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MANAGEMENT AND MONITORING PLAN

SITE

Land at Rhosrobin
Rhosrobin
Wrexham
LL11 4RB

CLIENT

SG Estates
Unit 1
Rhosddu Industrial Estate
Old Rhosrobin
Wrexham
LL11 4YL

JOB No.

1025

DATE

January 2025

GRID REFERENCE

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(site centred)

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1.0 INTRODUCTION

Following consultations between the local authority planning department and SG Estates, EDC has been conducted to undertake a management and monitoring plan for the site situated at Rhosrobin. The original supporting ecological surveys were undertaken by Cheshire Ecology Ltd, March-June 2014 and EDC in July 2021, July 2023 and most recently an updated review in January 2025.

This report will utilise the original reports/surveys and provide information as required to enable a management and monitoring plan to address the requirements as set out in Planning Policy condition 19, Wales-Edition 1, 2021, Environment (Wales) Act 2016, (Section 6 Duty) and (Section 7) and the Welsh Assembly Government Technical Advice Note 5, 'Nature Conservation and Planning' and local development policy.

2.0 SITE

The survey area description is as the 2011 surveys, the survey area is 'L' shaped in plan amounting to approximately 6.5 Ha in area. The site comprised of 4 areas of grazing pasture with boundary hedgerows. A public footpath dissects the northern field from the three southern fields. The footpath connects between the B5425, Ffordd Newydd Llai and the Plas Acton Road. The western boundary is formed by a tall mix species hedgerow onto the B5425, the southeastern boundary is formed by a partial mixed species hedgerow bordering onto existing housing developments and the Wrexham to Chester railway line embankment. The smallest northeastern boundary is onto an old small holding and cottages. The northwestern and northeastern boundaries are onto the Plas Acton Cemetery, the boundaries consist of palisade fencing and beech hedging on the cemetery side of the fencing. The remaining hedgerow is the continuation of the western boundary hedgerow on the B5425 onto Plas Acton Road.



Fig 1 – Survey area and Site Boundary



Fig 2 – Development Area and Site Boundary

The development proposals are to utilise the southern three fields. It is proposed that the new access will be via a new roundabout at the junction of Rhosrobin Rd and the B5425 Ffordd Newydd Llai. The eastern fields will form an area of POS and Biodiversity Offset. See drawings ref: 1025-Rhosrobin Mitigation Plan-MIT-01C, 1025-Rhosrobin Mitigation Plan-MIT-02

3.0 EXISTING DATA

***AMPHIBIAN**: -*

The data search records are as recorded 2021, with the local distribution as set out within the previous Cheshire Ecological Pond surveys.

The Cheshire Ecology Pond survey identified 11 water bodies within 500 m of the site boundaries.

'The water bodies include three traditional field ponds (WB1, WB7 and WB8), a river (WB4), a seasonal water-body (WB5), an artificial lake (WB6), two flooded ditches (WB10 and WB11), two ponds associated with former industrial use (WB2 and WB3) and an ornamental pond (WB9)'

The survey results recorded a positive great crested newt (GCN) presence for ponds Wb6 and Wb7. The historic data search has both of these sites noted as records. Pond WB1 has positive records for GCN. Pond 1(WB1) is located approximately 380 m from the northeastern development boundary. The pond is situated in foraging pasture and has been historically poached by cattle. The water-body is roughly oval in shape and measures approximately 550 m^2. (A copy of CE pond plan is attached within the report appendix).

No other waterbodies are recorded within 500 m of the site boundaries with GCN records nor has the site recorded any permanent water bodies suitable to support breeding amphibians.

REPTILES: -

The local records stand as per the 2011 data, there are no records for this taxon group within 500 m of the site boundaries.

The Cheshire Ecology surveys did not identify a presence for reptiles within the boundaries of the site. The data search has a negative for reptiles within 500 m, however a single historic record for grass snake at approximately 715 m to the northeast of the site boundary.

MAMMAL: -

Badger *Mele mele* –

The 2021 surveys identified activity associated with large mammal crossing entering and exiting the site in the north eastern corner. The data sets record this species, as noted below 170 m north of the site.

The Cheshire Ecology surveys did not identify a presence for badger within the or adjacent to the site boundaries. The data record search has a single record for badger within the housing development to the east of the site.

During the 2023 survey activity associated with large mammal crossing and entering the site was observed along the southern boundary of the site. This activity was also noted on the 2025 survey review.

