species to excavate new setts in a short space of time, an update badger survey prior to a planning submission is recommended..
Dormouse	Given the suitability of habitat within the Study Site to support dormouse, EDP undertook dormouse surveys in 2019 which confirmed presence of this species onsite. Update surveys may be required to inform a future planning submission.

Survey Type	Description
Reptiles	Given the potential of onsite habitats to provide basking, foraging, dispersal and hibernation opportunities for common and widespread species of reptiles, a reptile survey was conducted by EDP in May 2019 to confirm presence/infer absence of a population. A small population of slow-worm was identified during the survey as well as two sightings of grass snake post-survey during the summer months. Update survey may be required to ensure the existing baseline for these species remains valid.
Invertebrates	An assessment of the invertebrate assemblage undertaken during August and September 2019 identified a low species total although 8 species of conservation importance were recorded. Further update survey will likely be required, ideally covering the spring and early summer months to inform a planning submission.

4.9 **Table EDP 4.2** summarises other survey types which are recommended to inform a planning submission for development in the future.

Table EDP 4.2: Ecology surveys scoped out.

Survey Type	Reasons for scoping out
Breeding birds	Given the relatively small size of the Application Site and nature of habitats recorded therein comprising common and widespread habitats likely to support common and widespread breeding bird species, no further breeding or wintering bird surveys are recommended in this instance. Avoidance and other precautionary measures of clearance during the pre-construction phases of future development are instead recommended in this instance, to ensure no harm/disturbance to nesting birds.
Great Crested Newt (<i>Triturus cristatus</i>)	A single pond was identified within 500m of the Study Site (located 195m north of the Study Site). The pond is, however, located in association with a sewage treatment works on MoD land. As such, there was no access to this waterbody during 2019. Given the limited extent of suitable habitat for Great Crested Newt (GCN) between the Study Site and waterbody, a precautionary measure of site clearance under a non-licensed method statement is recommended to avoid impacts in the unlikely event GCN are found to be present.
Otter (<i>Lutra lutra</i>)/Water Vole (<i>Arvicola amphibicus</i>)	No suitable habitat for either species exists on or adjacent to the Study Site. As such, it is presumed that both species are absent from the Study Site.

4.10 Based on the ecological baseline work undertaken to date and, in the absence of mitigation, EDP has identified the potential for negative effects to arise upon ecological receptors present/potentially present onsite. It is, therefore, recommended that the following design principles are translated into a future detailed design:

- The adoption of measures to physically protect retained habitats during construction, including the appropriate usage of protective fencing and establishment of

Ecological Protection Zones (EPZs), combined with adoption of sensitive working methodologies during site clearance;

- The implementation of development in accordance with an EPS Development Licence from NRW in relation to dormouse and roosting bats with provision of compensatory habitat/roosting features;
- The exclusion or retained habitats from the curtilage of residential units to ensure their integrity is maintained in the long-term;
- The creation of wildflower meadow grassland across proposed open areas of open green space and attenuation features;
- New native planting within ecological buffers and across proposed informal open green space to compensate for habitat loss whilst enhancing retained habitats in of value for wildlife including bats, birds, reptiles and invertebrates;
- The provision of new habitat features including bat and bird boxes (including those to be integrated within buildings and those to be installed upon semi-mature trees retained onsite), and hibernacula for a common reptile, amphibian and invertebrate population, to deliver additional net benefits for biodiversity; and
- Minimising the spillage of artificial lighting on retained and new roosting, foraging and commuting/dispersal habitats for wildlife through a sensitive lighting strategy.

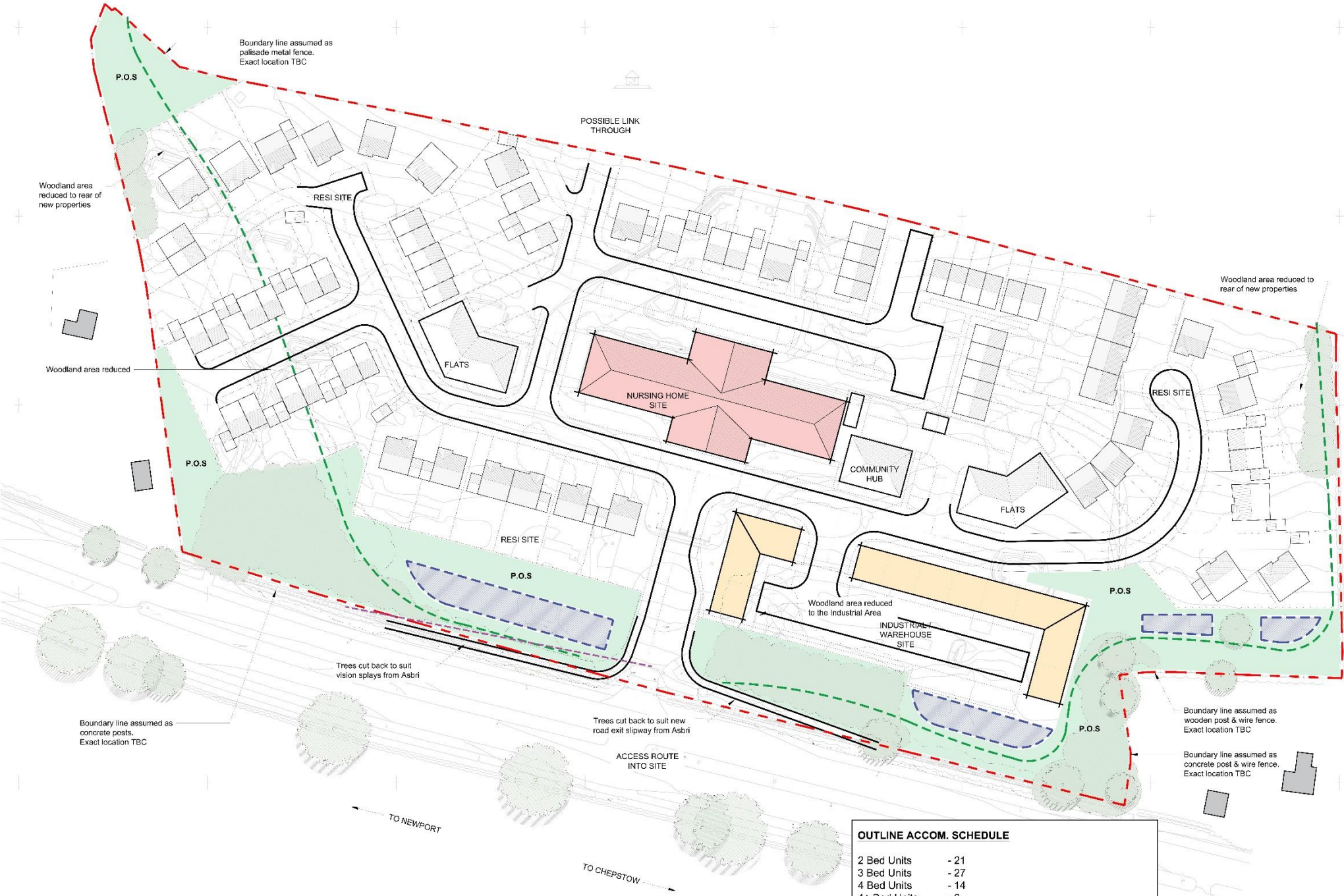
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Appendix EDP 1

