

Land East of Groes-Iwyd, Guilsfield Preliminary Ecological Appraisal

Prepared for Roger Parry & Partners LLP

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Prepared by: 
Clare Knight
Ecological Consultant 11/06/2019

Checked and Approved
For Issue by: 
Stephen Wilson
Principal Consultant 14/06/2019

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1 INTRODUCTION

1.1 Purpose of Report

This Preliminary Ecological Appraisal (PEA) has been completed in connection with the proposed residential development on land east of Groes-Iwyd, Guilsfield, Powys (OS Grid Location SJ 214 114). The location of the proposed development sites is shown in *Figure 1* and the proposed development plans are fully detailed in *Section 4*.

The site survey was carried out on 23rd May 2019 by Turnstone Ecology Ltd and consisted of a Phase 1 Habitat Survey and a Protected Fauna Survey and Habitat Suitability Assessment.

This report details survey and assessment methodology along with the results of a desk-based study and on-site surveys. It also provides an assessment of potential impacts and appropriate mitigation to offset any impacts associated with the proposal and to satisfy national and local planning policies.

Figure 1. Location of proposed development



1.2 Ecological Context

The proposed development site is located at the south-eastern end of the village of Guilsfield and comprises a field dominated by improved grassland with a watercourse (Guilsfield Brook) along the northern edge of the field (*Figure 2*). The proposals include the construction of twelve detached and ten semi-detached residential dwellings, associated access, parking spaces and landscaping within the

improved grassland. Access will be created through the south-eastern field boundary and will affect a fenceline and section of road verge containing long-sward improved grassland.

The site is located in a rural village setting accessed via a field access gateway at the south-western corner of site leading off the B4392 which serves the village of Guilsfield. The north-eastern field boundary is formed by a combination of wooden fenceline and short sections of garden hedgerows and the north-western site boundary is the tree-lined Guilsfield Brook. There is a wooden fenceline along the south-eastern field boundary whilst there is no formal boundary across the south-western boundary where the improved grassland extends away to the south-west. Beyond the immediate field boundaries, residential houses associated with the village of Guilsfield are located to the north-east and south-west. Further agricultural grass fields are located to the north of the Guilsfield Brook and south beyond the B4392. Fron Wood, a broadleaved woodland adjoining further woodland, is located approximately 155m north-west of site.

The wider landscape is dominated by agricultural fields, woodlands, watercourses and residential dwellings and farms.

Figure 2. Proposed development site (red line boundary)



2 METHODS

2.1 Desk-based Study

Information relating to designated sites, sites where European Protected Species (EPS) Licences have been granted between 2009 and 2016 (only available in England) and historic records of protected species within 2 km of the proposed development site were obtained from Magic (www.magic.gov.uk) and other freely available information on the internet, such as planning portals.

Any species specific historic records are detailed within the relevant species accounts in the *Results* section.

2.2 Phase 1 Habitat Survey

The survey methods were based on the Phase 1 Habitat Survey approach (Joint Nature Conservation Committee 2010), which is a standardised method to survey main habitat types. Plant nomenclature in this report follows Rose (*Revised Edition 2006*) for native, naturalised and garden varieties of vascular plant. Introduced species and garden varieties are not always identified.

2.3 Protected Fauna Survey and Assessment

The habitats on site were assessed for suitability for protected fauna that occur in the region and obvious signs and incidental sightings of protected species were noted where present. Taking into consideration the geographical region and habitat types on and adjacent to site, the protected species and species groups that could be encountered are listed below.

- Badger
- Bats
- Otter
- Water Vole
- Nesting birds
- Great Crested Newt
- Reptiles
- White-clawed Crayfish

Details of initial survey methods for each relevant species are given below.

2.3.1 Badger

Where access allowed, a comprehensive assessment was carried out to identify areas that are used by Badgers (*Meles meles*) for foraging and sett digging. Signs of Badgers including setts, foraging signs, paths and latrines were recorded where present.

2.3.2 Bats

Any buildings and trees on or adjacent to the site were visually surveyed to assess them for their potential to support roosting bats, although a thorough inspection of all potential roosting features would not be undertaken as part of the Phase 1 survey.

Habitats were assessed for their suitability for use by foraging or commuting bats. Areas of particular interest vary between species, but generally include sheltered areas and those habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and more species-rich or rough grassland.

2.3.3 Dormouse

Habitats were assessed for their general suitability for use by Dormouse (*Muscardinus avellanarius*), which generally use areas of dense woody vegetation cover. Dormice are most likely to be found where there is a wide diversity of woody species contributing to three-dimensional habitat complexity, a number of food sources, plants suitable for nest-building material and good connectivity to other areas of suitable habitat. A search for hazelnuts opened by Dormouse was also completed on and adjacent to site.

2.3.4 Otter

Watercourses and areas of wetland and adjacent habitat were assessed for their suitability for use by Otter (*Lutra lutra*). This included an assessment of water depth, water quality, vegetation and cover.

Field signs were recorded if they were encountered, including spraint (droppings), footprints, slides, paths, feeding evidence, holts (underground resting places) or couches (temporary resting places).