Bat *Chiroptera* –

The Cheshire Ecology surveys did not identify a presence for bat within the site boundaries. The data search recorded local observations for pipistrelle, and long-eared bat. None of the records are within 500 m of the site boundaries.

The 2021 emergence survey recorded a negative, as did the transect survey.

The following species are recorded at both local and at a county level:-

- Pipistrelle Pipistrellus *pipistrellus/pygmaeus;*
- Brown Long-eared *Plecotus auritus;*
- Lesser Horseshoe *Rhinolophus hipposideros;*
- Daubenton's *Myotis daubentonii;*
- Whiskered/Brandt's *Myotis mystacinus/brandtii;*
- Natterer's *Myotis nattereri;* and,
- Noctule *Nyctalus noctula.*

Hedgehog *Erinaceus europaeus* –

No variations to the data set records for this species, none of the records are within 500 m of the site boundaries.

BIRDS -

The updated survey recorded no variation for this species group. There are potential nesting sites for many species within the boundary scrub/hedgerows that form the site boundaries. The data search recorded approximately 70 species within 1 km of the site. Of the 70 species recorded approximately 53 species are likely to be recorded within the site boundaries, with potentially 29 species that could use the site for nesting. At the time of survey, the following species were active on or over the site, Blackcap, Whitethroat, Goldfinch, Dunnock, Swift and Chiffchaff.

Nearly all of the potential nest sites are located within or adjacent to the hedgerow boundaries of the site within the ruderal herb and bramble cover.

HABITATS -

This seasons walkover recorded similar habitats to the previous surveys, the only variation being that the season is later this year and the site would seem to show a wetter season, with less seasonal dieback.

The development site is formed by three fields split by a fenced out public footpath. The site is generally flat in profile. The boundaries are formed from a mix of species rich hedgerow that runs parallel to the B5425, and species poor which runs parallel to Ffordd Newydd Llai, which is dominated by the single species hawthorn. The dominant habits identified across the site are as follows:-

A 2.2 Scattered Scrub

The main areas of scrub abut the hedgerow boundaries and consists of ruderal herb and small pockets of bramble.

B 2 Neutral Semi-improved Grassland.

The main development areas are dominated by semi-improved grassland. Species noted during survey included Yorkshire fog *Holcus lanatus*, red fescue *Festuca rubra,* common bent *Agrostis capillari,* sweet-scented vernal grass *Anthoxanthum odoratum,* meadow grass *Poa pratensis*, cock's-foot *Dactylus glometra* and crested Dog's-tail *Cynosurus cristatus*. A small area of marshy grassland occurs in the largest southwestern field and records small pockets of soft rush *Juncus effusus,* hard rush *Juncus inflexus* and tufted hair-grass *Deschampsia cespitosa*.

Broad-leaved species occur within the grassland and these include creeping buttercup *Ranunculus repens*, ragwort *Senecio jacobaea*, field buttercup *Ranunculus acris*, dandelion *Taraxacum officinale,* ribwort plantain *Plantago lanceolata,* cleavers *Galium aparine,* bramble *Rubus fruticosus*, field woodrush *Luzula campestris* bird's-foot trefoil *Lotus corniculatus,* common vetch *Vicia sativa*, cat's-ear *Hypochoeris radicata*, hogweed *Heracleum sphondylium*, common celandine *Ficaria verna*, common mouse-ear *Cerastium fontanum,* meadow buttercup *Ranunculus acris*, cow parsley *Anthriscus sylvestris*, melancholy thistle *Cirsium hetrophyllum.*

HEDGEROWS

The majority of the original grassland boundaries are formed by a mix of species rich and poor hedgerows. The hedgerows show signs of management and laying in most cases. Presently the hedgerows are topping out at approximately 2 to 2.5 m in height. Most of the hedgerows are

continuous other than field access openings and small sections of the hedgerow running parallel to the railway track.

J 3.1 Species Rich Hedgerows with Trees

This section of hedgerow runs parallel to Plas Acton Road and is the most diverse of the hedgerows. The dominant species within the hedgerows is hawthorn, *Crataegus monogyna,* with infill of ash, *Fraxinus excelsior*, sycamore *Acer pseudopatanus*, holly *Ilex aquifolium*, hazel *Corylus avellana* and elder *Sambucus nigra*.