Illustrative Masterplan

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Proposed Site Masterplan



OUTLINE ACCOM. SCHEDULE	
2 Bed Units	- 21
3 Bed Units	- 27
4 Bed Units	- 14
4+ Bed Units	- 6
TOTAL HOUSES	- 68 Dwellings
Flats	- 6 Per Block (2 Blocks)
TOTAL FLATS	- 12 Flats
TOTAL UNITS	- 80 UNITS
Industrial Units	- Double height Warehouse Accommodation Approx. 1020m ² footprint
Community Hub	- 2 Storey Approx. 215m ² footprint
Nursing Home	- 3 Storey Accommodation Approx. 1400m ² footprint

KEY:
Information extracted from EDP 'Constraints and Opportunities' Plan (5457_d008 - Sept 2019)

- Site Boundary
Exact location TBC
- Existing buildings/ structures
- Potential SUDs / attenuation locations
- Potential extent of 'Green Infrastructure Links' through site
- Existing wooded areas (trimmed back where indicated)
- Existing Trees Category A & B Trees
- Existing Category Category A & B Trees removed
- Proposed Trees and Planting areas

- PROPOSED BUILDING TYPES:**
- Nursing Home
 - Industrial/ Warehouse Units
 - Residential Dwellings - Roof plans indicating varying dwelling sizes.
 - Garage
 - 2 Bed
 - 3 Bed
 - 4 Bed
 - 4 Bed +



Appendix EDP 2

DAFOR Botanical Survey Results

Table EDP A2.1: Plant Species recorded within the Study Site (June 2019 and August 2021).

Species	Common Name	Indicator Species					
		W	NG	CG	AG	MG	PIL
<i>Acer campestre</i>	Field maple	W					
<i>Acer pseudoplatanus</i>	sycamore						
<i>Alnus glutinosa</i>	alder						
<i>Betula pendula</i>	silver birch						
<i>Buddleja davidii</i>	buddleia						
<i>Clematis vitalba</i>	Old man's beard						
<i>Corylus avellana</i>	hazel						
<i>Crataegus monogyna</i>	hawthorn						
<i>Fraxinus excelsior</i>	ash						
<i>Euonymus europaeus</i>	spindle	W					
<i>Hedera helix</i>	Common ivy						
<i>Ilex aquifolium</i>	holly						
<i>Prunus spinosa</i>	blackthorn						
<i>Quercus robur</i>	Pedunculate oak						
<i>Rosa canina</i>	dog rose						
<i>Rubus fruticosus</i> agg	bramble						
<i>Salix caprea</i>	goat willow						
<i>Achillea millefolium</i>	yarrow						
<i>Agrimonia eupatoria</i>	agrimony		NG				
<i>Agrostis capillaris</i>	common bent						
<i>Agrostis stolonifera</i>	creeping bent						
<i>Anthoxanthum odoratum</i>	sweet vernal-grass						
<i>Arctium</i> sp.	burdock						PIL
<i>Arrhenatherum elatius</i>	false oat-grass						
<i>Artemisia absinthium</i>	wormwood						PIL
<i>Arum maculatum</i>	cuckoopint						
<i>Barbarea vulgaris</i>	winter cress						
<i>Centaurea nigra</i>	common knapweed		NG	CG			
<i>Centaureum erythraea</i>	common centaury		NG	CG			
<i>Cerastium fontanum</i>	common mouse-ear						
<i>Chamerion angustifolium</i>	rosebay willowherb						
<i>Cirsium arvense</i>	creeping thistle						
<i>Cirsium palustre</i>	marsh thistle						
<i>Cirsium vulgare</i>	spear thistle						
<i>Cynosurus cristatus</i>	Crested dog's tail						
<i>Dactylis glomerata</i>	cock's-foot						
<i>Dactylorhiza fuchsii</i>	common spotted orchid		NG			MG	
<i>Dipsacus fullonum</i>	teasel						PIL
<i>Epilobium hirsutum</i>	great willowherb						
<i>Epilobium parviflorum</i>	hoary willowherb						
<i>Epilobium</i> sp.	willowherb species						

Species	Common Name	Indicator Species					
<i>Festuca ovina</i>	sheep's fescue			CG	AG		PIL
<i>Galium aparine</i>	cleavers						
<i>Galium verum</i>	lady's bedstraw		NG	CG			
<i>Geranium dissectum</i>	cut-leaved crane's bill						
<i>Geranium molle</i>	dove's-foot crane's-bill						
<i>Glechoma hederacea</i>	ground ivy						
<i>Hedera helix</i>	ivy						
<i>Heracleum sphondylium</i>	hogweed						
<i>Hirschfeldia incana</i>	hoary mustard						
<i>Holcus lanatus</i>	yorkshire fog						
<i>Holcus mollis</i>	creeping soft-grass						
<i>Hypericum maculatum</i>	imperforate St John's-wort		NG				
<i>Hypericum perforatum</i>	perforate St john's-wort		NG	CG			
<i>Jacobaea vulgaris</i>	Common ragwort						
<i>Lathyrus pratensis</i>	meadow vetchling		NG				
<i>Leontodon autumnalis</i>	autumn hawkbit						
<i>Lolium perenne</i>	Perennial rye-grass						
<i>Lotus corniculatus</i>	common bird's-foot trefoil		NG	CG			PIL
<i>Myosotis arvensis</i>	field forget-me-not						
<i>Oenothera sp</i>	evening primrose sp.						
<i>Plantago lanceolata</i>	ribwort plantain						
<i>Poa trivialis</i>	rough meadow-grass						
<i>Potentilla reptans</i>	creeping cinquefoil						
<i>Prunella vulgaris</i>	selfheal						
<i>Ranunculus acris</i>	meadow buttercup						
<i>Ranunculus repens</i>	creeping buttercup						
<i>Reseda luteola</i>	weld						
<i>Rumex acetosa</i>	common sorrel						PIL
<i>Rumex obtusifolius</i>	broad-leaved dock						
<i>Rumex sanguineus</i>	wood dock						
<i>Senecio jacobaea</i>	common ragwort						
<i>Sherardia arvensis</i>	field madder			CG			
<i>Silene dioica</i>	red campion						
<i>Sonchus asper</i>	prickly sow-thistle						
<i>Stellaria graminea</i>	lesser stitchwort		NG				
<i>Taraxacum officinalis agg</i>	dandelion						
<i>Trifolium dubium</i>	lesser trefoil						
<i>Trifolium pratense</i>	red clover		NG				
<i>Trifolium repens</i>	white clover						
<i>Urtica dioica</i>	common nettle						
<i>Verbascum thapsus</i>	great mullein						PIL
<i>Veronica chamaedrys</i>	germander speedwell						
<i>Veronica persica</i>	common field speedwell						
<i>Vicia hirsuta</i>	hairy tare						
<i>Vicia sativa</i>	common vetch						
SINC INDICATORS		2	11	7	1	1	7

Appendix EDP 3 Illustrative Photographs



Photo EDP 1: Poor semi-improved grassland roundabout, recently mown, facing south.



