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**Preliminary Ecological Assessment  
for a proposed building development  
on land south of Alma Street, Llanarth, Ceredigion**

**Updated Survey, May 2022**

\*\*\*\*\***DRAFT REPORT, NOT FOR SUBMISSION**\*\*\*\*\*

**Client: Obsidian Developments**

**Survey Date: Original Survey Date - 22<sup>nd</sup> July 2014  
Updated Surveys – 3<sup>rd</sup> May 2017, 20<sup>th</sup> July 2019, 12<sup>th</sup> March 2021  
Current Survey – 16<sup>th</sup> May 2022**

**Report Reference: MSE160522**

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## 1. Introduction

Wyndrush Wild (formerly Matt Sutton Ecology) previously carried out an extended Phase I survey in support of an application to Ceredigion County Council for housing development on land adjoining Alma Street, Llanarth, Ceredigion. This is centred on grid reference SN 42385 57438 (see figure 1 below).

This survey provided baseline data on habitat and species, both on and adjacent to the site, and investigated potential impacts that may occur during construction and post-construction stages. An assessment was made of any potential impact on protected species in the area.

Subsequent survey provided a detailed assessment of the marshy grassland on the site, and a reptile survey was carried out. Updated PEA surveys were carried out between 2017 and 2021. The current updated survey was carried out on 16 May 2022 following a change in ownership of the site.