J 3.2 Species Poor Hedgerows with Trees

These species dominate the hedgerow boundaries and record limited species. The dominant species being hawthorn, *Crataegus monogyna.*

OTHER BOUNDARIES

The boundary onto the cemetery located to the northeast of the site is formed by steel palisade fencing backed with an introduced beech hedgerow to the cemetery side.

The boundary that borders onto the old farm located to the northeast of the site is formed by Cypress hedging.

TREES

The site records no free-standing trees, the majority of the tree species form part of the hedgerows and consist of juvenile specimens that have been managed similarly to the remaining sections of the hedgerows.

Only three mature trees are recorded on the site, these are located within the hedgerows abutting the cemetery boundary. The trees are mature oaks, one tree (T1) records no defects or deadwood, a second tree (T2) records some deadwood but no visible defects. The third tree (T3) records two knot holes from the loss of limbs which have rotted out. This tree has lost a further limb recently which has opened up the main trunk further to rain, potentially increasing rot and reducing nesting and roosting potential.

Designated Sites –

As previously defined, none identified within 500 m of the site. The site has no water bodies or linear corridors that directly connect to any locally recorded sites.

The nearest sites are:-

Statutory –

- Gatewen Marsh SSSI – listed as an example of wetland in North East Wales, situated 2 km to the south east of site.

Non-Statutory –

No non-statutory sites located within 2 km to site boundary.

4.0 SURVEY AREAS

As outlined in Fig 1 and the attached phase 1 plan.

5.0 LIMITATIONS

None that would be considered to vary the species and habitats as recorded.

6.0 RECOMMENDATIONS FROM EDC IMPACT ASSESSMENT 2023

Following the updated walkover survey that was conducted on the 17 July 2023, the surveyors did not record any considerable variations to surveys undertaken July 2021. The only notable variations being the lateness of the season comparatively to the 2021 season. It can be seen on record that the 2021 season was an early season and both the 2022 and 2023 are later by approximately 2 to 3 weeks. Secondly mid-season storms are impacting on mature tree stock in leaf, resulting in limb damage. This has been recorded in relation to tree T3 large mature oak. Therefore, the following recommendations as set out below and as noted in the 2021 survey stand.

6.1 *GREAT CRESTED NEWT:*

The data sets record a breeding site for this species which is located within 380 m of the northwestern boundary of the site in the direction of the junction of the Plas Acton Road and Ffordd Newydd Llai. The roads do dissect the habitat connectivity between the pond site and the development area.

The site records no water bodies suitable to support a breeding population of GCN's. The habitat recorded on site semi-improved grassland, which is off moderate value for GCN's.

If the above assessment is taken into consideration there will be no direct loss of breeding site or foraging habitat for this species. However, the site does lie within 380 m of the recorded GCN pond site and based on this fact a small percentage may be able to cross the road system into the development site. It is therefore recommended that as a precautionary measure to prevent injury to this species during the development process exclusion fencing is to be installed along the northern boundaries of the site on the field side.

Reasonable Avoidance Measure

Prior to installing the amphibian exclusion fencing the following operations are to be undertaken.

- The grassland areas are to be cut and cleared to neutralise the development area to make it less favourable for use as refugia for amphibians.

- The grass cut is to be undertaken in two passes, an initial cut set at 150 mm above ground level. The cut is to be undertaken utilising a 'Rytec' cut and collect mower.

- The grassland is to receive a walkover terrestrial search prior to the remaining grass sward being cut a minimum 50 mm sward.

- On setting up the site facilities the retained ecologist is to undertake a tool box talk to make aware the possibility of the presence on site of the protected species GCN.

- A one-way type amphibian fencing is to be erected parallel to the field side of the boundary hedgerow. The fence is to be located in a position so as not to impact onto the root structure of the boundary features.

- The fence membranes are to be set into the ground by a minimum of 150 mm with a 150 mm horizontal toe facing outward to the boundaries and back filled with friable vegetation free materials.

- The fence is to be erected to an approximate 500 mm height above the ground level and supported off 50 x 50 tantalised posts set at approx. 1.2 m c/c's.

- The fence is to be set to allow any amphibians within the working area the ability to self-clear to the outer areas of the fence line by either forming open channel crossings/inclined fencing or whichever achieves the objective.

- The fencing is to be checked each morning of work and the integrity maintained for the extent of the development period.