Photo EDP 2: Building **B1**, an example of broken windows used for access by bats, facing north-east.



Photo EDP 3: South-west tall ruderal vegetation with broadleaved semi-natural woodland behind, facing south-west.



Photo EDP 4: North-west poor semi-improved grassland field, surrounded by dense scrub, facing west.



Photo EDP 5: Semi-natural woodland in the south of the Study Site, facing south-east.



Photo EDP 6: Tall ruderal vegetation east of the access road, facing east.



Photo EDP 7: North-east semi-improved grassland field, surrounded by encroaching dense scrub, facing east.



Photo EDP 8: Hardstanding surrounding the derelict buildings with encroaching scattered scrub, facing north.



Photo EDP 9: Building B2 with confirmed lesser horseshoe maternity roost, surrounded by dense scrub, facing north-west.



Photo EDP 10: The edge of the semi-natural broadleaved woodland in the south-west corner of the Study Site, with a line of scrub, facing south.

Appendix EDP 4 Site Summary Form

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**Local Development Plan
Ecological Site Assessments in
Monmouthshire
2019/20**

1 Introduction

To inform the allocation and deliverability of candidate sites through the LDP process in line with relevant policy and legislation, Monmouthshire County Council requires the submission of baseline ecological information. This methodology has been prepared in order to ensure that there is a consistent approach to this submission and that the quality of the information provided is adequate.

Site Appraisals shall be presented in a report and describe the existing ecological value of the proposed LDP sites, principally based on botanical survey but with consideration of other potential Protected or Priority species that may be present. Sites must be also assessed for their potential to qualify wholly or in part as Sites of Importance for Nature Conservation (SINCs) using the Guidelines for the Selection of Wildlife Sites in South Wales adapted for Monmouthshire (Available on the Monmouthshire County Council Website).

Following the site appraisal, an evaluation of status or potential impact on the biodiversity of the site must be made and classified as either: High, Medium or Low value. This status will be quality assured and checked by Monmouthshire County Council through the Candidate Sites Assessment Process prior to the Deposit Plan.

Information gathered from the Monmouthshire County Council Connectivity Assessment (available on the Monmouthshire County Council Website) will also need to be used to help inform the overall value of the proposed LDP Candidate Sites.

In addition to this, GIS (Geographical Information Systems) data in the format of shape files should be provided to provide visual representation of the ecological status of each site. (A guidance note on this requirement is available on the LDP webpages relating to the ecological site assessments of Candidate Sites on the MCC website.)

2 Requirements for LDP Candidate Site Assessment

Due to the large number of candidate sites proposed, Monmouthshire County Council requires a consistent approach to ecological data gathering and summarisation. All Appraisals must comply with the [CIEEM Guidelines for Preliminary Ecological Appraisal](#) and be undertaken and reviewed by CIEEM members only. All appraisals must include a summary sheet to be used by the LPA (template included at the end of this document). **The LDP should be based on robust evidence and our expectation is that this guidance is followed.**

It is strongly recommended that ecological information is submitted during the second call for candidate sites in late 2019.

2.1. Desk-Based Study

The desk based study shall be based on the following as a minimum:

- A 1km SEWBrEC data search for Protected and Priority Species
- A 1km SEWBrEC data search for existing designations including SACs, SPA, Ramsar site, SSSIs, Local Wildlife Sites, Sites of Importance for Nature Conservation. This must include 'reasons for designation' for LWS/SINCs.
- Use of the Ancient Woodland Inventory to identify woodland designations ASNW, PAWS etc.
- Identification of whether the site falls within the Juvenile Sustenance zone¹ for the Wye Valley and Forest of Dean Bat Sites SAC*
- Review of any previous walkover undertaken for the adopted LDP – information is available on the MCC LDP webpages
- Review of the Monmouthshire Ecological Connectivity Assessment² to assess the context of the candidate site in providing ecological connectivity- information is available on the MCC LDP webpages
- Appraisals will be expected to consider any relevant ecological records that have been previously generated by studies to inform planning undertaken on or near the sites.

¹ Lesser horseshoe roost Juvenile Sustenance Zone = within 600m of a maternity roost (SSSI)
Greater horseshoe roost Juvenile Sustenance Zone = within 1km of a maternity roost (SSSI)

² Ecological Connectivity Assessment of Settlements in Monmouthshire Report, 2010

2.2. Field Assessments

The optimum period for the assessment of biodiversity and habitats is between the months of April -July. Sites to be surveyed according to the methodology detailed in the 'Handbook for Phase 1 habitat survey' . The following details and features must also be noted:

- Habitats present and features of nature conservation interest including Priority Habitat (Section 7 Habitat³)
- Protected or Priority (Section 7) species - signs indicating presence and potential for the habitat to support such
- Site of Importance for Nature Conservation – assessment of the condition of the site with respect to its potential to qualify as a SINC
- Consideration of all hedgerows in the context of the Hedgerow Regulations 1997.
- Veteran trees - presence of over-mature trees
- Consideration of the value of the site in terms of habitat connectivity / ecosystem resilience using best available guidance
- Requirements for further ecological survey.

2.3. Expertise of consultants

The information will need to be prepared and reviewed by an appropriately experienced ecologist that is a member of the Chartered Institute of Ecology and Environmental Management.

2.4. Biodiversity Evaluation

Using the results of the desk-based survey and field assessments, an evaluation of status or impact of the biodiversity of the site shall be made and classified as either: High, Medium or Low value.

2.5. SINC Identification

Local Development Plan Candidate Sites must be assessed against the criteria in the '*Guidelines for the Selection of Wildlife Sites in South East Wales*' which have been adapted for Monmouthshire.

³ Environment (Wales) Act 2016

3. Summary of Outputs

The following will be expected to be submitted to the LPA during the second call for sites in Autumn 2019.

3.1 Preliminary Ecological Appraisal Report (PEAR)

A Preliminary Ecological Appraisal Report (PEAR) in accordance with the [CIEEM Guidelines for Preliminary Ecological Appraisal](#) / [Guidelines for ecological report writing](#).

3.2 Site summary form

A Site Summary Form shall be completed for each Candidate Site based on both field survey and desk-based assessments. A blank Site Detail Form and accompanying explanatory notes are provided in Annexes 1 & 2.