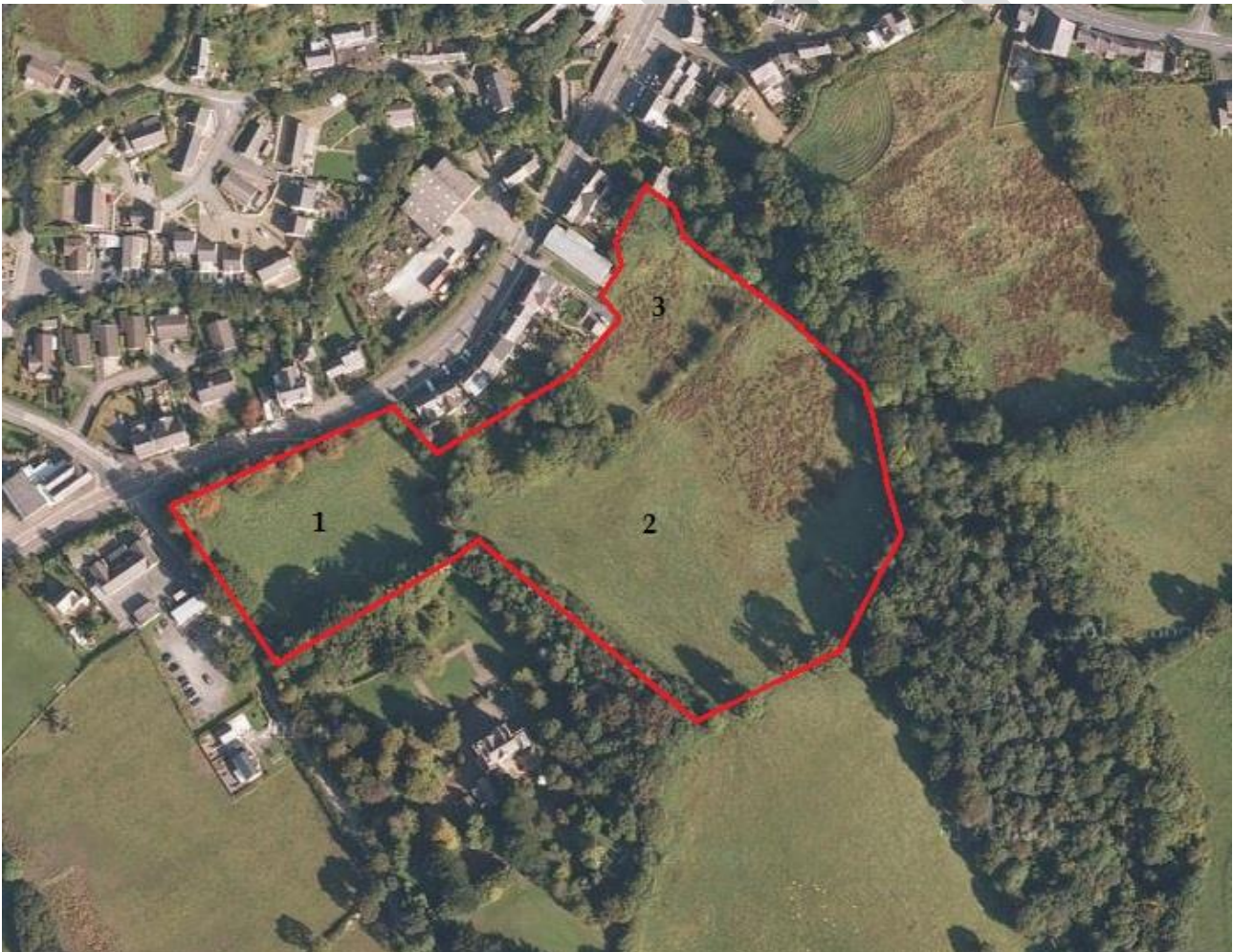


Figure 1. Proposed Development Site at Llanarth with field numbers used



## Site Description

The proposed site comprises three fields with both dry and damp grassland. A small area of woodland is present, and hedges are found within and around the site. It is adjoined by a wooded stream valley to the east, a large detached property set in wooded grounds to the south-west, an improved field to the south-east, the main road and associated housing to the north, and a school to the west.



*Figure 2. Proposed Development Site, 2022*

## **2. Methodology**

### **2.1 Extended Phase I survey**

A thorough re-survey was carried out on 16<sup>th</sup> May 2022. The survey followed the methodology set out by the Handbook for Phase 1 Habitat Survey (JNCC, 1993) and then subsequently by the Institute of Environmental Assessment (1995). The methods provide quick and accurate classification of habitats.

In addition, the survey looked for field signs of protected species and assessed the habitat for their potential presence. Measures taken included:-

- A search for signs of badgers on the site.
- Updating the list of plants found on the site, shown in Appendix 1
- Assessing any likely changes to the bat activity survey

### **2.2 Constraints**

There were no constraints to the survey.

## **3. Results**

### **3.1 Vegetation and habitat survey**

The habitats on the site were previously recorded in detail. Habitats adjoining the site are also mapped where relevant. No major changes in the habitats are apparent - the site still comprises improved grassland, poor semi-improved grassland, marshy grassland, broad-leaved woodland and hedgerow. There have been further minor increases in the extent of marshy grassland, with more patches now appearing to the south-west of the main stand in Field 2.





Figure 3. Phase I Habitat Map

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## Improved Grassland (B4)



The drier ground in the higher, southern half of field 2 has clearly been extensively fertilised. A lush growth of agricultural grass species, predominantly perennial rye-grass (*Lolium perenne*), comprises the majority of the sward here. Soft rush (*Juncus effusus*) is scattered across the slope, and was thought to be increasing in frequency in 2017 and 2019. No significant further spread was apparent in 2022. Some patches now hold greater bird's-foot trefoil (*Lotus uliginosus*), and are referable to a very poor-quality marshy grassland.

The grassland in field 1 has frequent perennial rye-grass, but also an abundance of common bent (*Agrostis capillaris*), Yorkshire fog (*Holcus lanatus*) and sweet vernal grass (*Anthoxanthum odoratum*). The associated species are chiefly agriculturally-favoured plants such as white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*) and broad-leaved dock (*Rumex obtusifolius*), but species more typical of semi-improved grassland such as red clover (*Trifolium pratense*) and meadow buttercup (*Ranunculus acris*) are also sparsely present. Tall fescue (*Festuca arundinacea*) is frequent in the damper north-east corner. Soft rush has also spread in this field, and creeping thistle is now locally abundant.