- The fencing is to remain in place until all of the ground works are completed.

- At any time, any GCN's are encountered within the development zone the works are to cease and further advice is to be sort by contacting the resident ecologist who in turn will notify NRW for further advise.

- It may be found that the developer applies for a GCN derogation license to enable works to proceed if GCN's are encountered on site during the work phase, this in turn will alleviate any delays in the development program. Further consultation with NRW is therefore advised for their guidance.

6.2 *BADGER:*

Neither the survey or the data set identified any badger activity within the site boundaries, other than the recorded large mammal tracks entering the site within the north eastern corner and southern boundary.

The tracks were limited to this area at the time of survey and the overall survey of the site did not record any signs of foraging, dung pits or latrines within the site.

Reasonable Avoidance Measure

The identified sett is located to the north of the site and is well within range for this species so therefore the following RAM's statement is recommended.

- access to through the northeastern and southern boundary is to be retained.

- Any Block and Mesh Site Security fencing to be installed along the perimeter of the development site in the northeastern and southern area is to be set into the blocks so

as to maintain a minimum gap of 150 mm to the underside of the panels where the fencing crosses any recorded large mammal tracks. This is to allow continuous passage for the Badgers to and from their feeding areas.

- On erection of the fencing a suitably experienced ecologist is to check the alignment and fitting of the fencing for compliance with the recommendation.

- All excavations are to be back filled where feasible overnight.

- Any excavations left open should have at least one ramped approach, to enable any large mammal, access to escape to prevent then becoming trapped within the trenches.

- Any open, previously installed pipe work above 150 mm in diameter is to be blocked over night during the construction phase; this is to prevent any large mammal taking refuge in the system.

- Any bunded material stores, topsoil's etc are to be checked on a regular basis for any burrowing associated with the potential formation of a sett.

- Pre commencement badger check survey is to be undertaken to establish any variants to the survey and mitigated for accordingly.

Other than the above general site recommendations, prior to works being undertaken on site a pre works biodiversity assessment it to be undertaken by the retained ecologist, this is to establish any variation to the findings of the ecological surveys. Large mammal runs/tracks that could be associated with badger are to be logged and marked and the information is to be used to inform the erection of any security, tree protection, boundary fencing and reformation works.

6.3 BATS:

The local data did not show any records for bats within or adjacent to the survey area, with the nearest record being greater than 670 m to the east of the site. Following comment from NRW late season secondary transect surveys, an aerial and an emergence survey of the mature oak tree has been carried out. Both the emergence survey, aerial inspection and transect surveys produced a negative result.

Although the secondary surveys were carried out within guidance, the transect, aerial inspection and emergence surveys returned a negative. It is still however the surveyor's view that, as the local area records most of the species resident within the UK, bar a few habitat specific species, none of these habitats were recorded within the site boundaries. It is therefore likely that the site at some time during the season will be foraged or transected by migratory individual bats, predominantly along the boundary cover for smaller bat species.

Only three mature oak trees are recorded on site and of the three trees only one tree at the time of survey offers roost potential. The secondary surveys found no evidence of use by bats. However, the fact that the survey produced a negative the potential for use as a bat roost is still present. None of the other trees recorded within the site boundaries had a potential for roosting bats. The majority of the recorded stock was juvenile/semi-mature offering little potential for use by bats due to life stage and minimal recorded defects.

The following recommendations are therefore being recommended to ensure the potential for bats to transect the site and utilise the potential within the mature oak tree is retained as part of the development proposals.

Connectivity

- The development proposals retain the existing boundary and intersecting hedgerows across the site where feasible. The hedgerows are to be maintained at a minimum height of 1.8 m to both act as wind cover for smaller insect species and for shading from any light pollution, especially along the intermediate hedgerow between the development and the mitigation/POS area to the northeast of the site and the northern hedgerow to the grassland beyond.

- The partial hedgerow abutting the railway is to be enhanced where feasible, this is to protect the dark corridor to the rail line.

Lighting

Research with regards to impacts from lighting on bats has identified that lighting which emits ultra violet radiation attracts flying insects. This has been recorded as being potentially beneficial to some foraging species of bat, namely pipistrelle, noctule, Leisler's, however, high levels of ultra violet radiation has been found to have an adverse impact on other bat species, horseshoe, myotis species, which forage in low light levels. Historically lights emitting low levels of ultraviolet radiation, SONS etc have been recommended but with the requirement for lighting on adoptable roads, lighting with a low carbon footprint and the movement towards promoting dark skies, lighting is moving towards the installation of LED lighting. Although this type of lighting is more efficient, it does emit a level of ultraviolet radiation.

