ARBOR VITAE

Preliminary Ecological Appraisal

Date prepared:	07/05/2025
Site name:	Land at Erw Gerrig
Site address:	Erw Gerrig, Tregeiriog, Llangollen, LL20 7HS
Grid reference:	SJ19573528
Local authority:	Wrexham County Borough Council
Client:	Roger Parry and Partners
Survey dates:	22/07/2025
Prepared by:	Charlotte Skinner BSc MSc
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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the development of 3 holiday lodges, including a new access within the land at Erw Gerrig.

Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

1.2 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

The site is positioned within a rural setting, approximately 6 miles south from the town of Llangollen, between Glyn Ceiriog and Tregeiriog. The site can be accessed via the B4500 and the River Ceiriog runs approximately 30m east of the site.

The surrounding landscape consists of the River Ceiriog, a tributary of the River Dee runs east, scattered farmsteads along the B4500 to the west, in addition to agricultural fields and parcels of woodland.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap, Data Map Wales, and Cofnod.

3.2 SITE SURVEY

A site visit was made on 22/07/2025. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badger
- Bats
- Breeding birds
- Great Crested Newt
- Hedgehog
- Otters

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area [redacted] of the site was closely searched for the following signs of badger activity:

- Setts,
- Tracks and footprints,
- Latrines,
- Snuffle holes.

Bats

The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newt

A desk study and a ground search were conducted to search for any areas of open water within 250 metres. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

Hedgehog

The site was assessed in terms of its suitability for hedgehog e.g. areas of rough vegetation, built structures with cavities beneath, availability of feeding areas.

Otter

Any water courses within the area and appropriate terrestrial land were searched for the following field signs:

- Spraint,
- Footprints,
- Feeding remains.

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist. Natural Resources Wales bat licence number: S094220-1 and GCN licence number: S090921/1.

Charlotte Skinner MSc: Assistant Ecologist, Qualifying Member of CIEEM.

3.4 CONSTRAINTS

There were no constraints to the survey carried out.

4 SURVEY RESULTS & IMPACT ASSESSMENT

4.1 DESK STUDY

The Ecological Data Search found that there are several statutorily designated sites within 1km of the site (Figure 3):

- The River Dee (36m)- Sites of Special Scientific Interest and Special Areas of Conservation. The site is designated due to its range of river habitat types in addition to populations of otter and Atlantic Salmon.
- Pandy Quarries (83m)- Sites of Special Scientific Interest, no citation available.
- Pandy Valley (80m)- Wildlife Sites for Wrexham. A semi-natural broadleaved woodland, dominated by sessile oak in addition to frequent ash, sycamore and birch. The hillside of this site includes the SSSI, Pandy Quarries. The north of the valley is a disused slate mine used by hibernating bats. There is also an area of marshy grassland in addition to dry dwarf acid heath.
- Hendre Quarry (210m)- Wildlife Sites for Wrexham. A secondary broadleaved woodland dominated by birch within a disused quarry.
- Nant Swrn and Coed Pont-y-Meibion (165m)- Wildlife Sites for Wrexham. Includes various habitats such as scrub, marshy grassland, neutral grassland and semi-natural broadleaved woodland along the Ceriog and Swrn Valleys.

Results from the desk study revealed that there are several protected and priority species within a 1km radius of the proposed development site (Figure 4), which include otter records within the River Ceiriog running 36m east from the site. The search also identified a number of bird species within 1km of the site which can be found on the red list (Appendix 3).

There are no records of protected or priority habitats or species at the site itself.

4.2 HABITATS ON SITE

All habitats are classified using UKHab Definitions.

Habitat type & description	Predicted Impact	Proposed mitigation measures
Modified grassland A section of undulating, sheep grazed grassland, where the following species were identified: perennial rye grass, crested dogs' tail, sweet vernal grass, Yorkshire fog, common bent, Cocks' foot, creeping thistle, creeping buttercup, white clover, yarrow, common sorrel, nettle, hogweed, cleavers, germander speedwell and ribwort plantain.	Areas of grassland will be replaced by glamping pods, parking and a tarmac access. The grassland is of little botanical diversity, and its loss is of limited ecological significance.	A native tree planting scheme will be adopted within the site to off-set the loss off grassland areas. This will include native species such as wild cherry, silver birch, and rowan. All trees will be planted as light standards (at least 3m tall and 8cm girth) to provide immediate landscape effect.
Bracken A strip of bracken is situated along the western fence line of the site.	The strip of bracken along the western fence line will be replaced with a hardstanding access to the site. The loss of this small section of habitat is of limited ecological importance.	None required.

4.3 ADJACENT HABITATS

Habitat type & description	Predicted Impact	Proposed mitigation measures
Modified grassland Damper areas of low-lying grassland within the remaining field, dominated by *Juncus spp.* The additional following species were identified: marsh fox tail, creeping buttercup, creeping thistle, false oat grass and broadleaved dock.	The remaining grassland areas in the field will not be impacted by the development.	None required.

Mixed Scrub Patches of hawthorn, elder and oak shrubs along the western fence line.	The adjacent mixed scrub along the remaining fence line will not be impacted by the development.	None required.
River The River Ceiriog, a tributary of the River Dee runs along the eastern boundary of the grassland field. The section of the river is fast flowing and shallow with cobble aggregate and expose boulders. There are sections of free-falling water**,** and the river is surrounded by a riparian corridor, causing it to be mostly shaded. There is reinforced stone walling on the eastern boundary, providing ledges and under croft spaces. The following trees were identified within the riparian corridor: hazel, alder, ash, oak and sycamore and the banks are dominated with bracken, bramble and tall forbs such as hogweed and thistles. The following species were identified within the ground flora: water mint, hemlock waterdrop and meadow sweet.	The development boundary is situated over 30m from the river, therefore not encroaching on the river corridor. However, a buffer screen is recommended to provide a barrier between the development and the riparian corridor due to potential disturbance from recreational activity at the site.	A landscape screen between the lodges and river, to minimise the impact of the lodges on any species that are present locally using the river and the remaining grassland should be adopted. The scheme will consist of a range of individual trees and shrubs. Trees should be planted as light standards to provide immediate screening, and shrubs should be planted as established plants. Suitable species include rowan, field maple, silver birch, hazel, hawthorn, holly. See Figure 5.