2.3.5 Water Vole

Initial surveys centre on an assessment of habitat suitability. Most watercourses, waterbodies and other areas where there is surface water for the majority of the year (including marshland, rush-pasture, wetland, mires, ponds and other waterbodies) have some potential to support Water Voles (*Arvicola amphibius*). The following factors were taken into consideration: water quality, water-level regime, channel dimensions, bank type and material, vegetation for cover and food sources, shading, predation and competition and habitat management.

Field signs and direct evidence of the species (including feeding signs, latrines, burrows, footprints, runways, food piles and actual sightings) were recorded if they were encountered.

2.3.6 Nesting birds

Habitat that might be used by nesting birds was identified and actively nesting birds or evidence of nesting birds noted where present. Special consideration was given to the potential presence of Barn Owl (*Tyto alba*), which is a Schedule 1 protected bird species.

2.3.7 Great Crested Newt

The suitability of any aquatic and terrestrial habitat on the site, and in the immediate vicinity, was assessed for suitability for use by Great Crested Newts (*Triturus cristatus*). Great Crested Newts are known to travel up to 500 m between breeding ponds and suitable terrestrial habitat, so a desk-based search was undertaken for any ponds up to 500 m from the site using OS maps and aerial imagery. The terrestrial habitat between the site and these ponds, and therefore connectivity to the site, was also considered.

2.3.8 Reptiles

The site was assessed for suitability for use by widespread species of reptiles, with particular attention paid to those features that could be used as basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, piles of hardcore) and opportunities for foraging (*e.g.* rough grassland and scrub). The site was assessed for its suitability for the commoner reptile species which have broadly similar habitat requirements but more specific requirements include those shown below (Beebee & Griffiths 2000).

- Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one habitat they use is brownfield sites
- Slow-worms (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land
- Grass Snakes (*Natrix natrix*) have broadly similar requirements to Common Lizards but with a greater reliance on ponds and wetlands, where they prey on amphibians
- Adder (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath

2.3.9 White-clawed Crayfish

White-clawed Crayfish (*Austropotamobius pallipes*) are known to occur in the wider area and watercourses were surveyed for suitability to support this protected species. Factors taken into consideration included water flow, bank conditions, water quality, presence of emergent vegetation, bed substrate and presence of pebbles, rocks and stones.

2.4 Constraints

May is a suitable time to undertake Phase 1 surveys and the site was fully accessible; as such there were no constraints to the survey.

2.5 Criteria for Assessment

The scientific value of habitats for nature conservation is assessed according to widely accepted criteria of which the most important are naturalness, extent, rarity, and diversity.

The assessment of impacts is based on the principles within Chartered Institute of Ecology and Environmental Management (CIEEM) Environmental Impact Assessment (EIA) Guidance (2016) which assesses the impacts of the proposal on ecological receptors taking into consideration extent, duration, reversibility, timing, frequency and certainty.

Mitigation and enhancement is designed to reduce the level of impact upon receptors and provide ecological enhancement in order to meet current legislation and planning policy. The information below has therefore been considered during assessment.

- Criteria that have been developed to assist in the identification of statutory Sites of Special Scientific Interest (SSSIs) (JNCC 2013)
- Habitats and species of Principal Importance included under Section 41 (England) and Section 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006
- The legal status of habitats and species according to the EU ‘Habitats’ Directive 1992
- CIEEM Guidelines (2016) for assessing the value of ecological receptors within a defined geographical context using the following categories: international (*i.e.* Europe); UK and national (England); regional; county; Unitary Authority; local or parish; and zone of influence. Receptors are identified as ‘important’ at these levels, or as ‘not important’
- Species protected by European directives
- Species protected by the *Wildlife and Countryside Act 1981* (as amended)
- Other species listed as scarce or notable in literature issued by conservation organisations or learned societies *e.g.* vascular plant species listed in Stewart *et al.* (1994) and Red and Amber List Birds of Conservation Concern (Eaton *et al.* 2015)
- Local Wildlife Site selection criteria
- National Policy Planning Framework (NPPF), 2018
- BS42020:2013 – Biodiversity Code of practice for planning and development
- Protected species handbooks and best practice guidelines
- The Powys Local Biodiversity Action Plan (BAP), which identifies and prioritises local habitats and species of conservation importance. These habitats and species are stated as
 - Habitats: Upland oak woodland, Lowland woodpasture and parkland, Wet woodlands, Coniferous woodland, Scrub and ffridd, Linear habitats (hedges and verges), Rivers and stream, Mesotrophic waters, Lowland raised bog, Rhos pastures, Lowland meadows, Lowland dry acid grassland, Upland calcareous grassland, Upland and lowland heath, Traditional orchards and Farmland and Gardens.
 - Species: Alien Plant species, Allis Shad (*Alosa alosa*) & Twaite Shad (*Alosa fallax*), Brown Hare (*Lepus europaeus*), Brown Trout (*Salmo trutta*), Climbing Corydalis Weevil (*Procas granulicollis*), Curlew (*Numenius arquata*), European Otter (*Lutra lutra*), Fairy Shrimp (*Chirocephalus diaphanous*), Floating Water Plantain (*Luronium natans*), Globeflower (*Trollius europaeus*), Great Crested Newt (*Triturus cristatus*), Hazel Dormouse (*Muscardinus avellanarius*), High Brown Fritillary (*Fabriciana adippe*), Nightjar (*Caprimulgus europaeus*), Pearl-bordered Fritillary (*Boloria euphrosyne*), Pillwort (*Pilularia globulifera*), Pipistrelle Bat (*Pipistrellus pipistrellus* & *P. pygmaeus*), Red Kite