3.3 Site Values

For all sites, the **overall value** for biodiversity will need to be defined (see evaluation criteria below). Monmouthshire County Council may adjust this value depending on further ecological survey and evidence prior to the Deposit Plan.

3.4 SINC Assessment

Candidate sites/parts of sites must be considered for the potential for them to be of SINC quality. If the site, or part of the site meets the SINC criteria, please contact the LPA Biodiversity and Ecology team to discuss how data shall be presented. Designation will be thereafter undertaken by the SINC expert panel⁴.

3.5 GIS information

The ecological status of the site will need to be digitised using GIS (Geographical Information Systems) in the format of shape files. A guidance note and template GIS shape file will be available on the Monmouthshire LDP website on the LDP page relating to the ecological site assessments of Candidate Sites. This shall include the format that digitisation will need to take.

⁴ SINC Expert Panel includes Monmouthshire County Council, Gwent Wildlife Trust, Natural Resources Wales and Monmouthshire Meadows Group.

4. Evaluation Criteria

Sites must be evaluated using the following criteria drawn together using the methodology for the adopted Local Development Plan, Ratcliffe Criteria⁵ and Local Wildlife Site guidelines⁶. The evaluation will be checked and quality assured by Monmouthshire County Council. **Deliberate underestimation of site value could jeopardise the sites inclusion in the deposit plan.**

HIGH (Red)

- Candidate Site includes land designated as SAC/SPA/Ramsar/SSSI
- Site within the Juvenile Sustenance Zone⁷ of a Wye Valley Forest of Dean Bat Sites SAC Maternity roost SSSI
- Site wholly designated as Local Wildlife Site/SINC/ASNW
- Site identified as Site of Importance for Nature Conservation (SINC) quality during field assessment
- Site is in the majority (>50%) composed of Priority Habitat(s) (Section 7) Environment (Wales) Act 2016
- Site of existing value for connecting semi-natural habitats in the landscape which is considered to be critical in the context of a protected species or protected site
- Protected species recorded on site to an extent that development will not be possible

MEDIUM (Orange)

- Site close / adjacent to a SAC/SPA/Ramsar/SSSI/LWS/SINC/ASNW
- Site habitat(s) close to SINC quality but threshold for designation not reached
- Part of the site includes habitats that meet LWS / SINC threshold
- An already designated LWS/SINC present within a candidate site of overall lower biodiversity value
- Presence of Priority Habitat (Section 7) within the candidate site (except hedgerow)

⁵ Ratcliffe, 1977

⁶ South Wales Wildlife Sites Partnership, 2004 (as amended)

⁷ Lesser horseshoe roost Juvenile Sustenance Zone = within 600m of a maternity roost (SSSI)
Greater horseshoe roost Juvenile Sustenance Zone = within 1km of a maternity roost (SSSI)

- 'Important' hedgerow/s present
- Veteran / over mature tree(s) present
- Site of existing value for connecting semi-natural habitats in the landscape as identified in the ecological connectivity assessment and/or during field surveys.
- Protected species recorded / reasonable likely to be found on site but unlikely to prevent development if appropriate mitigation and compensation provided
- Site within the Juvenile Sustenance Zone⁸ of a Horseshoe Maternity roost (not designated).

LOW (Green)

- Site not near any protected sites SAC/SPA/Ramsar/SSSI/LWS/ANSW
- Site assessed as not of SINC quality
- Limited or no features of biodiversity interest
- No priority habitats on site (with the exception of hedgerows)
- Site of very limited value for connecting semi-natural habitats in the landscape
- No protected species on or near site

⁸ Lesser horseshoe roost Juvenile Sustenance Zone = within 600m of a maternity roost
 Greater horseshoe roost Juvenile Sustenance Zone = within 1km of a maternity roost

Annex 1

Reference No: CS/0000

Site General Information			
Name: Land at the Former MoD Training Centre, Caerwent		Grid Reference: ST 479 904	
Current land use & management: Abandoned MoD Training centre with derelict buildings and unmanaged vegetation including: dense scrub, broadleaved semi-natural woodland and areas of poor semi-improved grassland.		Size: 4.2 hectares	
Proposed use: Residential development		Form Completed by: Emily McCollum; EDP Consultant Ecologist	
Overall Site Evaluation: HIGH / MEDIUM / LOW Medium			
Site Summary Table			
Statutory Designated Site(s)	adj	Section 7 Habitat(s)	Part
SAC Juvenile sustenance zone	No	Protected Species	Yes
Non Statutory Designated Site(s)	adj	Section 7 Species	Yes
SINC Recommendation	No	Ecological Connectivity	Conn
SEWBRcC unique data code: 0212-314			

Statutory Designated Sites

Is the site within or adjacent to an International or European Designated Site? (Special Protection Area, Ramsar Site or Special Area of Conservation) (*Underline the relevant designation*)

Whole of site	☐
Part of site	☐
Directly adjacent/within 250m buffer	☐
Within 500m buffer	☐
Within 1km buffer	☐
No	☒

Is the site within or adjacent to a Nationally Designated Site? (National Nature Reserve or Site of Special Scientific Interest) (*Underline the relevant designation*)

Within	☐
Part of site	☐
Directly adjacent/within 250m buffer	☐
Within 500m buffer	☒
No	☐

Juvenile sustenance zones - Is any part of the site within 1km of a greater horseshoe bat roost SSSI or within 600m of a lesser horseshoe bat roost SSSI?

Greater Horseshoe	☐
Lesser Horseshoe	☐
Distance from roost (m)	☐
No	☒

Non Statutory Designated Sites

Is the site within or adjacent to a pre-designated Locally Designated Site? (Local Wildlife Site / Site of Importance for Nature Conservation or Ancient Semi Natural Woodland)

Within	☐
Part of site	☐
Directly adjacent/within 250m buffer	☐
Within 500m buffer	☒
No	☐

List All Relevant Statutory and Non Statutory Designated Sites identified by the desktop study:

River Wye SAC SSSI, Wye Valley and Forest of Dean Bat Sites SAC, Wye Valley Woodlands SAC, River Usk SAC, Lywyn Y Celyn SSSI, Mwyngloddfa Mynydd-Bach SSSI, Severn Estuary Ramsar SAC SPA SSSI, Bushy Close SSSI, Gwent Levels – Magor and Undy SSSI, Rectory Meadow – Rogiet SSSI, Coombe Valley Woods SSSI, Dinham Meadows SSSI, Brockwells Meadows SSSI, Nedern Brook Wetlands, Caldicot SSSI.

Little Wood SINC, Slade Wood SINC, Brockwells Meadows WTR, Upper Rodge Wood SINC, Ballan Wood SINC, Sunny Bank SINC, Shirefield Meadow SINC, Priest Wood SINC, Rich's Brake SINC, Dinham Valley Woods SINC, Cobblers Pitch SINC, Part of Sloughpool Wood SINC, Westwood Meadow SINC, Lower Rodge Wood SINC, Whitehall Fields SINC.