Two sheep were grazing all fields at the time of survey, which had previously been grazed by a herd of a dozen cattle. The habitat is of little or no ecological significance.



## Marshy Grassland (B5)



Soft rush dominates field 3 and the damper, lower parts of field 2. This is generally a dry, species-poor and poor-quality example of the habitat, presumably subjected to agricultural improvement at some point in the past and now reverting. As the 2016 report 'Assessment of Marshy Grassland Quality (MSE220916)' showed, it comprised poorly characterised *Juncus effusus* / *acutiflorus* – *Galium palustre* rush pasture, M23b and was lacking in almost all of the characteristic wetland plants associated with better quality rush-pastures in the county.

The 2019 and 2021 surveys found minor increases in the quality of this M23b. Marsh bedstraw (*Galium palustre*), previously rare, was at least locally-frequent, as was meadow vetchling (*Lathyrus pratensis*). Compact rush (*Juncus conglomeratus*) and marsh thistle (*Cirsium palustre*) were noted for the first time; the former frequent in Field 2 and the latter occasional in Field 1. Ragged robin (*Lychnis flos-cuculi*) and opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*) were also noted, and cattle grazing in the absence of fertilising was thought to be responsible for the increasing diversity here. The current survey found marsh bedstraw to be abundant in more of the marshy grassland, and ragged robin was abundant in a limited area in the northern edge of Field 2. This example of the habitat is of minor ecological interest.



Small areas of **Poor Semi-improved Grassland (B6)** occur where the rush is sparse or absent in field 2, and in field 3 in transition to the improved grassland. Crested dog's tail (*Cynosurus cristatus*), meadow foxtail (*Alopecurus pratensis*) and red bartsia (*Odontites verna*) are among the additional species here.

### **Semi-natural Broad-leaved Woodland / Scrub (A1.1.1 / A2.1)**



The area of woodland outside the eastern boundary of the site was briefly investigated. This comprises mixed broadleaf and conifer trees in a steep-sided stream valley. Beech (*Fagus sylvatica*) and sycamore (*Acer pseudoplatanus*) are prominent here, together with some mature oaks (*Quercus pedunculatus*) on the boundary and a few alders (*Alnus glutinosa*) in wet spots. Ash (*Fraxinus excelsior*) was clearly affected by dieback in 2019, and most trees are now dying. The wet spots have marsh marigold (*Caltha palustris*) and brooklime (*Veronica beccabunga*), whilst drier ground has a ground flora including bluebells (*Hyacinthoides non-scripta*), wood anemone (*Anemone nemorosa*) and greater chickweed (*Stellaria neglecta*). There are also naturalized plants of greater cuckooflower (*Cardamine rapanifolia*), fringe cups (*Tellima grandiflora*), Spanish bluebell (*Hyacinthoides hispanica*) and Himalayan honeysuckle (*Lonicera nitida*). The woodland is of some local ecological interest.



## Hedge with Trees (J2.3.2)



A mature hedge bounds the northern and western sides of field 1. This consists of a 1m bank, topped by a hedge of unmanaged shrubs and trees. The western side has large specimens of beech (*Fagus sylvatica*), hybrid oak (*Quercus x rosacea*), common lime (*Tilia x europaea*) and the 'Leopoldii' cultivar of sycamore (*Acer pseudoplatanus*). Smaller trees or shrubs of Dutch elm (*Ulmus x hollandica*), privet (*Ligustrum vulgare*), rhododendron (*Rhododendron ponticum*), hawthorn (*Crataegus monogyna*) and holly (*Ilex aquifolium*) are also present in this varied hedge. It could potentially be classed as a species-rich hedge with trees (J2.3.1), although the trees are mostly of planted origin and the ground flora is unremarkable. It comprises common ferns such as soft shield fern (*Polystichum setiferum*) and hart's-tongue fern (*Phyllitis scolopendrium*), together with other shade-tolerant species such as red campion (*Silene dioica*) and navelwort (*Umbilicus rupestris*). To the north, the hedge is hawthorn dominated with some ash; a widely spaced row of horse chestnut (*Aesculus hippocastanum*) runs inside this. The eastern side of field 1 has a similar hedge with the addition of hazel, and a bush of cherry laurel (*Prunus laurocerasus*). An ash on the corner had recently been felled. A large fungus - dryad's saddle (*Polyporus squamosus*) was found on the horse chestnut here.