4.4 PROTECTED SPECIES

Protected species	Predicted Impact	Proposed mitigation measures
Badger	There are no historical records of badger within the site, and no field signs were found within the search area.	None required.
Bats	There were no habitats within the site that provide a suitable roosting site for bats, therefore no further survey work in regard to bats is required. The adjacent river and riparian corridor provide a suitable commuting and foraging habitat for bats that are present locally and some of the larger trees may provide suitable roosting potential. Overall, plans are unlikely to impact major flight lines or foraging areas, however external lighting will be subject to a Wildlife sensitive lighting scheme.	A Wildlife Sensitive Lighting Scheme will be adopted to reduce the light disturbance to bats present locally, see Appendix 2.
Breeding birds	There are no habitats within the site that provide suitable coverage for breeding birds and the grassland itself is unsuitable for ground nesting birds. Overall, plans are unlikely to impact this group and no further survey work is required.	None required.
Great crested newt	No ponds were identified within 250m of the proposed development site and there are no historical records of GCN within 1km of the site. No further survey work is required with regard to this species.	None required.
Hedgehog	No hibernation sites were identified within the site, however there are several records of hedgehog within 1km of the site and the grassland can be used as a foraging site.	General avoidance measures will be adopted (see Appendix 1) to remove any residual risk to the species.
Otter	There was no sign of otter within the site boundary or the surrounding field. The nearest sign of otter was identified on the banks of the River Ceiriog, where otter spraints were identified along the exposed rock. The section of river also provides a suitable habitat for otters where there are ledges and under crofts from the reinforced wall. There are	A Wildlife Sensitive Lighting Scheme will be adopted to reduce any light disturbance to nocturnal species (Appendix 2). A landscape screen will also be planted along the eastern

	no plans to alter the land between the development site and the riverbank, or the river itself. Mitigation will be required to protect the river corridor, and therefore wildlife using it, from the development.	boundary of the site, providing a buffer between the site and the river. General avoidance measures will also be adopted to remove any residual risk to the species (Appendix 1).

5 ENHANCEMENTS

5.1 ECOLOGICAL ENHANCEMENT

Each pod will be installed with the following:

1x Woodcrete nestbox with 28mm opening. The box will be positioned at a height of no less than 2.5m from ground level. The opening of the box will face away from the prevailing wind.

It is recommended that the following is installed into the tree line along the river to provide roosting features for local bat populations:

3x Woodcrete multi-chamber bat box. The boxes will be positioned at a height of no less than 3m from ground level. Artificial lighting will not be installed within 5m of the box.

6 SUMMARY

Planning permission will be sought for the development of holiday lodges, including a new access within the land at Erw Gerrig. Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

Areas of grassland will be replaced by glamping pods, parking and a tarmac access. The grassland is of little botanical diversity, and its loss is of limited ecological significance. A native tree planting scheme will be adopted within the site to off-set the loss off grassland areas. The development boundary is situated over 30m from the River Ceiriog, therefore not encroaching. However, a buffer screen is recommended to provide a barrier between the development and the riparian corridor.

There are no historical records of badger within the site, and no field signs were found within the search area.

There were no habitats within the site that provide a suitable roosting site for bats. The adjacent river and riparian corridor provide a suitable commuting and foraging habitat for bats that are present locally. Overall, plans are unlikely to impact major flight lines or foraging areas, however external lighting will be subject to a Wildlife sensitive lighting scheme.

There are no habitats within the site that provide suitable coverage for breeding birds and the grassland itself is unsuitable for ground nesting birds. Overall, plans are unlikely to impact this species, and no further survey work is required.

No ponds were identified within 250m of the proposed development site and there are no historical records of GCN within 1km of the site. No further survey work is required with regard to this species.

No hibernation sites were identified within the site, however there are several records of hedgehog within 1km of the site and the grassland can be used as a foraging site.

There was no sign of otter within the site boundary or the surrounding field. The nearest sign of otter was identified on the banks of the River Ceiriog, where otter spraints were identified along the exposed rock. The section of river also provides a suitable habitat for otters where there are ledges and under crofts from the reinforced wall. There are no plans to alter the between the development site and the riverbank, or the river itself.

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7 REFERENCES

ARG UK (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom

Bat Conservation Trust (2018) Bats and artificial lighting in the UK. *Bats and the Built Environment series,* Guidance Note 08/18. Institution of Lighting Professionals.

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

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

Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London.

Cresswell, W. and Whitworth, R., 2004. An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt. Natural England Research Reports, p.36.

Gent, A.H., and Gibson, S.D, *eds* (2003) *Herpetofauna workers' manual.* Peterborough, Joint Nature Conservation Committee.

GOV.UK. (2015) Badgers: surveys and mitigation for development projects. [online] Available at: [Accessed 29 October 2021].

Harris, S., Creswell, P. and Jefferies, D. (1989) Surveying Badgers. 1st ed. London: The Mammal Society, pp.3-21.

Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.

Jehle, Robert. (2000). The terrestrial summer habitat of radio-tracked great crested newts (Triturus cristatus) and marbled newts (T. marmoratus). Herpetological Journal. 10. 137-142.

JNCC (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.

Mitchell-Jones, T. (2004) Bat mitigation guidelines. External Relations Team, English Nature.

Natural England (2002) Badgers and Development. 1st ed. Peterborough: Natural England, pp.2- 12.

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4), 143-155.