SINC Recommendation

Is the whole site or part of the site of SINC (LWS) quality? (*underline whole or part as appropriate*)

Yes ☐

Whole ☐

Part ☐

Qualifying criteria

One small grassland area supports 10 neutral grassland indicators. Given the small size/extent combined with species-poor habitats otherwise present across the Study Site, the site as a whole is not considered to meet SINC criteria.

Borderline ☐

No ☒

Has the Monmouthshire County Council Biodiversity & Ecology Team been contacted to discuss what further information may be required?

Yes: ☐

No: ☒

Date:

Priority Habitats and Important Features

Phase 1 Habitat	Wales Priority Habitat (Section 7)	% of whole site
Broadleaved Semi-natural Woodland	Lowland mixed deciduous woodland	14.3%

Are there any **veteran trees or over-mature trees** on site?

Yes ☒

No ☐

If 'Yes' how many and what species?

One over-mature tree – black poplar hybrid
No veteran trees

Does the site have any **hedgerows**?

Species-rich (high) potential

Hedgerow Regs Quality

	Length (m)
--	------------

Species-poor (medium)

Has some potential

424.4	Length (m)
-------	------------

Species-poor (low)

Single species dominant AND Gappy

	Length (m)
--	------------

No

--

Does the site have any **water features** present?

Ponds

☐

Streams

☐

Ditches

☐

Other:

☐

No

☒

Ecological Connectivity

Adjacent Land Uses & Habitats

The Study Site is circa 4.2 hectares (ha) and encompasses several derelict buildings, located centrally within the site. Several bunkers are otherwise scattered across the Study Site and are largely overgrown with dense scrub. Rubble and debris piles from buildings historically demolished are also present. The Study Site is otherwise dominated by semi-natural habitat comprising poor semi-improved grassland fields located within the northeast and northwest corners of the Study Site. Dense bramble (*Rubus fruticosus* agg.) scrub is, however, encroaching across these grassland fields and further colonising areas of hardstanding associated with the main site access and central buildings. The southwest corner of the Study Site is dominated by semi-natural broadleaved woodland and dense scrub which has colonised former woodland habitat. Open areas are colonised by tall ruderal vegetation and scattered scrub and shrubs. The southeast corner of the Study Site is similarly characterised by patches of existing and former woodland habitat whilst successional habitats including tall ruderal vegetation, grassland and dense scrub. The southern and eastern boundaries of the Study Site are delineated by an outgrown native hedgerow, whilst the western and northern boundaries of the site are demarcated by a metal fence line. The wider landscape is largely dominated by agricultural fields and woodland units. The A48 abuts the southern boundary whilst the settlement of Caerwent lies to the southwest of the Study Site. The M4 motorway and town of Caldicot lies circa 750m south of the Study Site whilst land associated with an active MOD site lies to the north.

The Ecological Connectivity Assessment undertaken by Gwent Wildlife Trust in 2010¹ identifies routes of habitat connectivity within the town of Monmouth and the wider county, as well as considers connectivity to primary habitat for dormouse, otter and great crested newt specifically. There is no specific assessment for Caerwent; however, the assessments of settlements for Caldicot, Magor and Undy encompasses the Study Site.

Areas of existing connectivity within and/or adjacent to the Study Site include the native hedgerow network across land adjacent to the Study Site's northern eastern and western boundaries which provides some links between woodland/scrub habitat across the Study Site and non-statutory designations in the wider landscape.

In addition to the above, the Nedern Brook to the south of the Study Site, beyond the A48, is important for the maintenance of connectivity across the wider landscape. Of further importance is the suitability of the surrounding landscape to support a dormouse population previously identified onsite, with the native hedgerows and large areas of broadleaved woodland, providing links to the SINC network within 1km of the Study Site.

Does the site have any ecological connectivity value to either adjacent habitat or the wider landscape?

Critical connectivity: ☐ Existing Connectivity: ☒ No connectivity: ☐
Connectivity Opportunity: ☒

Protected Species

Have protected species been recorded at the site / reasonably likely to be present at site?

Confirmed ☒ Reasonably likely ☐ No and unlikely to be present ☐

List Species:	Evidence of presence on site (seen directly or field signs)	Potential to be present on site (habitat and location mean that it is likely)
SEWBRcC record		
Dormouse - Several records for the closest of which was 760m east of the Study Site.	Confirmed present - nests and individuals identified	Scrub and woodland provide suitable habitat for foraging, breeding, dispersal and hibernation
Records for roosting/foraging/commuting btas including Annex II species.	Lesser horseshoe maternity breeding roost is located in building B2 onsite. Building B1 is considered to support a summer day roost for lesser horseshoe and common pipistrelle. Building B5 also supports a summer day roost for common pipistrelle. Trees onsite with low-moderate potential to support roosting bats. Assemblage utilising the Study Site for foraging/commuting	Grassland patches provide a foraging resource whilst margins of woodland and dense scrub provide a linear feature for dispersal of a bat population across the Site and wider landscape, as well as an additional foraging resource. In addition, the derelict buildings onsite provide potential roosting opportunities as well as mature trees scattered across the Study Site.

	dominated by common pipistrelle with occurrences of rarer species.	
Reptiles - One record of common reptile within the last ten years. A single grass snake at 1.5km southeast from the Study Site. A desk study returned more historical records for slow-worm and adder.	Previous survey effort by EDP identified a small population for slow worm as well as a small population of grass snake.	Boundary habitats such as woodland and dense scrub margins and grassland areas provide foraging, basking and hibernation opportunities for common reptiles.
Badger - Nine records for badger were returned by SEWBRc during the desk study. All the records related to road mortalities associated with the A48. An additional record for an active badger sett was also identified within 1.2km of the Study Site.	Single badger latrine and mammal path identified within onsite woodland habitat during 2019.	Habitats supported by the Study Site, namely woodland and scrub provides suitable cover for this species and for sett building. The grassland offers potential foraging habitat.

Priority Species

Are there records for Priority (Section 7) Species (not included above)?

Yes ☒ Potential ☒ No ☐

List Species:	Evidence of presence on site (seen directly or field	Potential to be present on site (habitat and location mean that
---------------	--	---

SEWBRc record	signs)	it is likely)
Bird assemblage records within 2km including kingfisher, fieldfare, peregrine falcon, redwing, starling, lapwing, kestrel, linnet, yellowhammer, song thrush, house sparrow, swift, long-tailed tit, cormorant and goldcrest	None	Woodland and scrub provide suitable nesting habitat and a foraging resource. Grassland habitat provides an additional foraging resource and likely ground nesting opportunities.
Mammals - SEWBRc returned six records for European hedgehog the closest located 610m west of the Study Site in Caerwent village. Two records for polecat in relation to the M48, were also returned.	None	Habitats supported by the Study Site, namely woodland and scrub may provide suitable cover for these species.
Invertebrates – Several records for priority and notable species including white-letter hairstreak, long-winged coned head and speckled bush cricket.	A total of 140 terrestrial invertebrate species were positively during survey effort. Of these, 8 are considered to be of conservation interest, including; the nationally scarce large yellow-face bee; small heath and cinnabar moth both listed	Mosaic habitats onsite provide suitable opportunities for a diverse assemblage. Encroaching scrub is, however, of less suitability, reducing habitat diversity across the Study Site and homogeneous in nature.

under Section 7 of the Environment Act 2016; and the nationally local dung beetle, *Onthophagus joannae*. *Cryptocephalus fulvus* (a leaf beetle), acorn weevil (*Curculio glandium*), cabbage-stem flea beetle (and *Sciaphilus asperatus* (a weevil) recorded during surveys were also considered to be of conservation interest because of their localised, scarce or rare status within Wales.