- Therefore, shading, filtering, and directional lighting is to be promoted where feasible.

- Any lighting plans provided by the electrical engineers are to show compliance with the above requirements as part of the scheme and specifically in proximity to the retained hedgerow boundaries, where L.A. highway lighting approvals allow.

It is to be considered that the greatest impact on lighting on bats is at emergence and if this is directly onto a roost entrance it is shown that a delayed emergence can occur. This is not a factor to be considered as the poropsed development is to beof newly created housing stock.

Security lighting is likely to be fitted by the householders to the rear plots; this is to be discouraged where feasible to reduce the light pollution over the boundary trees and hedgerows to the rears of the properties.

- Therefore, any fixed security lighting is to include automatic control to include timed and light sensitive switching, with an average illumination time of approximately 1 to 2 minutes, this approach is to be promoted to reduce the impact.

Roost Potential

- To confirm that the mature oak tree with roost potential is to be retained as part of the development proposals together with the abutting boundary hedgerow.

Conservation Gain

- The introduction of a water body with a secondary water feed from closed roof water supply will greatly enhance the foraging potential for bats locally, specifically soprano pipistrelle *Pipistrellus pygmaeus*.

- Variation to grass sward and improved species enrichment will promote a greater diversity of foraging insect for bats.

- Bat bricks are to be located on the perimeter plots facing the adjacent habitats, hedgerows or the internal POS areas. The bat bricks are to positioned so as to face all aspects, north, south, east and west and spread across properties as the layout allows. The positioning of the bricks should take into consideration of the mandatory local authority adoptable lighting schemes.

This approach will ensure that the long-term favourable conservation status for this species is maintained and, in this case, enhance by the conservation gain proposed.

6.4 REPTILES:

The data sets did not record a presence for this taxon group on the site. The immediate data search only identified a single record for grass snake to the northeast of the site. The record was within an area of grassland adjacent to the River Alyn corridor.

The 2014 Cheshire Ecology reptile survey also recorded a negative for this species and only a single record for toad. The survey also recorded a low presence for bank vole on site. The EDC survey also recorded a low presence for bank vole/small mammal on site.

It is suggested that the habitats in this case offer low potential for this species and therefore no further recommendations are being offered for this taxon group.

6.5 BIRDS

The areas of scrub and hedging within the survey area have the highest potential for use by nesting birds. It is therefore recommended that any scrub clearance or hedge works are undertaken outside of the nesting season.

Generally, the guidance given within the UK with regards to the nesting season is set from March 1st to 31st July each year. Due to climatic change this advice is now seriously out of date. Nesting birds are now recorded as early as January through to late September and in some cases outside of this period. Owls, Doves, Pigeon, regularly nest outside of this period. Brood no's have also seen an increase, in the case of Swallow, Sparrow, 4 broods per year is now quite common.

As a general rule any tree, shrub, plant that retains leaves (evergreen) offers cover for nest sites and should be removed with care. A large percentage of British birds are ground nesting and choose to nest within, bramble, nettle, tall ruderal plants etc. these areas provide important nest sites and should also be cleared with care.

Due to the variants identified within the UK bird nesting season, a general walk over survey prior to vegetation clearance is advised. The pre works survey is to concentrate on the potential for early nesting birds, Collared Dove, Wood Pigeon, with Collared Dove being recorded nesting in

exposed nets sites from January onwards. Specific emphasis to evergreen vegetation which has early nesting potential. Ground cover and leaf generally doesn't develop pre-March/April each season however seasonal variations occur.

If works are undertaken post March 1st, then it is recommended that advice from a suitably qualified ecologist must first be sought and secondary check surveys should be undertaken immediately prior to undertaking the works, i.e., within 24 hrs. to ensure no nests have been built since the survey.

Potential nesting areas, should not be protected by netting, this methodology is now condoned as many species can be inadvertently trapped.

6.6 HABITATS AND BIODIVERSITY:

The dominant habitats recorded on site is the semi-improved grassland and the boundary hedgerows. It is likely that the majority of the development will result in the loss of the grassland and some of the primary entrance hedgerows. The development layout retains the remaining perimeter and internal hedgerows. The eastern area of the site is being left over as a mix of POS and Biodiversity enhancement. The public footpath maintains its position across the site.