(*Milvus milvus*), Red Northern Wood Ant (*Formica lugubris*), Red Squirrel (*Sciurus vulgaris*), River Jelly Lichen (*Collema dichotomum*), River Lamprey (*Lampetra fluviatilis*), Slender Green Feather Moss (*Hamatocaulis vernicosus*), Tree Sparrow (*Passer montanus*), Water Vole (*Arvicola amphibius*), Waxcap Grasslands, White-clawed Crayfish (*Austropotamobius pallipes*) and Wood Bitter Vetch (*Vicia orobus*).

3 RESULTS

3.1 Desk Study

3.1.1 Designated Sites

There are three statutory designated sites within 2 km of the proposed development site.

Granllyn Site of Special Scientific Interest (SSSI), located approximately 568m south-east of the proposed development site. The site consists of two nutrient-rich water bodies and pasture land. The larger of the two water bodies has developed in a shallow depression, the other is a small historic moat. Granllyn is of special interest for the largest known population of Great Crested Newt in Montgomeryshire.

Lower Garth Meadows SSSI, located approximately 1 km south-south-east of the proposed development site, is a good example of an unimproved, herb-rich grassland on a more base-rich soil than is typical of most of Montgomery. It consists of two damp fields on fairly level ground, containing a number of ditches and the remains of an old pond. The soil is a neutral loam. The larger field is used for summer grazing and the smaller one is more lightly grazed.

Gwern-y-Brain Dingle SSSI is located approximately 1.1 km north-east of the proposed development site and is designated for its geological interest.

3.1.2 European Protected Species Licence Sites

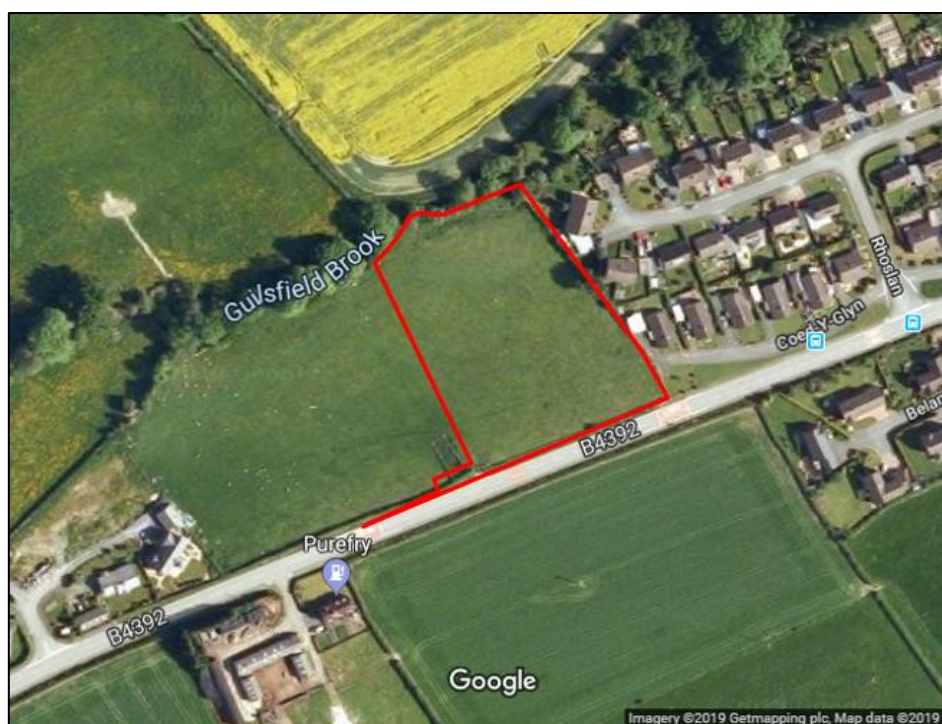
Information on EPS licences is not currently available in Wales.

3.2 Ecological Surveys

Phase 1 habitat types recorded within and immediately adjacent to the proposed development sites are listed below and shown in *Figures 3 and 4*.

- Improved grassland
- Watercourse
- Hedgerows and trees

Figure 3. Aerial image of site (red line boundary)



The site or immediately adjacent areas contain habitat suitable for the protected species listed below.