People's Trust for Endangered Species (2019) Hedgehogs and development. British Hedgehog Preservation Society. Accessed 11/04/2023. Available at: https://www.hedgehogstreet.org/wp-content/uploads/2019/03/Hedgehogs-and-developers-ZR.pdf

8 APPENDICES

Appendix 1. Reasonable Avoidance Measures Method Statement

A set of Reasonable Avoidance Measures will be adopted on site during all pre-construction, during, and post-construction phases. The following applies:

1. The site owner/site manager will ensure that anyone (including sub-contractors) undertaking construction, demolition and landscaping (both creation and management), is made aware of the potential for the site to support protected species, where to expect them, their protected status and the procedure to follow in the unlikely event that protected species are discovered during works. A copy of this Precautionary Method of Working will be always kept on site and available for inspection.
2. Should any hedgehogs or other protected species (i.e. common toads, reptiles, birds) be discovered during construction or other works on site, which are likely to be affected by the development, works will cease immediately. The owner/ site manager will then seek the advice of a suitably qualified and experienced ecologist and works will only proceed in accordance with the advice they provide.
3. Any vegetation clearance (i.e. removal of trees, scrub, hedgerows) or works to buildings shall not commence until a careful check for nesting birds has been completed, particularly during the main breeding season (months of March to August). If bird nests are found, then works in the area must stop until the chicks have fledged the nest.
4. All clearance works (i.e. clearance of log piles, debris, rough grass etc.) will be undertaken when hedgehog are likely to be fully active i.e. during the April to September period.
5. Clearance of dry-stone walls, logs, brash, stones, rocks or piles of similar debris will be undertaken carefully and by hand.
6. Clearance of tall vegetation will be undertaken using a strimmer or brush cutter with all cuttings raked and removed the same day. Cutting will only be undertaken in a phased way which may either include: Cutting vegetation to a height of no less than 30mm, clearing no more than one third of the site in any one day or; Cutting vegetation over three consecutive days to a height of no less than 150mm at the first cut, 75mm at the second cut and 30mm at the third cut;
7. Following removal of tall vegetation, remaining vegetation will be maintained at a height of 30mm through regular mowing or strimming to discourage common reptiles and amphibians from returning.
8. Ground clearance of any remaining low vegetation (if required) and any ground works will only be undertaken following the works in point 5) above.

9. Any trenches left overnight will be covered or provided with ramps to prevent animals falling into the trenches and being trapped. Excavations left overnight should be checked prior to filling. Any open pipes left overnight will be covered.

Appendix 2. Wildlife Sensitive Lighting Plan

The following measures will be incorporated into site-wide lighting design:

- Hedgerows and key habitat features including mature trees on the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife.
- Any exterior security or decorative lights to be installed on the development site will be less than 3 m from the ground and fitted with hoods to direct the light below the horizontal plane, at an angle of less than seventy degrees from vertical, and shall not be fixed to, or directed at, bat boxes or gables or eaves.
- Security lighting will be set on motion sensors with short timers (<1 minute) and will be LED with a passive infrared trigger.
- Lighting must be less than 3 lux at ground level and there shall be no light splay exceeding 1 lux along buildings, eaves or roof or adjacent hedgerows or trees.
- External lights will be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires will be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

Bat Conservation Trust (2023) Bats and artificial lighting at night. *Bats and the Built Environment series,* Guidance Note 08/18. Institution of Lighting Professionals.

Appendix 3 - TABLE 1 PROTECTED AND PRIORITY SPECIES (DESK STUDY) WITHIN 1KM

Scientific Name	English Name	Total Records	Distance (m)	Lists
Amphibians				
Rana temporaria	Common Frog	1	906	Bern3, HDir5, WCA5
Birds				
Cuculus canorus	Cuckoo	1	156	BAP, RL-VU, S7, UKBR, WBR

Prunella modularis	Dunnock	3	193-1239	BAP, Bern2, S7, UKBA, WBA
Pyrrhula pyrrhula	Bullfinch	5	193-1531	BAP, S7, UKBA, WBA
Ficedula hypoleuca	Pied Flycatcher	2	253-1531	Bonn2, RL-VU, S7, UKBA, WBA
Muscicapa striata	Spotted Flycatcher	1	253	BAP, Bern2, Bonn2, S7, UKBR, WBR
Passer domesticus	House Sparrow	2	253-1336	BAP, S7, UKBR, WBA
Poecile palustris	Marsh Tit	1	253	BAP, Bern2, RL-VU, S7, UKBR, WBR
Turdus philomelos	Song Thrush	2	253-1531	BAP, BDir2.2, S7, UKBA
Emberiza citrinella	Yellowhammer	1	488	BAP, Bern2, S7, UKBR, WBR
Tyto alba	Barn Owl	1	545	Bern2, CITES-A, WCA1.1, WCA9
Falco peregrinus	Peregrine	4	684-901	BDir1, Bern2, Bonn2, CITES-A, WCA1.1
Numenius arquata	Curlew	12	737-1041	BAP, BDir2.2, Bonn2, RL-EN, S7, UKBR, WBR
Milvus milvus	Red Kite	4	760-955	BDir1, Bonn2, CITES-A, WCA1.1, WCA9
Poecile montanus	Willow Tit	1	771	BAP, Bern2, RL-EN, S7, UKBR, WBR
Alauda arvensis	Skylark	4	819-997	BAP, BDir2.2, S7, UKBR, WBA
Falco tinnunculus	Kestrel	1	1041	Bern2, Bonn2, CITES-A, RL-VU, S7, UKBA, WBR
Cinclus cinclus	Dipper	3	54-1239	Bern2, RL-NT, UKBA
Periparus ater	Coal Tit	5	193-1531	Bern2, WBA
Apus apus	Swift	2	253-978	RL-EN, UKBR, WBR
Chloris chloris	Greenfinch	3	253-1336	Bern2, RL-EN, UKBR, WBR
Columba oenas	Stock Dove	1	253	BDir2.2, UKBA
Fringilla coelebs	Chaffinch	13	253-1531	WBA
Motacilla cinerea	Grey Wagtail	1	253	Bern2, RL-NT, UKBA, WBA
Phoenicurus phoenicurus	Redstart	5	253-1531	Bern2, UKBA
Phylloscopus trochilus	Willow Warbler	2	253-1531	UKBA, WBR