As a requirement of Planning Policy Wales-Edition 1, 2021 any loss of biodiversity habitats or species is to be offset by enhancement as a material requirement. It is therefore recommended that where feasible the areas offset for POS and biodiversity enhancement should incorporate the retention of the existing more diverse grassland and hedgerow boundaries.

The landscaping to the site and specifically to the POS areas should include species offering biodiversity enhancement.

It is recommended that the hedgerow boundaries are managed and retained on site and enhanced where required. Where sections of hedgerows have been lost on site, primarily the new site entrance layout, hedges of native species should be planted and any standard trees planted should be selected to provide foraging opportunities for insects (blossom) and birds (berries), and year-round cover and nesting sites for birds.

Planting should include shrub beds to provide cover and additional nesting sites for birds, and flower borders to provide foraging opportunities for insects.

Open grassland is also important for ground feeding birds like Blackbird.

A new wildlife pond is to be formed with a percentage of secondary roof water feeds being fed directly into the wildlife pond, as previously used by EDC. This method ensures that the ponds are topped up during the year, so as to retain as much standing water throughout the season. This is becoming more of an issue with long periods of dry spring weather and higher evaporation rates due to global warming impacts.

The grassland to the Biodiversity Offset area is to be managed back to a hay meadow were feasible. A management plan is to be developed to promote the reestablishment and retention of the hay meadow going forward. The grassland within the POS area is similarly to be managed to promote species diversity, but managed to form short swards to the majority of the areas for potential foraging by bird species like Starling, Blackbird etc. and large mammal, Fox, Badger.

The inclusion of nest/bat boxes/bricks on the new housing stock, to include a mix of, House Martin and Swallow cups, Swift, Sparrow and Starling boxes. The boxes are to be sighted so not to impact on bedrooms, doorways or windows.

Bird boxes are to be located generally on eastern elevations.

Bat bricks are to be located on the perimeter plots facing the adjacent habitats or the internal POS areas. The bat bricks are to positioned so as to face all aspects, north, south, east and west and spread across properties as the layout allows. The positioning of the bricks should take into consideration of the mandatory LA adoptable lighting schemes.

A landscape management scheme should take into consideration, nesting birds in the case of hedgerow and scrub management. The grassland should be selective to produce both short and intermediate swards to provide varying habitats for invertebrates, small mammals and wildflower. A site composting scheme for the land manager should be considered within the scheme layout to provide added habitats, the grass compost sites should abut hedgerow boundaries.

The development of the varied grassland swards will also promote/retain some of the ant nests across the site which supplement foraging for fauna in general.

The landscape and site boundaries are to consider the movement of large and medium sized mammals across the site and specifically the locally recorded biodiversity species Hedgehog, therefore careful design of the garden boundaries is to be considered to allow passage from area to area for this species. If enclosed fencing is to be used, then hedgehog friendly gravel boards are to be used, this will allow access for locally threatened biodiversity species like hedgehog which are impacted heavily by closed gardens.

Root protection zones should be included for any hedgerow or boundary trees as part of the development process. The hedgerows are also considered to offer wildlife corridors, refuge, nest sites and foraging for multiple species.

Careful consideration to the landscape plan is to be undertaken, to ensure that no Invasive Non-Native Species (INNS) species are inadvertently introduced as part of the scheme.

7.0 MANAGEMENT AND SITE SAFEGUARD

7.1 Management Objectives

The management of the land will achieve the following main objectives: -

- Enhance the newly formed habitats and retain and improve the semi-natural habitats within the undeveloped areas of the scheme.

- Improve the quality and abundance of roosting and nesting features within the development scheme by erecting bat boxes and bird boxes on the new properties.

- Manage the land so that protected species are conserved. The protected/biodiversity species recorded locally are:

    - Bats;

- Badger;
- Hedgehog;
- Invertebrates: and,
- Nesting birds.

- Introduce new hedgerows with native planting, to improve connectivity for bats, reptiles, and terrestrial mammals such as hedgehog.

- Make an adequate record of the biological and physical features of the site and undertake an annual monitoring program.

- Provide long-term site security and management for these ecological enhancements.

7.2 Tenure

The land is in the ownership of and is to be developed by the owner's chosen contractor and maintained by SG Estates. The development will provide a mix of private holdings and housing association properties.