- Badger
- Bats
- Dormouse
- Otter
- Water Vole
- Nesting birds
- Great Crested Newt
- Reptiles
- White-clawed Crayfish

3.3 Phase 1 Habitat Survey

3.3.1 Improved grassland

The proposed development site is dominated by short-sward improved grassland, which was grazed by sheep at the time of survey (*Plate 1*). Species comprise a mix of common grasses including Crested Dog's-tail (*Cynosurus cristatus*), Annual Meadowgrass (*Poa annua*), Perennial Ryegrass (*Lolium perenne*) and Yorkshire Fog (*Holcus lanatus*), whilst herb species include White Clover (*Trifolium repens*), Meadow Buttercup (*Ranunculus acris*), Yarrow (*Achillea millefolium*), Creeping Thistle (*Cirsium arvense*) and Common Chickweed (*Stellaria media*). Patches of Common Nettle (*Urtica dioica*) are located at the northern end of site (*Plate 2*).

Plate 1. Improved grassland dominates the site (looking north from the south-west end of site)



Plate 2. Patches of Common Nettle at the northern end of the improved grassland (looking south-east from northern end of site)



Plate 3. Improved grassland at south-eastern end of site and south-eastern boundary fenceline (looking south-west from south-eastern corner of site)



Access will be created through the south-eastern boundary and will affect a fenceline and section of road verge containing improved grassland which had a long sward at the time of survey. Species along the road verge contain a similar mix to the field with the addition of False Oat-grass (*Arrhenatherum elatius*), Bush Vetch (*Vicia sepium*), Tufted Vetch (*Vicia cracca*), Cow Parsley (*Anthriscus sylvestris*) and Common Knapweed (*Centaurea nigra*).

3.3.2 Watercourse

Guilsfield Brook is a small watercourse that flows west to east along the north-eastern end of the field (Plate 4). The section of Guilsfield Brook bordering site is up to 2m wide and consists of mainly fast flowing, shallow stony areas (up to 10 cm deep) with some short sections of deeper (maximum 50 cm) slower flowing and silty areas. The eroded banks of the watercourse showed evidence of high water and fast flow events. The banks are sparsely vegetated with ruderal species such as Common Nettle, Cow Parsley and Foxglove (*Digitalis purpurea*). Himalyan Balsam (*Impatiens glandulifera*), a Schedule 9 invasive species, was noted along the southern edge of the watercourse.

Plate 4. Watercourse flowing west to east along the north-western end of the field (looking east from north-western corner of site boundary)



3.3.3 Hedgerows and trees

Semi-mature and mature trees line both sides of the Guilsfield Brook at the north-western end of site (Plate 5). Species include Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), Alder (*Alnus glutinosa*), Elder (*Sambucus nigra*), Holly (*Ilex aquifolium*), Ash (*Fraxinus excelsior*), Wild Cherry (*Prunus avium*), Crab Apple (*Malus sylvestris*), Sycamore (*Acer pseudoplatanus*) and Oak (*Quercus* sp.).

The north-eastern field boundary is formed by sections of well-managed garden hedgerow and wooden fencelines (Plate 6). Species within the hedgerow sections include Hawthorn, Blackthorn (*Prunus spinosa*) and Elder.

Plate 5. Tree line along the north-western field edge (looking towards north-east corner of site)



Plate 6. Boundary fenceline and hedgerow sections along north-eastern edge of site (looking north-east from southern end of site)



3.4 Protected Fauna

3.4.1 Badger

No evidence of Badger was recorded on or adjacent to the proposed development site.

The improved grassland and banks of the watercourse provide suitable foraging habitat and the improved grassland is suitable for sett creation.

3.4.2 Bats

There is no suitable bat roosting habitat within the proposed development footprint but there are suitable roosting features (frost cracks, knot holes etc) within the trees lining the Guilsfield Brook.

The tree-lined watercourse provides optimal foraging habitat for bats but the improved grassland and other field boundaries are likely to be of limited importance for foraging bats.

3.4.3 Dormouse

There is a historic record of Dormouse approximately 1.3 km north-west of the proposed development site (*M.E. Blakeney, 1993; NBN*).

The trees along the north-western end of site provides suitable foodplants and cover for Dormouse. Broadleaved woodland is located approximately 150m to the north of site and there is some connectivity between the woodland and site via field boundary hedgerows. The improved grassland affected by the proposals is unsuitable for Dormouse and the sections of garden hedgerow along the north-western site boundary are of very limited suitability for Dormouse due to poor connectivity and lack of a variety of suitable foodplants.

3.4.4 Otter

Evidence of Otter (spraint) was found along the section of Guilsfield Brook which flows through the north-western end of the field and the banks of the watercourse and overhanging tree roots provide opportunities suitable for holts. However, the brook is most likely to be used by Otters moving between optimal breeding and feeding habitats with the relatively small watercourse unlikely to contain enough food to support resident/breeding Otter.

The short sward improved grassland affected by the proposals is unsuitable for Otter.

3.4.5 Water Vole

There are no apparent records of Water Vole within 2 km of the proposed development site and no evidence of Water Vole was recorded on or adjacent to the proposed development site during the survey.