Pica pica	Magpie	2	253-1239	BDir2.2, WBA
Regulus regulus	Goldcrest	2	253-1239	Bern2, WBR
Strix aluco	Tawny Owl	2	253-1531	Bern2, CITES-A, RL-NT, UKBA
Sylvia borin	Garden Warbler	3	253-1531	WBA
Troglodytes troglodytes	Wren	2	253-1239	Bern2, UKBA
Turdus viscivorus	Mistle Thrush	2	253-905	BDir2.2, RL-VU, UKBR, WBA
Columba palumbus	Woodpigeon	2	540-1239	BDir2.1, UKBA
Corvus frugilegus	Rook	1	744	BDir2.2, RL-NT, UKBA, WBR
Scolopax rusticola	Woodcock	1	799	BDir2.1, Bonn2, RL-VU, UKBR, WBR
Anthus pratensis	Meadow Pipit	2	905-971	Bern2, UKBA, WBR
Oenanthe oenanthe	Wheatear	1	951	Bern2, UKBA, WBA
Bony Fish (Actinopterygii)				
Anguilla anguilla	Eel	4	488-700	BAP, RL-CR, S7
Salmo salar	Atlantic Salmon	5	488-700	BAP, Bern3, CHS4, GBNNSIP, HDir2, HDir5, RL-EN, S7
Salmo trutta	Brown/Sea Trout	5	488-700	BAP, S7
Terrestrial Mammal				
Lutra lutra	Otter	23	57-967	BAP, Bern2, CHS2, CITES-A, HDir2, HDir4, S7, WCA5, WRL-TM[VU]
[redacted]				
Erinaceus europaeus	Hedgehog	2	429-718	BAP, Bern3, RL-VU, S7, WRL-TM[VU]
Rhinolophus hipposideros	Lesser Horseshoe Bat	1	546	BAP, Bern2, Bonn2, CHS2, HDir2, HDir4, S7, WCA5
Myotis nattereri	Natterer's Bat	1	546	Bern2, Bonn2, CHS2, HDir4, WCA5
Lepus europaeus	Hare		997	BAP, S7
Mustela putorius	Polecat		1336	BAP, Bern3, CHS4, HDir5, S7
Insect- Butterfly				
Pyrgus malvae	Grizzled Skipper	1	253	BAP, RL-VU, S7, WSF-IN
Coenonympha pamphilus	Small Heath	4	253-996	BAP, RL-NT, S7

Lasiommata megera	Wall	4	220-1015	BAP, RL-NT, S7
Insect - Caddis Fly (Trichoptera)				
Tinodes assimilis	-	1	759	RDB-NS
Insect - Dragonfly (Odonata)				
Sympetrum striolatum	Common Darter	1	897	RL-DD
Insect -Hymenopteran				
Sphecodes ferruginatus	Dull-headed Blood Bee	2	146-185	RDB-NB
Insect - Moth				
Tyria jacobaeae	Cinnabar	1	185	BAP, S7
Insect - Stonefly (Plecoptera)				
Amphinemura standfussi	-	1	686	RDB-NS
Insect - True Fly (Diptera)				
Dicranomyia stigmatica	-	1	253	RDB-N
Idioptera apicata	-	1	253	RDB-N
Paradelphomyia ecalcarata	-	1	253	RL-VU
Tasiocera fuscescens	-	1	253	RL-EN
Jawless Fish (Agnatha)				
Lampetra fluviatilis	River Lamprey	1	587	BAP, Bern3, CHS4, HDir2, HDir5, S7
Lichen				
Bryoria fuscescens	-	1	1651	WRL-LI[VU]
Thelocarpon laureri	-	1	1651	RDB-NS
Tuckermannopsis chlorophylla	-	1	1651	WRL-LI[NT]
Xylopsora friesii	-	1	1651	RDB-NS, WRL-LI[NT]
Cladonia coccifera s. lat.	-	1	1651	RDB-NS, RL-DD
Liverwort				
Porella platyphylla	Wall Scalewort	1	253	LI-BR-49[LR]
Moss				

Heterocladium flaccidum	-	1	253	LI-BR-52[LR]
Bryum pseudotriquetrum var. bimum	-	1	1239	LI-BR-52[EX]
Taxiphyllum wissgrillii	Depressed Feather-moss	1	253	LI-BR-48[LR], LI-BR-49[LR], LI-BR-52[LR]
Grimmia hartmanii	Hartman's Grimmia	1	253	LI-BR-52[LR]
Racomitrium canescens	Hoary Fringe-moss	1	1239	LI-BR-52[LR]
Zygodon rupestris	Park Yoke-moss	1	253	LI-BR-50[LR]
Anomodon viticulosus	Rambling Tail-moss	1	253	LI-BR-48[LR]
Lewinskya rupestris	Rock Bristle-moss	1	253	LI-BR-48[LR], LI-BR-49[EX], LI-BR-50[LR], LI-BR-52[LR]
Gymnostomum aeruginosum	Verdigris Tufa-moss	1	1239	LI-BR-52[LR]
Fungus				
Carbonea vitellinaria	-	1	991	RDB-NS
Flowering Plant				
Lamiastrum galeobdolon subsp. montanum		1	801	LI-VP-48[LS], LI-VP-49[LS]
Alchemilla filicaulis subsp. vestita		1	1239	LI-VP-48[LS], LI-VP-49[LS], LI-VP-51[LS]
Lamiastrum galeobdolon subsp. montanum		1	1336	LI-VP-48[LS], LI-VP-49[LS]
Alchemilla filicaulis subsp. vestita		1	1531	LI-VP-48[LS], LI-VP-49[LS], LI-VP-51[LS]
Lamiastrum galeobdolon subsp. montanum		1	1531	LI-VP-48[LS], LI-VP-49[LS]
Prunus padus	Bird Cherry	1	123	LI-VP-49[LS]
Bistorta officinalis	Bistort	1	388	LI-VP-48[LR], LI-VP-49[LR], LI-VP-50[LNS], LI-VP-51[LS]
Lathyrus linifolius	Bitter-vetch	2	1239-1531	LI-VP-52[LS]

