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Date: 11 November 2022

Andrew McPhillips  
Managing Director  
Legal & General Land and Major Projects  
By e-mail

Dear Andrew,

**Baseline Ecology Review, Model Farm, Rhoose**

Please find enclosed the letter report prepared following the recent site visit to the proposed development. A site walkover assessment was carried out on 4th November 2022 by the experienced consultant ecologist, Stephen Devereaux. Any significant changes in habitat extent, structure or context were mapped and described. The single pond within the site was subject to a Habitat Suitability Index assessment for great crested newts.

The results are presented in the attached letter report which concludes that with no change in the habitat types or extent the use of the site by faunal species is likely to significantly change in the recent past.

Yours sincerely,  
for RPS Consulting Services Ltd



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## REVIEW OF BASELINE ECOLOGY, MODEL FARM, RHOOSE

### 1 INTRODUCTION

- 1.1.1 RPS were commissioned by Legal & General to carry out a site walkover of the proposed development site known as Model Farm located within the Vale of Glamorgan, north of Porthkerry. The site central grid reference is ST 080673.
- 1.1.2 A site walkover was carried out by Stephen Devereaux on the 4th November 2022. The purpose of the survey was to broadly assess any habitat change since the Preliminary Ecological Appraisal report was prepared in May 2019.
- 1.1.3 A Phase 1 Habitat survey of the site was carried out in May 2018 along with an accompanying desk study and protected species scoping survey. The habitats were subject to further assessment in spring 2019 prior to the issuing of the Preliminary Ecological Appraisal report.
- 1.1.4 The survey walkover in 2022 covered the proposed development site, approximately 45ha in extent which forms the northern part of the application site.
- 1.1.5 The current status of the on-site pond was reviewed, and a Habitat Suitability Index (HSI) survey was undertaken to assess its current potential value for great crested newt *Triturus cristatus* and the likelihood of the waterbody being colonised since the previous environmental DNA survey completed in spring 2019.

### 2 BASELINE ECOLOGY

#### 2.1 Habitats

- 2.1.1 The site walkover assessment found that the habitats within the application boundary remain largely unchanged between 2019 and 2022.
- 2.1.2 The site continues to comprise predominantly of arable fields and improved pasture with connected pockets of broadleaved woodland.

##### Hedgerows

- 2.1.3 The field layout and hedgerow boundaries remain unchanged being intact but species-poor comprising predominantly of hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*.
- 2.1.4 No change in hedgerow management was noted and no areas of hedgerow had been lost or damaged. As would be expected the species composition and hedgerow condition has not changed over the last 3 years.

##### Arable

- 2.1.5 In 2019, all the arable fields were subject to intensive agricultural management and crop production. The 2022 survey, although the majority of fields remain in use for cereal crop production and oil seed rape, four of the arable fields had been speculatively sown with a single species wildflower crop to be used as a commercial supply of wildflower seed with the option of being cropped and sold as hay.
- 2.1.6 The sown wildflower crop species were sainfoin *Onobrychis* sp., ox-eye daisy *Leucanthemum vulgare*, cornflower *Centaurea cyanus*, and common knapweed *Centaurea nigra*. Other herbaceous species were also recorded at lower frequency amongst the single species crops, most were native but also included some non-natives including cosmos *Cosmos* sp.

- 2.1.7 The wildflowers are crop species and to be commercially viable would need to be sown each year mirroring the arable management for traditional crop species. Therefore, the habitat remains as arable land, but the type of crop will have provided an increase in sources of nectar and pollen in summer 2002. Harvesting / cropping has not removed all the deadheads, which if left, would supplement the sources of winter food for farmland birds.

### Pond

- 2.1.8 The only pond within the site, lies on the northern boundary adjoining the Port Road. It is a small concrete structure to provide a source of water for cattle. The surface of the pond is a continuous layer of duckweed. A patch tall emergent (reed sweet-grass) has colonised the western bank below the water line.
- 2.1.9 The margins of the pond are overhung by bramble and heavily shaded with bare concrete on the southern side where cattle access the water.
- 2.1.10 A narrow hedgerow separated the pond from the road with a thin strip of bramble between the concrete pond and adjoining shed on the boundary of the farmyard. The dense surface cover of duckweed creates 100% shade across the open water reducing the value of the pond since 2019 when duckweed was not abundant.

### Other Habitats

- 2.1.11 The walkover survey confirmed that the current extent and status of all the other habitats within the development site is consistent with the findings present in the PEA in 2019.

### Improved Grassland

- 2.1.12 A large part of the application site comprises improved grassland in the form of cattle pasture. The site field layout has not been altered and the composition of the low diversity sward continues to be dominated by perennial rye grass *Lolium perenne* with scattered ruderals (common nettle *Urtica dioica*, creeping thistle *Cirsium arvense*, white clover *Trifolium repens*, and broadleaved dock *Rumex obtusifolius*). Grazing intensity appears unchanged with the status and value of the habitat remaining as described in 2019.

### Semi-natural Broadleaved Woodland

- 2.1.13 Interconnected series of broadleaved woodland blocks run along the southern side of the proposed development. The woodland boundaries match those mapped in 2019. The predominant canopy species in the woodlands remains as mature ash *Fraxinus excelsior* and oak *Quercus sp.* The ash dieback disease will significantly change the canopy extent and composition as mature ash trees are lost.
- 2.1.14 The shrub layer comprises predominantly hawthorn, hazel *Corylus avellana*, and field maple *Acer campestre*. The field layer is typically dominated by bramble *Rubus fruticosus* agg.