The north-western boundary of field 2 has a hedge-bank dominated by grey willow, together with a mature oak, some Dutch elm, hazel and hawthorn, and young suckers of bird cherry (*Prunus avium*). Other boundaries are generally formed by fencing against adjoining woods, or gardens. That against the wooded grounds of 'Gwynfryn' has an overhanging growth of species, including red alder (*Alnus rubra*), a seldom encountered tree in the county.

### Scattered Broad-leaved Trees (A3.1)



The boundary on the southern side of field 1 has a low bank with no shrubs, but four fine specimens of hybrid oak (*Quercus x rosacea*). These trees appear to have grown undisturbed without trimming. The horse chestnut row behind the boundary in field 1 could also be classed as scattered trees. These are mature, with one standing and two fallen dead trees also present. As well as the broad-leaved trees, two sitka spruce trees (*Picea sitchensis*) flank the opening between fields 1 and 2. One of these had recently been blown over.



*Horse chestnuts (left) and wind-blown sitka spruce (right)*

### 3.2 Protected species

No badger setts, runs, latrines or signs of foraging were found on the site, or in the proximal areas of the adjoining woodland. The development will not affect badgers.

A previous reptile survey found two individual common lizards on the site. No updated survey was carried out - a mitigation strategy will still be required, and the detail or scope of this should be agreed with the LPA. A method statement should be produced, for implementation prior to any works starting on site. This may specify progressive exclusion of the common lizard population, or translocation to an off-site receptor.

The previous bat survey has not been updated. There have been no changes to the trees noted as having bat roosts or bat roost potential. The recommendations within that report, ie. the retention and protection of trees, are still applicable.

Breeding birds were not resurveyed by the present survey. No new bird species were seen using the site. The single bird of conservation concern noted during the original survey – stock dove – was not recorded. A red kite was seen in the vicinity of the previously recorded nest outside of the site boundary, but breeding behaviour was not recorded. A goshawk was seen circling over the site, before drifting away to the south-east. The rookery in the grounds of the adjoining property to the south-west may provide regular hunting opportunities for this raptor; the wooded stream valley to the south of the site may potentially provide suitable trees for nesting. The proposed development is unlikely to impact significantly on birds, but the proximity of the red kite nest in a mature Scot's pine approximately 100m from the site boundary would make a buffer zone in the southern part of the site a desirable feature.



### 3.3 Invasive Species

The three invasive species of plant – Japanese knotweed (*Fallopia japonica*), Himalayan honeysuckle (*Lonicera nitida*) and montbretia (*Crocsmia x crocosmiflora*) - were again recorded in the small woodland. Fringecups (*Tellemia grandiflora*), greater cuckooflower (*Cardamine raphanifolia*) and Spanish bluebell (*Hyacinthoides hispanica*) were also recorded in the woodland outside of the site to the east – the latter has the potential to hybridise with the extensive native bluebell population in parts of the wood.

The non-native flatworm *Kontikia ventrolineata* found during previous survey was not noted again. It is a scavenger unlike the closely related New Zealand Flatworm and as such is thought not to be a pest species (Hugh Jones, pers. comm.)