The improved grassland directly affected by the proposals is unsuitable for Water Vole but the section of Guilsfield Brook that flows through the north-western end of site is of some suitability for Water Vole with earth banks suitable for burrows. Suitable foodplants within and adjacent to the watercourse are limited though and with the water was shallow at the time of survey but likely to fluctuate frequently throughout the year, this is likely to deter the presence of Water Vole.

3.4.6 Birds

Habitats suitable for breeding birds on and adjacent to site are limited to the trees and sections of hedgerow along the north-eastern and north-western boundaries of site.

Ground nesting species such as Skylark (*Alauda arvensis*), a UKBAP and Red List species, are unlikely to occur within the proposed development footprint due to the close proximity to buildings and trees and short sward of the improved grassland providing no cover.

3.4.7 Great Crested Newt

There are historic records of Great Crested Newt approximately 440m north-east of the proposed development site (*Countryside Council for Wales, 1998; NBN*) and 895m north-east-east of site at Granllyn Pool SSSI (*Hannah Scrase, 2006; NBN*). There is a single pond within 500m of the proposed development site, located approximately 440m north-west-west of site and beyond Guilsfield Brook.

Good Great Crested Newt terrestrial habitat on and adjacent to site is limited to the banks of the watercourse and hedgerow bases, which provide suitable habitat for foraging, commuting and hibernating Great Crested Newt. The long sward improved grassland along the road verge is only of very limited suitability for foraging and commuting Great Crested Newt due to its small footprint and poor connectivity to further habitat and is unsuitable for hibernation due to a lack of dense cover. The short sward improved grassland that dominates the field is not suitable for hibernating or foraging Great Crested Newt due to the lack of cover but could occasionally be crossed during dispersal.

3.4.8 Reptiles

There are no apparent records of common reptile species within 2 km of the proposed development site.

Suitable habitat for foraging, commuting and hibernating reptiles on, and adjacent to site is limited to the banks of the watercourse and hedgerow bases. In addition, the watercourse offers suitable foraging opportunities for Grass Snake. The long sward improved grassland along the road verge is only of limited suitability for foraging and commuting reptiles due to its poor connectivity to any optimal habitat and is unsuitable for hibernation due to a lack of dense cover.

The improved grassland that dominates the field is only of limited suitability for dispersing reptiles and unsuitable for hibernating and foraging due to the lack of cover.

3.4.9 White-clawed Crayfish

There are no apparent records of White-clawed Crayfish within 2 km of the proposed development site.

No evidence of White-clawed Crayfish was recorded on or adjacent to the proposed development site and the habitats within the development footprint are unsuitable for White-clawed Crayfish.

Table 2 summarises which aquatic conditions White-clawed Crayfish prefer and tend to avoid (English Nature, 2000) and the condition of the section of Guilsfield Brook that passes through the north-western end of site.

Table 2. White-clawed Crayfish habitat preferences and the relevant features of the surveyed watercourse

Crayfish prefer	Crayfish tend to avoid	Surveyed Watercourse
Slow-flowing sections of stony rivers	Uniform clay channels	Fast flowing stony sections with some limited deeper, slower sections
Boulder riffles in chalk or clay streams	Areas of deep or soft silt	Shallow stony riffles and some deeper areas
Submerged tree roots	Dense filamentous algae	Some submerged tree roots
Debris dams	Narrow fast-flowing channels	None within the section of watercourse surveyed
Crevices in old or damaged submerged brickwork, stonework, cracked concrete, or rotten wooden structures	Areas of sand and gravel, or bedrock, which are lacking in cobble or boulder (though they may feed in or walk through these areas)	Earth banks with some limited crevices
Un-mortared stone revetting which protects banks from erosion	Pebble or cobble shingle regularly exposed by changing river levels	The banks are eroded with frequently changing water levels
Stands of submerged and emergent aquatic plants	Areas of armoured bed, where the substrate is compacted by the river flow	No submerged and emergent aquatic plants recorded