### Bramble Scrub

- 2.1.15 The one large patch of dense bramble scrub recorded in 2019 remains unchanged in extent, located in the corner of an improved pasture in the east of the site where the field slopes down toward a woodland block.
- 2.1.16 In 2022 all areas of bramble were noted on a few field boundaries which were not previously mapped, because of their small extent. Localised bramble encroachment from the field boundary is considered to be a long-term trend.

## 2.2 Faunal Species

### Great Crested Newts

2.2.1 An HSI survey was carried out on the concrete lined 'cattle drinking' pond on the northern boundary of the site, following the guidelines set out by ARGUK. Based on the features and context the pond has poor suitability of the waterbody for breeding populations of GCN as calculated using the HSI criteria (Table 1). This result is influenced by the limited pond features, its location alongside a working agricultural environment, proximity of a busy road, and the presence of only two other ponds within a 1km radius, both of which are separated from the development site by major roads. The summary of the HSI results of which are shown below in Table 1.

**Table 1 ARGUK GCN HSI Results**

Pond Name: Model Farm Pond		
Grid Ref: ST078677		
SI No	SI Description	SI Value
1	Geographic location	0.5
2	Pond area	0.3
3	Pond permanence	0.9
4	Water quality	0.33
5	Shade	1
6	Waterfowl effect	1
7	Fish presence	1
8	Pond Density	0.1
9	Terrestrial habitat	0.25
10	Macrophyte cover	0.5
<b>HSI Score</b>		<b>0.47</b>
Pond suitability		<b>Poor</b>

2.2.2 The low value and relative isolation from other ponds within the local environment makes colonisation by great crested newts since the pond was surveyed in spring 2018, very unlikely.

### Bat Roosts

2.2.3 Four sections of the complex of farm buildings were confirmed to be being used by roosting bats in summer 2019. Three trees with confirmed bat roosts fall within the construction footprint and will be removed during future phases of development. All the roosts were low status non-breeding roosts used by small numbers of commonly occurring bat species.

2.2.4 Each development will obtain full information on the number, position and status of bats roosts in advance of development informing the mitigation proposals, species protection measures. The use of roosts varies over time, and it will be essential that each licence application is supported by relevant data.

### Other Species of Principal Importance / Legally Protected Species

- 2.2.5 With no change in the habitat types within the development area the potential value of the site for species listed under Section 7 of the Environment Act Wales and legally protected species will remain as previously assessed.
- 2.2.6 The value of the developed site for these species has been addressed in the Biodiversity Management Strategy. The approach includes a precautionary assumed potential presence of dormouse in the woodlands and hedgerows; other activity in the watercourse and the use of the by assemblages of foraging bats and breeding birds.

**Table 2: Habitat Management Objectives for Species (Taken from the Biodiversity Management Strategy)**

Species	Status	Objectives
Bats	Foraging habitats and flight lines within the application site, ownership boundary and wider area	Maintain linked woodland, scrub and hedgerows ensuring they are retained as dark corridors
	Soprano and common pipistrelle were the most abundantly recorded with noctule, brown long-eared bat, serotine and Leisler's, lesser horseshoe, Nathusius pipistrelle and <i>Myotis</i> bats also recorded.	Maintain bat flight line on the eastern boundary and north – south flight line from north of most westerly woodland block
		Maintain strong connections to woodland blocks and stream corridors
		Retain and protect maturing trees and their root protection areas and retain their potential to develop cavity features
		Maintain new areas of habitat to the south of the development which will support both commuting and foraging areas for bat species
Dormice	Local population in wider area. Woodland habitat management to increase likelihood of future colonisation of dormice with increased connections to wider woodland blocks.	Enhance and maintain the value of the SINC woodlands, hedgerows and new woodland and scrub planting for dormice
		Maintain strong connectivity between potential dormouse habitat
		Increase the availability of food resources within the natural green space through native planting
Otter	No evidence of otter identified during 2019 survey and no records identified within 2km during desk study. Suitable habitat exists within the site in woodlands and stream corridors	Protect Bullhouse and Whitelands brook and SINC woodlands from any impacts during construction and operation
		Maintain dark buffer zones around woodland and stream corridors
Breeding birds	Assemblage of breeding birds identified within the application site and ownership boundary during 2019 survey including both red/amber list farmland specialist	Create new areas of scrub, fallow and wildflower grasslands (with locally sourced plants and seed mix) and range of hedgerow types to supply greater food resource throughout year Create larger field margins on retained agricultural fields within south of ownership boundary

		Provision of nest boxes
Amphibians	No evidence of GCN recorded during 2019 eDNA survey. GCN recorded 1.6km from the site boundary in 2013. Records of common frog and toad, palmate and smooth newt from local area.	Maintain SuDS attenuation basins in ecologically favourable manner  Create and maintain additional hibernation potential and other places of shelters
Invertebrates	In combination the existing habitats (excluding the pasture and arable) would be expected to support a relatively varied assemblage of species	Provide varied sources of nectar over the majority of the year (native, trees, shrubs and populations of wildflower species)  Maximise the niches available for use by invertebrates (maturing trees, woodland, scrub, hedgerows, SUDs attenuation ponds)  Retain deadwood habitat

### 3 CONCLUSION

- 3.1.1 The current status and extent of the habitats within the development footprint which remain unchanged since the previous surveys were undertaken and the protected species audit completed for the development is accurately reflects the current situation.
- 3.1.2 The activity of individual faunal species will vary from year to year. Species surveys are a requirement for each phase of development and the data collected at this stage will directly inform the detailed mitigation and species protection measures and programme of works. Species licence applications for development phases will be underpinned by these surveys.
- 3.1.3 With habitats present in 2022 very largely unchanged, the species survey data collected in 2019 is very likely to reflect the current use of the site by legally protected species and those listed under S7 of the Environment (Wales) Act 2016.