## 4. Discussion

### 4.1 Scheme Details

The proposal is for a housing development with houses, access roads and associated landscaping.



*The current field entrance lies opposite the school, marked by this mature oak*

## 4.2 Recommendations

### Bats

All trees described in the bat survey as having roosts or potential roosts should be retained.

### Birds

The mature ash tree where stock doves were previously found breeding should be retained, along with the accompanying oak trees. A buffer zone between these trees and the proposed development should be created, and this could make a suitable location for a reptile mitigation area as well (perhaps in association with part of the field outside of the application area to the south). An additional measure to support breeding stock doves in the area would be the erection of specifically designed stock dove nest boxes on suitable trees in surrounding farmland.

Although few birds were using the site, clearance of any woody vegetation should take place outside of the bird breeding season (March – September) to avoid possible unintentional damage to nests.

The woodland area in the dingle alongside the site should be excluded from any development. Trees here should be retained, in particular the alder tree which was previously found to support a red kite nest.

### Reptiles

Further details of the scheme design should be used to inform a mitigation plan for common lizards known to be present on the site.

## 4.3 Promotion of Biodiversity at the Site

The bulk of the grassland on the site is of very little ecological interest. Biodiversity gains could be made in the landscaping associated with the development, and this is more likely to be the case if good 'wildlife gardening' principles are employed, using native species where possible. 'Bat-friendly' designs could be incorporated into proposed buildings. The small woodland on the site currently provides a recreation area for young people, and it would be desirable to retain or create an informal area of such habitat for this to continue. Mature trees should be incorporated into the scheme design wherever possible. A field to the south of the application area presents a further opportunity for development of an enhancement scheme, which could include a mixture of wildflower-rich grassland restoration and woodland development.



## 5. Summary and Conclusions

The proposed building development does not present a significant ecological risk to habitats in the area. Protected species, ie. bats and reptiles, and a single bird of conservation concern are present, and scheme design will need to ensure that these are not impacted.

## 6. References

Handbook for Phase I habitat survey Nature Conservancy Council 1990

### Appendix 1 Plant species recorded at the site during the walkover visits

Common Name	Species
American Willowherb	<i>Epilobium ciliatum</i>
Atlantic Ivy	<i>Hedera helix hibernica</i>
Ash	<i>Fraxinus excelsior</i>
Barren Strawberry	<i>Potentilla sterilis</i>
Beech	<i>Fagus sylvatica</i>
Bird Cherry	<i>Prunus avium</i>
Blackthorn	<i>Prunus spinosa</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus</i>
Bristle Club-rush	<i>Isolepis setacea</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Cleavers	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common Chickweed	<i>Stellaria media</i>
Common Dog-violet	<i>Viola riviniana</i>
Common Hemp-nettle	<i>Galeopsis tetrahit</i>
Common Lime	<i>Tilia x europea</i>
Common Mouse-ear	<i>Cerastium fontanum</i>
Common Nettle	<i>Urtica dioica</i>
Common Polypody	<i>Polypodium vulgare</i>
Common Sorrel	<i>Rumex acetosa</i>
Compact Rush	<i>Juncus conglomeratus</i>
Creeping Bent	<i>Agrostis stolonifera</i>
Creeping Buttercup	<i>Ranunculus repens</i>
Creeping Soft Grass	<i>Holcus mollis</i>
Creeping Thistle	<i>Cirsium arvense</i>