Hyacinthoides non-scripta	Bluebell	4	718-1531	WCA8
Euphrasia nemorosa	Common Eyebright	1	540	LI-VP-50[LNS], RL-NT
Sorbus aria	Common Whitebeam	1	588	LI-VP-48[LR]
Myosotis secunda	Creeping Forget-me-not	1	200	LI-VP-51[LS]
Lysimachia nummularia	Creeping-Jenny	1	1239	LI-VP-48, LI-VP-49[LS]
Orchis mascula	Early-purple Orchid	1	1531	LI-VP-48[LS]
Inula helenium	Elecampane	1	864	GBNNSIP, LI-VP-49[LS], LI-VP-50[LS], LI-VP-51[LR]
Sedum anglicum	English Stonecrop	2	700-1336	LI-VP-51[LS]
Tanacetum parthenium	Feverfew	1	1239	GBNNSIP, LI-VP-48
Acer campestre	Field Maple	3	716-1531	LI-VP-48[LS], LI-VP-49[LS]
Platanthera chlorantha	Greater Butterfly-orchid	1	1239	LI-VP-48[LNS], LI-VP-49[LS], LI-VP-50[LNS], LI-VP-51[LS], LI-VP-52[LR], RL-NT
Bromopsis ramosa	Hairy-brome	2	388-1239	LI-VP-48[LS]
Juncus inflexus	Hard Rush	1	771	LI-VP-48[LR]
Senecio sylvaticus	Heath Groundsel	3	771-1336	LI-VP-51[LS]
Geum rivale x urbanum = G. x intermedium	Hybrid Avens	1	807	LI-VP-48[LR], LI-VP-49[LR], LI-VP-50[LNS], LI-VP-51, LI-VP-52[LR]
Alchemilla xanthochlora	Intermediate Lady's-mantle	1	388	LI-VP-51[LR], LI-VP-52[LS]
Cardamine amara	Large Bitter-cress	2	156-259	LI-VP-48[LR], LI-VP-50[LNS], LI-VP-51[LS]
Vinca minor	Lesser Periwinkle	1	123	GBNNSIP, INNS-W, LI-VP-49[LS], LI-VP-51
Veronica scutellata	Marsh Speedwell	1	200	LI-VP-51
Cardamine impatiens	Narrow-leaved Bitter-cress	1	259	LI-VP-48[LR], LI-VP-50[LR], RDB-NS, RL-NT
Umbilicus rupestris	Navelwort	5	388-1531	LI-VP-51

Hylotelephium telephium	Orpine	1	700	LI-VP-51[LS]
Carex pendula	Pendulous Sedge	1	771	LI-VP-48
Ranunculus omiophyllus	Round-leaved Crowfoot	2	156-259	LI-VP-51[LS]
Salix cinerea subsp. oleifolia	Rusty Willow	4	935-1531	LI-VP-52
Matricaria chamomilla	Scented Mayweed	1	1239	GBNNSIP, LI-VP-48[LS]
Jasione montana	Sheep's-bit	1	1239	LI-VP-51[LR], WRL-VP[NT]
Aphanes australis	Slender Parsley-piert	1	200	LI-VP-51[LS]
Carex laevigata	Smooth-stalked Sedge	1	377	LI-VP-50[LNS], LI-VP-51[LR], LI-VP-52[EX]
Carex hostiana	Tawny Sedge	1	200	LI-VP-50[LS], LI-VP-51[LS]
Hypericum humifusum	Trailing St John's-wort	1	1651	LI-VP-51[LR]
Geum rivale	Water Avens	2	821-825	LI-VP-52[LR]
Persicaria hydropiper	Water-pepper	2	156-259	LI-VP-51[LS]
Papaver cambricum	Welsh Poppy	1	716	LI-VP-48[LS], LI-VP-49[LS], RDB-NS
Dipsacus fullonum	Wild Teasel	1	1336-1531	LI-VP-48[LR]
Euphorbia amygdaloides	Wood Spurge	1	388	CITES-B, LI-VP-48, LI-VP-50[LNS], LI-VP-51
Conifer				
Pinus sylvestris	Scots pine	2	388-1185	RDB-NS
Fern				
Polystichum aculeatum	Hard Shield-fern	2	1531-1651	LI-VP-48, LI-VP-49[LS]
Gymnocarpium dryopteris	Oak Fern	1	150	LI-VP-49[LS], LI-VP-50[LR]
Asplenium ceterach	Rustyback	3	822-929	LI-VP-51[LS]
Polystichum setiferum	Soft Shield-fern	1	1531	LI-VP-48