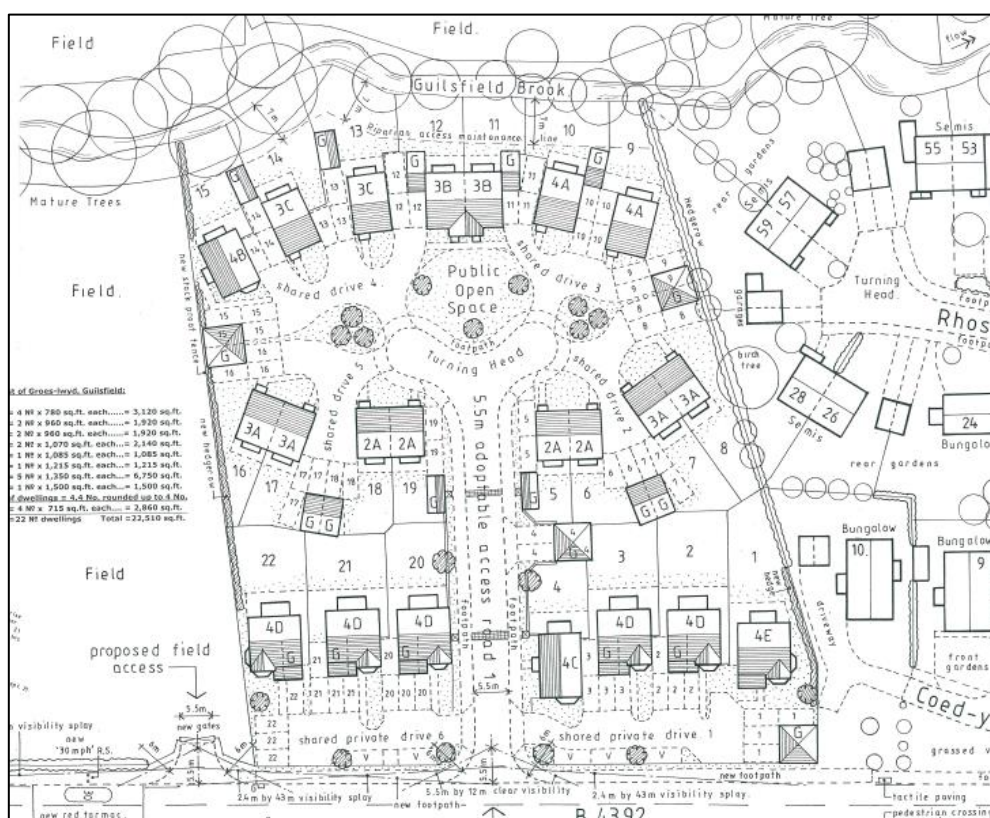
As can be seen from the table above, the conditions of the surveyed watercourse are of some suitability for White-clawed Crayfish.

4 EVALUATION

4.1 Summary of Proposals

The proposals include the construction of twelve detached and ten semi-detached residential dwellings, associated access, parking spaces and landscaping within a field of short-sward improved grassland (Figure 4). Proposed access will be created through the south-eastern field boundary leading off the B4392.

Figure 4. Proposed development plan



The Powys BAP lists 17 Habitat Action Plans including Rivers and Streams which could be indirectly affected by the proposals. Pollution control measures will need to be adhered to to ensure there are no negative impacts on the watercourse and the species it supports.

The Powys BAP also lists 28 Species Action Plans including Brown Trout, European Otter, Great Crested Newt, Water Vole, Pipistrelle Bat and White-clawed Crayfish. These species could be directly or indirectly affected by the proposed development and appropriate project design and mitigation will need to be adhered to ensure there will be no negative impacts on them as a result of the proposals. Ecological enhancements are also recommended to ensure the proposals result in a positive ecological gain which is in accordance with the National Planning Policy Framework.

4.2 Designated Sites

4.2.1 General

Granllyn SSSI and Lower Garth Meadows SSSI are located approximately 568m south-east and approximately 1 km south-south-east of the proposed development site respectively. There is no direct connectivity between the proposed development site and the designated sites and no link between the species or habitat found on the sites.

Given that the proposals are for a small-scale development, and the area affected is approximately 2 hectares, the development is unlikely to have any impacts on the habitats and species associated with these designated sites. Therefore, no specific mitigation measures are considered necessary in relation to these two designated sites.

4.3 Habitats

4.3.1 General

The construction area for the houses and associated access will affect short-sward improved grassland and a section of long-sward improved grassland along the road verge to the south-east of site. There is also the potential during and post-construction activities affecting the Guilsfield Brook and bordering trees.

4.3.2 Mitigation

The construction works will affect ecologically poor improved grassland, and the loss of an area of improved grassland is unlikely to have a significant negative impact and specific mitigation measures for this loss are not considered necessary.

Additional hedgerow planting will be undertaken along the south-western and north-eastern site boundaries. The hedgerows should comprise a similar mix to the existing trees along the north-western site boundary with the addition of Field Maple (*Acer campestre*), Dog Rose (*Rosa canina* agg.) and Honeysuckle (*Lonicera periclymenum*). Hedgerows should be double planted with six plants per metre; mulchings or weed suppressing mats should be used to aid good establishment of woody species. Plants should be 80 – 100 cm bare root whips (1 + 1), planted between November and March and staked and protected with a bio-degradable treeguard to prevent pest damage.

Additional tree planting will also be incorporated around site and should comprise native species such as Hawthorn, Field Maple (*Acer campestre*), Wild Cherry, Silver Birch (*Betula pendula*), Crab Apple and Alder.

The proposed areas of groundworks will need to be confined to areas that will not impact on the root systems of the existing and retained boundary trees. An appropriate buffer (as detailed in BS5837:2012) will need to be established.