Crested Dog's-tail	<i>Cynosurus cristatus</i>
Cuckoo Pint	<i>Arum maculatum</i>
Curled Dock	<i>Rumex crispus</i>
Dandelion	<i>Taraxacum officinale</i>
Dog Rose	<i>Rosa canina</i>
Dutch Elm	<i>Ulmus x hollandica</i>
Elder	<i>Sambucus nigra</i>
Enchanter's Nightshade	<i>Circaea lutetiana</i>
False Brome	<i>Brachypodium sylvaticum</i>
False Oat-grass	<i>Arrhenatherum elatius</i>
Floating Sweet Grass	<i>Glyceria fluitans</i>
Foxglove	<i>Digitalis purpurea</i>
Fringecups	<i>Tellima grandiflora</i>
Gooseberry	<i>Ribes uva-crispa</i>
Gorse	<i>Ulex europaeus</i>
Greater Bird's-foot trefoil	<i>Lotus uliginosus</i>
Greater Chickweed	<i>Stellaria neglecta</i>
Great Willowherb	<i>Epilobium hirsutum</i>
Hart's-tongue Fern	<i>Phyllitis scolopendrium</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Coryllus avellana</i>
Hedge Woundwort	<i>Stachys sylvatica</i>
Herb Robert	<i>Geranium robertianum</i>
Hoary Willowherb	<i>Epilobium parviflorum</i>
Honeysuckle	<i>Lonicera periclymneum</i>
Hogweed	<i>Heracleum sphondylium</i>
Holly	<i>Ilex aquifolium</i>
Horse Chestnut	<i>Aesculus hippocastaneus</i>
Japanese Knotweed	<i>Fallopia japonica</i>
Jointed Rush	<i>Juncus articulatus</i>
Lady Fern	<i>Athyrium filix-femina</i>
Male Fern	<i>Dryopteris filix-mas</i>
Marsh Bedstraw	<i>Galium palustre</i>
Marsh Cudweed	<i>Gnaphalium uliginosum</i>
Marsh Foxtail	<i>Alopecurus geniculatus</i>
Marsh Thistle	<i>Cirsium palustre</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Meadow Buttercup	<i>Ranunculus acris</i>
Meadow Vetchling	<i>Lathyrus pratensis</i>
Montbretia	<i>Crocasmia x crocosmifolia</i>
Navelwort	<i>Umbilicus rupestris</i>
Nettle	<i>Urtica dioica</i>
Oak	<i>Quercus</i> incl. <i>Q. x rosacea</i>
Oat	<i>Avena sativa</i>



Opposite-leaved Golden Saxifrage	<i>Chrysosplenium oppositifolium</i>
Osier	<i>Salix vimnalis</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Privet	<i>Ligustrum vulgare</i>
Intermediate Polypody	<i>Polypodium interjectum</i>
Ragged Robin	<i>Lychnis flos-cuculi</i>
Red Alder	<i>Alnus rubra</i>
Red Bartsia	<i>Odontites verna</i>
Red Campion	<i>Silene dioica</i>
Red fescue	<i>Festuca rubra</i>
Rhododendron	<i>Rhododendron ponticum</i>
Rosebay Willowherb	<i>Chamaerion angustifolium</i>
Rough Meadow Grass	<i>Poa trivialis</i>
Sessile Oak	<i>Quercus petraea</i>
Sitka Spruce	<i>Picea sitchensis</i>
Slender St. John's-wort	<i>Hypericum pulchrum</i>
Small Sweet Grass	<i>Glyceria declinata</i>
Spanish Bluebell	<i>Hyacinthoides hispanica</i>
Square Stalked St. John's-wort	<i>Hypericum tetrapetrum</i>
Soft Rush	<i>Juncus effusus</i>
Soft Shield Fern	<i>Polystichum setiferum</i>
Spear Thistle	<i>Cirsium vulgare</i>
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>
Sycamore	<i>Acer pseudoplatanus</i>
Tall Fescue	<i>Festuca arundinacea</i>
Tall Tutsan	<i>Hypericum x inodorum</i>
Toad Rush	<i>Juncus bufonius</i>
White Clover	<i>Trifolium repens</i>
Wilson's Honeysuckle	<i>Lonicera nitida</i>
Wood Avens	<i>Geum urbanum</i>
Wood Dock	<i>Rumex sanguineus</i>
Yorkshire-fog	<i>Holcus lanatus</i>