FIGURE 1 LOCATION

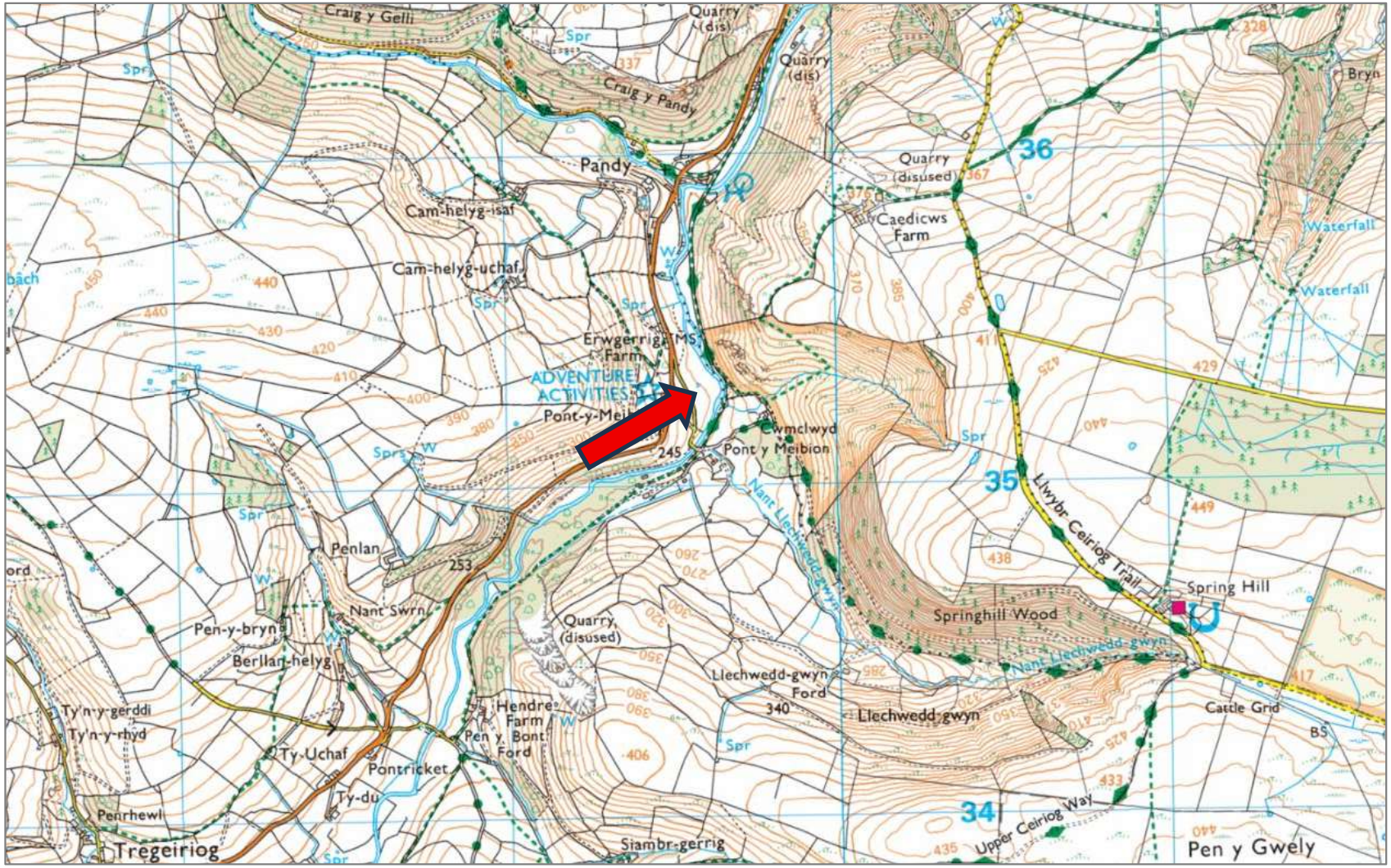


FIGURE 2 AERIAL PHOTOGRAPH



FIGURE 3 DESIGNATED SITES WITHIN 1KM

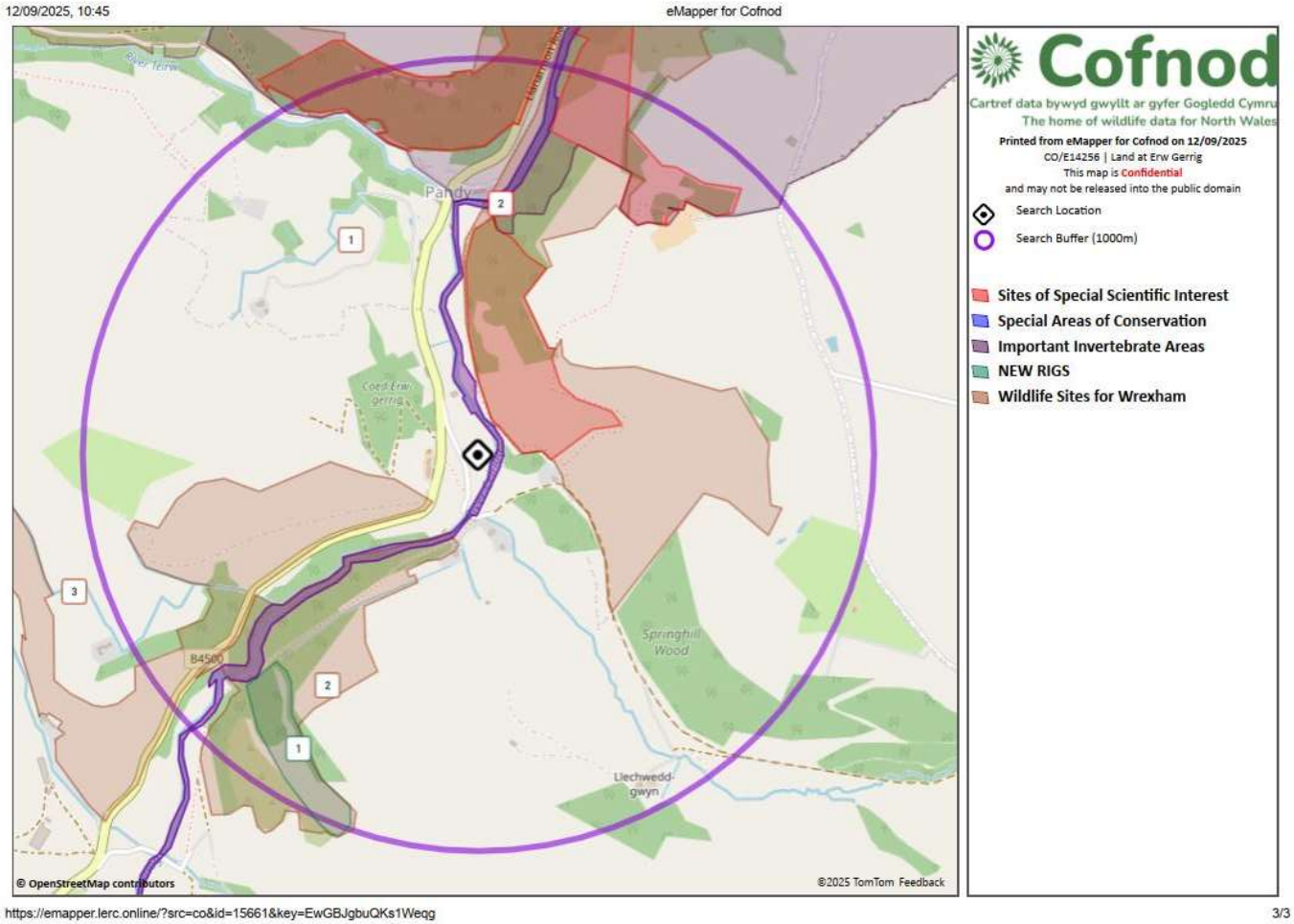