Measures are to be put in place to ensure there are no significant negative impacts on Guilsfield Brook along the north-western end of the field and the species it supports. The proposed drainage and dirty water treatment methods will need to ensure that there are no impacts on the hydrology and ecology of Guilsfield Brook and no dirty water will enter the watercourse. Water treatment and discharge methods will be fully detailed in the planning application but should include the following:

- No work will be undertaken within 7m of Guilsfield Brook;
- The north-western boundary of the development footprint will be fenced to prevent any surface water run-off into the watercourse during construction;
- Spill kits will be stored within the site compound during and post construction and all spills will be cleaned up accordingly and if necessary reported;
- All chemical substances and hazardous materials will be stored in accordance EA guidelines with all diesel fuel and other lubricants will be stored in appropriate containers and within double bunded storage areas;
- Any washing of concreting vehicles will be done well away from any watercourse and/or drainage systems; and
- Any re-fuelling and re-lubrication will only be completed in an approved area in which a spill kit is available.

The proposed drainage methods and mitigation measures will ensure there will no significant negative impacts on Guilsfield Brook and the habitats and species it supports, including Brown Trout, a Powys BAP species, for which there are historic records approximately 1.15 km north-east of site (*Biological Records Centre, 1991; NBN*).

4.4 Protected Fauna

4.4.1 General

Evidence of Otter was recorded along the section of Guilsfield Brook at the north-western end of site. No further evidence of protected species was found within or immediately adjacent to the proposed development footprint during the survey but there are habitats with suitability for Badger, bats, Otter, Water vole, nesting birds, Great Crested Newt, reptiles and White-clawed Crayfish within or adjacent to the proposed development area.

4.4.2 Badger

No setts or evidence of foraging or commuting Badger was recorded on or adjacent to the proposed development site.

The lack of evidence of Badger on site suggests the potential for setts to be dug prior to works is unlikely. Due to the relatively small size of suitable foraging habitat affected it is also considered unlikely to be a significant habitat loss for any local Badger populations.

Although significant negative impacts on Badgers are not predicted it is recommended mitigation measures are put in place to ensure foraging Badgers do not become trapped within any excavation works associated with construction works. Excavations should either not be left uncovered overnight or ways of escape for Badgers provided (*e.g.* wooden planks or graded earth banks).

4.4.3 Bats

No suitable roosting habitat is located within the proposed development footprint and the grassland field and southern and eastern field boundaries are unlikely to be of importance for foraging bats. There are opportunities for roosting bats along the tree-lined watercourse and this habitat also provides optimal foraging habitat.

A lighting plan showing the location and specification for any proposed lights on the site will be produced and will reflect the Bat Conservation Trust Bats and Lighting in the UK guidance (2018). The lighting plan will include directing lighting away from the retained boundary trees and watercourse at the north-western end of site and away from any new roosting provision and new hedgerows to ensure that suitable roosting features and foraging and commuting habitats remain unlit.

Long term bat roosting provision should be incorporated into the proposals and should include a minimum of four bat tubes installed into the walls of the new dwellings. Bat tubes provide integral roosting provision that is both discreet and secure, creating a self-contained unit that does not provide access into the wall cavity. In addition, two boxes, to include two Schwegler 1FF and two Schwegler 2f, or equivalent, installed on the retained mature and semi-mature trees at the north-western end of site.

The proposed hedgerow and tree planting around the development footprint will maintain and ultimately enhance the site's suitability for foraging and commuting bats.

4.4.4 Otter

The proposed development will be completed within areas of improved grassland and will not directly affect suitable Otter habitat. The Guilsfield Brook is suitable for Otter and evidence of Otter was recorded within the section of the brook adjacent to site.

Appropriate pollution control and drainage methods will ensure there are no significant negative impacts on the hydrology and ecology of Guilsfield Brook. All excavations and main groundworks associated with the construction of the houses and associated access will be completed at least 7m from the banks of Guilsfield Brook with a buffer between site and the watercourse marked out by Heras type fencing to prevent construction vehicles and regular human disturbance within close proximity to the watercourse.

Post-construction fencing will also prevent access into or along the banks of the brook to avoid human/dog disturbance.

All lighting during and post works will not be directed at the watercourse to ensure it remains unlit and suitable for Otter.

4.4.5 Water Vole

No evidence of Water Vole was recorded on or adjacent to the proposed development site and the development footprint is unsuitable for Water Vole.

The section of Guilsfield Brook that flows through the north-western end of the field appears of limited suitability for Water Vole and with no historic records within 2 km of site their presence along the watercourse is considered unlikely.

The proposed development works will take place within habitats that are unsuitable for Water Vole and as long as appropriate pollution control and drainage methods are adhered to there will be no significant negative impacts on the watercourse and adjacent bankside habitats. No significant negative impacts on this species are anticipated.

4.4.6 Nesting Birds

The sections of boundary hedgerow and trees along the Guilsfield Brook are suitable habitats for nesting birds but the areas of grassland affected by the proposals are unsuitable.

The proposed construction of the houses and associated access will not affect any suitable bird nesting habitat and therefore no mitigation and/or safe working methods are necessary.

Any habitat creation, enhancement and management, including the planting of hedgerows and trees, will only have a positive impact on nesting birds at the site. A combination of two Sparrow terrace boxes and two Swift nest boxes will be erected on the new dwellings. In addition, two open-fronted nest box and two single hole-fronted nest box will be erected on the semi-mature and mature trees along the north-western site boundary.