Conclusions

What additional ecological surveys/assessments will be required?

To determine if the site could be allocated for the purpose identified The following surveys have been undertaken during 2021: Extended Phase I Survey, botanical survey, badger survey, ground level tree assessment for roosting bats and external inspections of the buildings onsite for roosting bats. The following surveys were previously undertaken during 2019: Extended Phase I survey, botanical survey, badger surveys, visual building inspection, dormouse surveys, reptile surveys, ground level and aerial tree assessments, invertebrate surveys, bat emergence/re-entry surveys on the buildings and bat activity surveys with automated bat detectors.	Prior to the submission of planning application to influence site design etc. The following surveys will likely be required to update the existing baseline and inform a planning application: update dormouse surveys, reptile surveys, ground level and aerial tree assessments, invertebrate surveys ,bat emergence/re-entry surveys on the buildings and bat activity surveys with automated bat detectors
---	--

Summary of potential biodiversity constraints

Dormouse presence confirmed Small population of slow worm and grass snake confirmed Lesser horseshoe maternity roost confirmed within building B2 onsite Lesser horseshoe and common pipistrelle summer roosts confirmed with building B1

onsite

Common pipistrelle summer roosts confirmed with building B1 onsite

Invertebrate assemblage of local importance

Suitable habitat for mammals, badger, breeding birds and a foraging/commuting bat assemblage

Trees and other buildings with potential to support roosting bats

Recommended avoidance / mitigation / compensation measures

Retention and protection of woodland in the south of the site and boundary hedgerows as far as possible to maintain a functional wildlife corridor for dispersal of protected species across the wider landscape.

The provision of habitat buffers sited adjacent to woodland and hedgerow boundaries to offset the proposed development from such features.

The inclusion of new, native tree and shrub planting, of local provenance, within buffers to strengthen wildlife corridors across the Study Site whilst compensating for the loss of other wooded habitats elsewhere. Particularly from south to north across the Study Site.

The provision of new native planting within ecological buffers and around retained wooded areas, in addition to the creation/strengthening of ecological networks to maintain and further enhance foraging/commuting routes for wildlife including bats, dormouse, birds and reptiles.

The adoption of measures to physically protect retained habitats combined with adoption of sensitive working methodologies

The implementation of development in accordance with an EPS Development Licence from NRW in relation to dormouse and roosting bats with provision of compensatory habitat/roosting features

The creation of wildflower meadow grassland across proposed open areas of open green space and attenuation features

Minimising the spillage of artificial lighting on retained and new roosting, foraging and commuting/dispersal habitats for wildlife through a sensitive lighting strategy.

Enhancements that could be delivered through development including ecological connectivity opportunities

Planting of native species including fruiting species of value as a foraging resource.
Long-term management of retained and newly created habitats for wildlife.
Provision of bat boxes, bird boxes and hibernacula to provide additional opportunities for protected species.

Annex 2: Notes to Accompany Site Detail Form

Monmouthshire County Council reserve the right to amend any Site Detail Form upon detailed consideration of the site and quality assurance of the information submitted.

Site General Information

Site reference number, name, National Grid Reference, size (ha) and proposed use. 'Current Use & current management' describes the use of the site at the time of surveying and how it appears to be managed.

Overall Site Evaluation

To be completed based upon Section 4 of this guidance. One of the evaluation categories can be chosen i.e. **High** / **Medium** / **Low**. This evaluation could be subject to change upon consideration of the site and quality assurance by Monmouthshire County Council.

Summary Table

The summary table gives a quick reference guide to the ecological constraints of the site. Protected sites are considered on page ii of the form. The summary needs to show an existing protected site (**yes**), adjacent sites within 250m (**adj**) adjacent sites within 500m (**adj**) and no protected sites within 500m (**no**). Note that development can potentially affect protected sites that are further than 500m away.

The potential for consideration of horseshoe bat SAC juvenile sustenance zones is considered on page ii of the form. The summary should address whether the site falls within the site buffers (**yes**) or not (**no**).

Non-statutory sites are considered on page iii of the form. The summary needs to show an existing site (**yes**), adjacent sites within 250m (**adj**) adjacent sites within 500m (**adj**) and no protected sites within 500m (**no**).

SINC recommendation is shown on page iv of the form. The table indicates whether the whole site is recommended for SINC designation (**yes**), part of the site is recommended for SINC designation (**part**), the site may meet the criteria following further survey and examination (borderline site – **bord**), or the site is not recommended for SINC designation (**no**).

Wales Priority Habitat (Section 7) is considered according to the table on page v of the form. This shows whether these habitats cover over 50% of a site (**yes**), less than 50% of a site (**part**) or are not present (**no**).

Projected and Priority species are considered on page vii of the form. Presence (**yes**), reasonable likelihood of presence / possible presence (**poss**) and likely absence (**no**) of Protected and Priority species are indicated in the summary table.

Ecological connectivity is considered on page vi of the form. The summary table indicates the importance of that connectivity from critical (**crit**), some (**conn**), to no connectivity (**no**).

Statutory Designated Sites

The information regarding designated sites shall be obtained via SEWBRc. Some interpretation of that data will need to be undertaken to establish the proximity of sites to Juvenile Sustenance Zones for horseshoe bats associated with the Wye Valley and Forest of Dean Bat Sites SAC (maternity roost SSSIs). The juvenile sustenance zone for Greater

Non Statutory Designated Sites

The information regarding SINCs/LWS sites shall be obtained via SEWBRc (site name and reason for designation). Detailed site designation forms (recommended for sites within 250m of the Candidate Site) will be available from Monmouthshire County Council (SINCs) and Gwent Wildlife Trust (LWS).

Designated ancient woodland is defined as ancient semi-natural woodland (ASNW) – areas that have been wooded since at least 1600. ASNW is listed on Ancient Woodland Inventory 2011

and available on the [Lle](#) website. However, in Monmouthshire, a large number of ASNW are designated as SINC and shall therefore be generated during the above data search.

SINC Recommendation

This section indicates whether the whole site or part of the site meets the criteria for SINC designation in Guidelines for the Selection of Wildlife Sites in South Wales adapted for Monmouthshire. The criterion under which the site qualifies shall be noted. The LPA Biodiversity & Ecology Officers should be contacted for relevant templates and to discuss the value of the site / part of the site.