FIGURE 4 PROTECTED AND PRIORITY SPECIES WITHIN 1KM

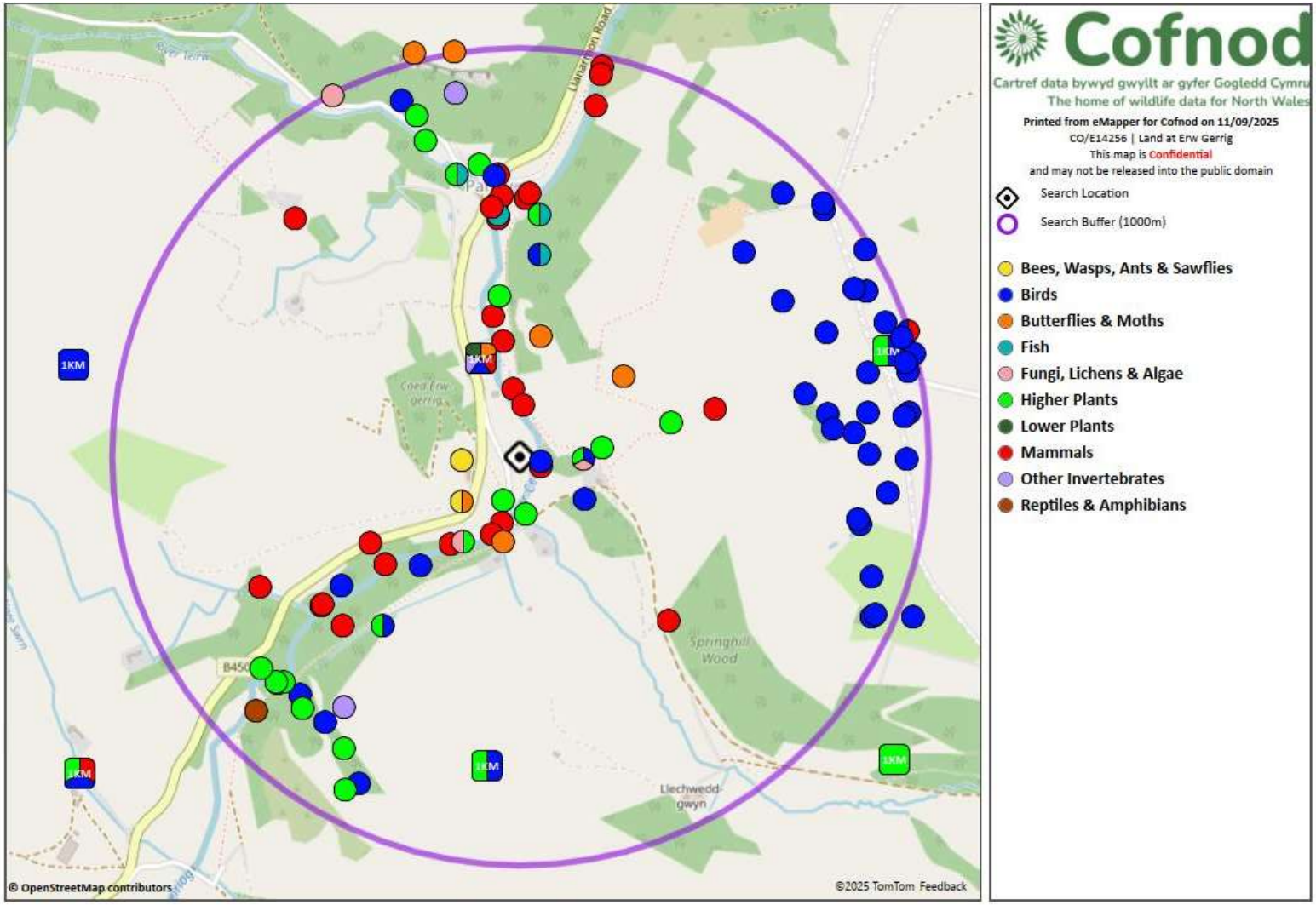
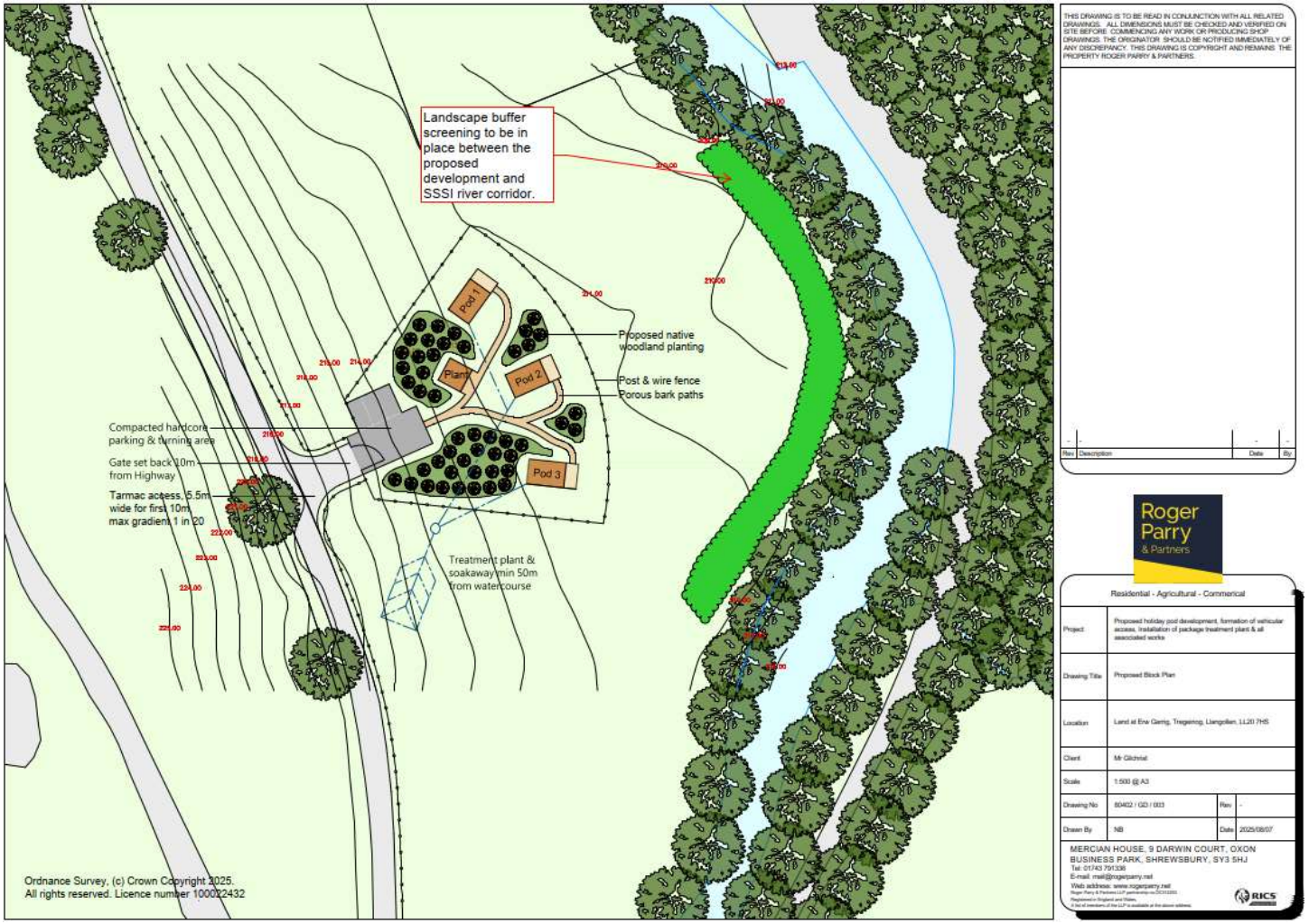