4.4.7 Great Crested Newt

There are historic records of Great Crested Newt approximately 440m north-east of site and a single pond approximately 440m north-west-west of site, but these are located beyond the Guilsfield Brook, which acts as a barrier to Great Crested Newt dispersal towards site. No further ponds are located within 500m of the proposed development site.

Suitable Great Crested Newt terrestrial habitat on and adjacent to site is limited to the banks of the watercourse and hedgerow bases, which provide suitable habitat for foraging, commuting and hibernating Great Crested Newt. The long-sward improved grassland along the road verge is of limited

suitability for Great Crested Newt and unlikely to be used due to the small extent of the habitat and poor connectivity to any further extensive habitat. The short sward improved grassland that dominates the development area is not suitable for foraging or hibernating Great Crested Newt due to the lack of cover but could be crossed during dispersal.

Taking into consideration the distance between site and the nearest pond and the extent and suitability of habitats affected by the proposals, it is considered very unlikely that the proposed development will affect this species.

As it is possible that reptiles may be present around the north-eastern and north-western field boundaries, safe working measures for reptiles have been recommended during construction which will also ensure impacts on Great Crested Newt are avoided. In the highly unlikely event of a Great Crested Newt being found in the development area during the construction works, all work will stop, and Natural Resources Wales will be contacted.

4.4.8 Reptiles

There are no apparent records of reptiles within 2 km of the proposed development site and the habitats directly affected by the proposals are of limited suitability for reptiles. The watercourse and associated banks do offer good foraging opportunities for Grass Snake and the improved grassland affected by the proposals could be crossed during dispersal.

Mitigation measures should be adhered to avoid killing or injuring reptiles. These methods should include habitat modification (*e.g.* cutting and maintaining the vegetation to just above ground level prior to works) to discourage reptiles from occurring within the footprint of works.

During construction, materials should be stored on pallets to prevent reptiles, if accessing the site, from being crushed when they are moved and excavated earth on the site should be kept to a minimum and away from the boundaries to deter reptiles from using it for temporary cover.

4.4.9 White-clawed Crayfish

There are no records of White-clawed Crayfish within 2 km of the proposed development site. No evidence of White-clawed Crayfish was recorded on or adjacent to the proposed development site and the habitats within the development footprint are unsuitable for White-clawed Crayfish.

No suitable habitat for White-clawed Crayfish will be lost or directly affected by the proposals and provided strict pollution control measures, as detailed in *Section 4.2.2*, are adhered to, impacts on any White-clawed Crayfish that may occur along the Guilsfield Brook or further downstream as a result of the proposed development are not predicted.

5 LEGAL PROTECTION

This section briefly describes the legal protection afforded to the protected species referred to in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

5.1 Badger

Badger is protected in Britain under the *Protection of Badgers Act 1992* and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended).

The legislation affords protection to Badgers and Badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

5.2 Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2010 (SI 2010/490)* under *Regulation 41*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats in such a way as to be likely to (a) impair their ability to: (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

Where it is necessary to carry out an action that could result in an offence under the *Conservation of Habitats and Species Regulations 2010 (SI 2010/490)* it is possible to apply for a European Protected

Species (EPS) licence from Natural England (NE). Three tests must be satisfied before this licence (to permit otherwise prohibited acts) can be issued:

- Regulation 53(2)(e) states that licences may be granted to “preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.”
- Regulation 53(9)(a) states that a licence may not be granted unless “there is no satisfactory alternative”.
- Regulation 53(9) (b) states that a licence cannot be issued unless the action proposed “will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

5.3 Dormouse

The Dormouse is on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as European Protected Species on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2010 (SI 2010/490)* which gives them full protection under *Regulation 41*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

Dormouse is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

5.4 Otter and Water Vole

Otter and Water Vole are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;

- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.
- Both species are included as a Priority Species in the UK Biodiversity Action Plan (Anon, 2007).

Otters are also European Protected Species listed on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2010 (SI 2010/490)* under *Regulation 41*. This legislation makes it an offence to:

- deliberately capture, injure or kill an Otter;
- deliberately disturb Otters in such a way as to be likely to (a) impair their ability to: (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of an Otter; and
- possess, control, transport, sell, exchange an Otter, or offer an Otter for sale or exchange.

5.5 Nesting Birds

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRow Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

5.6 Great Crested Newt

Great Crested Newt is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. These species are also listed as European Protected Species on

Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) which gives them full protection under *Regulation 41*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection;
- or
- sell or attempt to sell any such species.

The Great Crested Newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

5.7 Common Reptile Species

Common Lizard, Grass Snake, Slow-worm and Adder are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

5.8 White-clawed Crayfish

The White-clawed Crayfish is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives protection under *Section 9(1)* and *9(5)* and was extended by the CRow Act 2000. These species also receives full protection under *Annex II* and *V* of the *European Habitats Directive 1992* and the *European Bern Convention* under *Appendix III*.

Under the above legislation it is an offence to:

- take from the wild;
- sell or attempt to sell any part of the species alive or dead; or
- intentionally or recklessly disturb such a species.