Priority Habitats and Important Features

Habitats as defined by the Phase 1 survey guidelines and Wales Priority Habitat (defined as those listed as Section 7 Habitats of Principal Importance for Conserving Biological Diversity in Wales under the Environment (Wales) Act 2016) shall be listed in the table. A % value for the habitat types shall be listed.

This information will also be demonstrated on the GIS shape files submitted to the LPA (see separate guidance).

Guidance for assessment of the importance of hedgerows and veteran/over mature trees is included in Annex 3 & 4.

Ecological Connectivity

Sites shall be assessed for existing value for connecting semi-natural habitats in the landscape using Ecological Connectivity Assessment and/or during field surveys. Both habitats and species need to be considered. Opportunities for delivery of habitat connectivity to be listed under the Enhancements section on page viii of the form.

Protected species

These tables indicate the presence or potential presence of protected species, based on SEWBRc records, the desk survey and field survey results. Species with protection or designation at several levels are listed under their highest degree of protection only.

Field signs and sightings are those recorded during the Phase 1 habitat survey.

Potential presence is based on the habitats on and adjacent to the site, the ecology of the species, and knowledge of the species distribution.

Protected Species are defined as those species listed on Schedules 2 and 4 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) or any post Brexit equivalent legislation AND Species protected under UK legislation i.e. those species listed under Schedules 5 and 8 of the Wildlife & Countryside Act 1981 (as amended) or the Protection of Badgers Act, 1992. Species protected from sale only are excluded.

Wales Priority Species are defined as those listed as species of Principal Importance for Conserving Biological Diversity in Wales under Section 7 of the Environment (Wales) Act 2016

Conclusions

Additional surveys and assessments are listed. These are based on the potential presence of protected species as detailed on page vii of the form. Any surveys that may be necessary prior to the allocation of the site should be identified e.g. horseshoe bat surveys

Potential constraints are summarised, based on the findings of the desk-based assessment and field survey, as recorded in previous sections.

Recommendations for mitigation and enhancement are suggested. These are intended as an indication only, as further survey will be needed to inform mitigation, and the design and purpose of the development will determine ecological impacts and influence mitigation and enhancement possibilities. Reference can be made to the Ecological Connectivity Assessment where appropriate.

Annex 3: Hedgerow Classification

HIGH: Species-rich containing at least five native woody species in a 30 metre sample. Consider features such as banks, ditches, standing trees, ground flora associated and connecting hedges/woodland areas.

Four woody species are recorded and other features are considered important. This would include, potential dormouse habitat.

MEDIUM: Less than five native woody species in a 30 metre stretch, without other features present.

Less than four native woody species, with other features present

LOW: Less than four native woody species, without other features present. Gappy hedges, newly planted.

Annex 4: Veteran and Over Mature Tree Classification

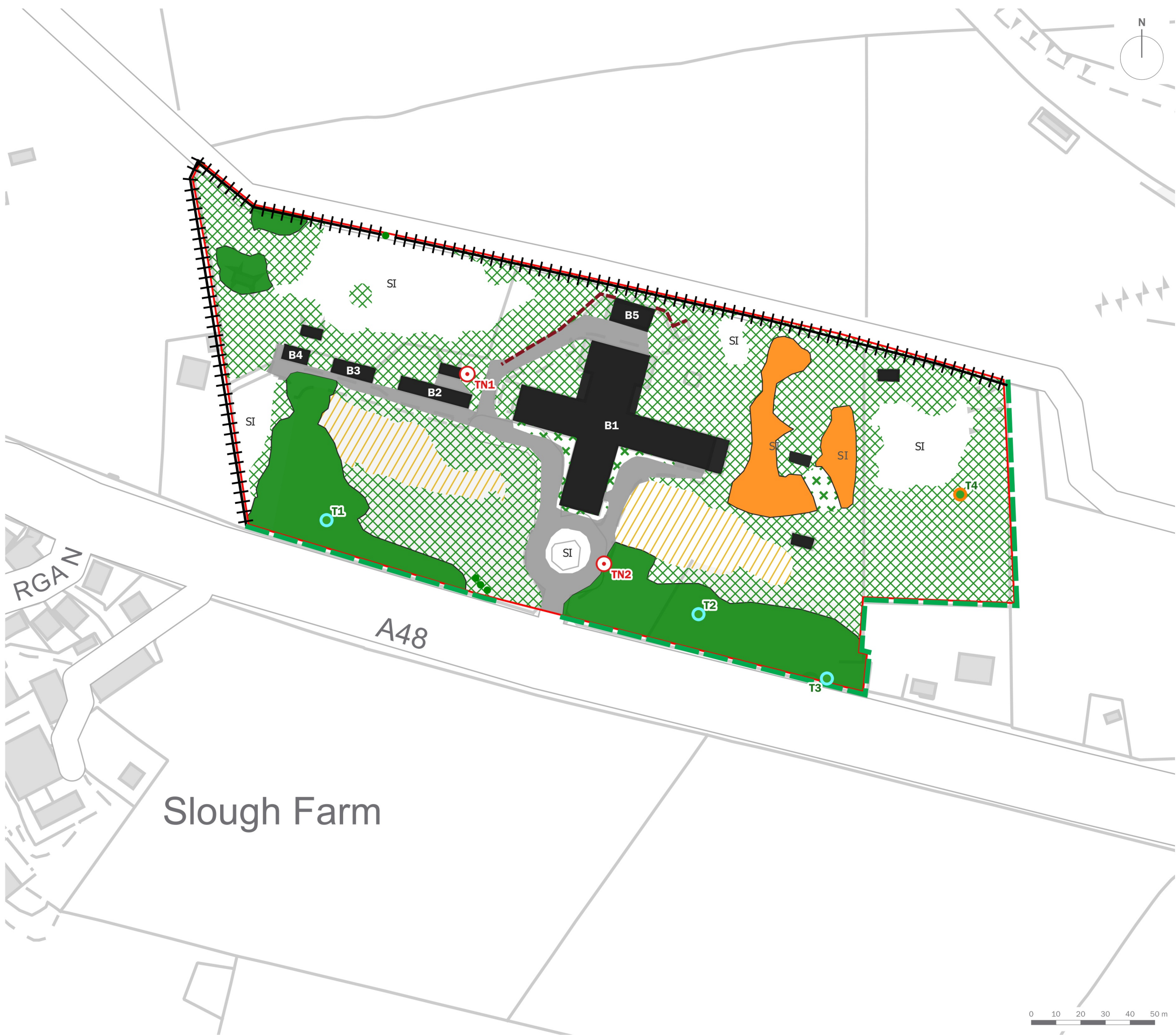
HIGH: Veteran trees >3.7m circumference, 1.3m from base (to include native and non-native species)

Large over-mature trees >2m circumference, or estimated to be over 200 years old, which exhibit characteristics such as dead wood, rot hollows and bracket fungi. To include native and non-native species.