FIGURE 5 PROPOSED SITE PLAN



PHOTOGRAPHS



Modified grassland.



Modified grassland.



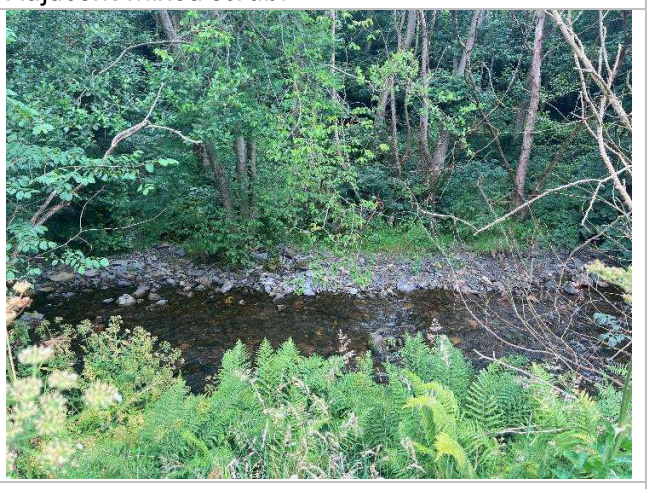
Strip of bracken along fence line.



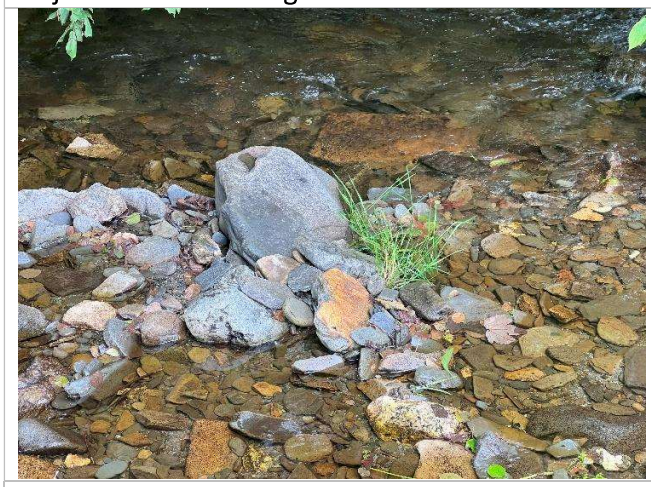
Adjacent mixed scrub.



Adjacent damper area of modified grassland.



Adjacent River Ceiriog.

	
Adjacent River Ceiriog.	Adjacent River Ceiriog.
	
Otter spraint on boulder.	Modified grassland field.