Plans

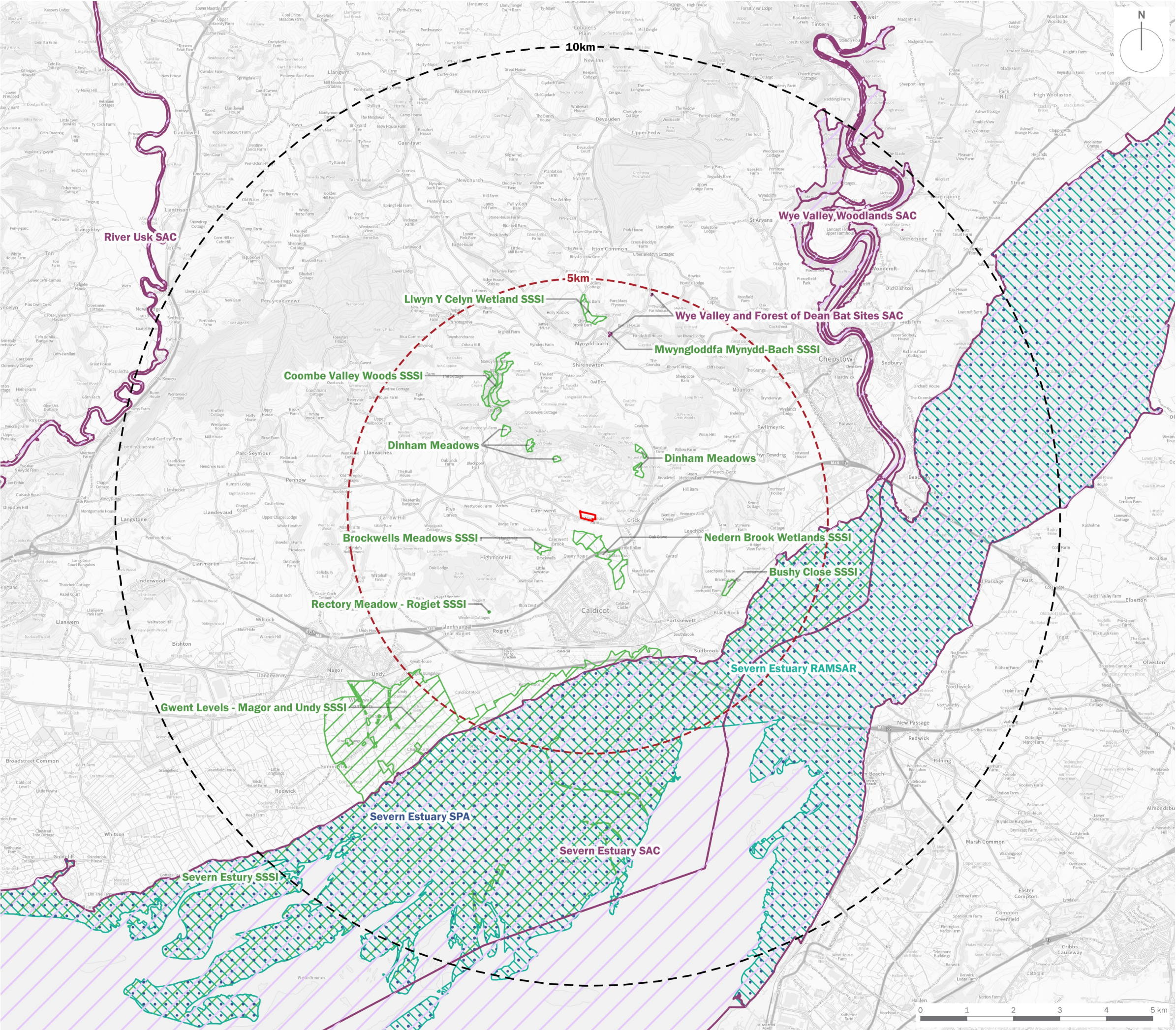
Plan EDP 1	Phase 1 Habitat Plan (edp5457_d013a 12 August 2021 CR/EW)
Plan EDP 2	Statutory Designations (edp5457_d014 30 July 2021 DJ/EMc)
Plan EDP 3	Non-statutory Designations 2021 (edp5457_d015 03 August 2021 DJ/EMc)
Plan EDP 4	Biodiversity Evaluation (edp5457_d025 24 August 2021 JTF/EW)

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- Site Boundary
- Broadleaved Semi-natural Woodland
- Tall Ruderal
- Dense Continuous Scrub
- Buildings
- Scattered Scrub
- SI Poor Semi-improved Grassland
- SI Semi-improved Neutral Grassland
- Hardstanding
- Wall
- Fence
- Defunct Species-poor Hedgerow
- Tree with Moderate Bat Roosting Potential
- Tree with Low Bat Roosting Potential
- Scattered Trees (Broad-leaved)
- Target Note
TN1: Himalayan Balsam
TN2: Japanese Knotweed

client			
M2M Architects			
project title			
Land at the Former MOD Training Centre, Caerwent			
drawing title			
Plan EDP 1: Phase 1 Habitat Plan			
date	12 AUGUST 2021	drawn by	CR
drawing number	edp5457_d013a	checked	EW
scale	1:1,500 @ A3	QA	JTF



- Site Boundary
- 10km Range Ring
- 5km Range Ring
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)
- RAMSAR Wetlands
- Special Scientific Interest (SSSI)
- National Nature Reserves (NNR)

client			
M2M Architects			
project title			
Land at the Former MOD Training Centre, Caerwent			
drawing title			
Plan EDP 2: Statutory Designations			
date	30 JULY 2021	drawn by	DJ
drawing number	edp5457_d014	checked	EM
scale	1:80,000 @ A3	QA	JTF



Site Boundary

2km Range Ring

Ancient Semi Natural Woodland

Ancient Woodland Site of Unknown Category

Plantation on Ancient Woodland Site

Restored Ancient Woodland Site

Wildlife Site / SINC (Adopted)

Wildlife Trust Reserve

client			
M2M Architects			
project title			
Land at the Former MOD Training Centre, Caerwent			
drawing title			
Plan EDP 3: Non-Statutory Designations			
date	03 AUGUST 2021	drawn by	DJ
drawing number	edp5457_d015	checked	EM
scale	1:17,500 @ A3	QA	JTF

edp

the environmental dimension partnership

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- Site Boundary
- High Biodiversity Value
- Medium Biodiversity Value
- Low Biodiversity Value

Slough Farm

A48

RGAN

client			
M2M Architects			
project title			
Land at the Former MOD Training Centre, Caerwent			
drawing title			
Plan EDP 4: Biodiversity Evaluation			
date	24 AUGUST 2021	drawn by	JTF
drawing number	edp5457_d025	checked	EW
scale	1:1,500 @ A3	QA	GY

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