Once completion of construction development SG Estates will appoint an appropriate management company in order to maintain the site. The management and maintenance of public open spaces and habitats within the site boundaries are the responsibility of SG Estates and the appointed management company.

In the event of the site manager ceasing to operate, an approved alternative will take over the tenure.

7.3 Conservation Management

Buildings

SG estates appointed management company is to retain, and replace as required the newly erected bat boxes and bird boxes in consultation with existing property owners with the utilisation of their retained ecologist.

Additional external lighting is to be avoided. Bats are very susceptible to disturbance from light and any lighting near the bat access should be minimized as far as possible.

The management company are to agree to consult NRW prior to undertaking any other operation or work in areas adjacent to those used by the bats. SG Estates and their appointed management company will also be responsible to obtain all other consents from other relevant bodies before works commence.

Access to the bat boxes and bird boxes is to be agreed for the purpose of maintenance and monitoring.

Habitats

Due to global warming and the change in cyclical weather patterns within the UK, the seasons given within the plan must take into account seasonal variations and management times should be altered accordingly at the discretion of the ecological managers.

As the enhancement scheme develops, adaptation of the management plan to best serve any variations to the management as required and in line with prescriptions laid out and accordance with DECCA - *Aspects of ecosystem resilience* (adaptability, recovery, and resistance).

Table 1: Created Habitats years 1 to 5 (Habitats)

Habitat	Aim	Management	Timing
Sown grassland and site margins	Decrease time taken for grassland sward to close by encouraging tillering.	Once grasses reach 100 mm height, areas to be cut to 50 mm sward height.	Single cut April – May annually
	Prevent overspread or over spray by invasive flora control management.	Agree good practices with contractors, offset treatments, prevailing weather conditions.	All times
	Assess and manage scrub encroachment in grassland.	Periodic cutting and pulling of invasive stock, management of others. Allow approx. 20-40% to develop into dense stands.	Spring autumn annually
Created water bodies	Monitor invasive emergent flora.	Remove flora species by hand.	Spring annually
	Monitor for fish to newly formed ponds only.	Removal of fish either by 'electro fishing' or drain down to remove fry.	As required October
	Monitor for algal blooms.	Introduction of bales of barley straw. If problem persists, analyse water for high nitrate concentrations.	Monitor, spring, summer, autumn
Scrub plantings and tree stock	Monitor plantings for failure or dieback	Remove dead stock and replant.	Spring annually
	Prevent choking by adjacent plantings until stock is established.	Selective trimming or strimming.	May to September annually
	Check tree guards and supports.	Reposition, adjust, and remove as required.	Monthly
	Check stock for vermin damage, disease etc.	Assess problems and address with specific management.	Monthly
Clawdd/ hibernacula	To maintain access to hibernation areas and refuges by fauna.	Check openings and clear any soil, turf coverings etc. and clear obstructions without damage to scrub cover.	Summer annually

Table 2: Restored Habitats Cyclical Management, Created Habitats Year 5 onwards

Habitat	Aim	Management	Timing
Grassland and field margins	To retain good grass sward structure.	Single seasonal cut, min cut height of 150 mm. Cut to be post seed drop each season. Not before the end of July, suggested August-September. Min 500 mm offset to hedgerow base, to establish a dense corridor at all times.	Single cut late Autumn, to coincide with arable crop foraging and new crop planting.
	Prevent overspread or over spray by invasive flora control management.	Agree good practices with contractors, offset treatments, prevailing weather conditions.	All times.
	Assess and manage scrub encroachment in grassland	Periodic cutting and pulling of invasive stock, management of others	Spring/ Autumn annually
Water bodies	Maintain areas of open water to the pond perimeters	Clear by hand or by machine. Areas to be checked prior to works for water vole activity. Removed material to be stockpiled adjacent to pond edge for approximately 2 days to allow invertebrates to return to water body	As required
	Monitor invasive emergent flora	Remove flora species by hand or machine in the case of Typha and Phragmites. Removed material to be stockpiled adjacent to pond edge for approximately 2 days to allow invertebrates to return to water body.	As required
	Monitor for algal blooms	Introduction of bales of barley straw. If problem persists, analyse water for high nitrate concentrations	Monitor, spring, summer, autumn
	Prevent total shading of southern elevation	Remove or cut back scrub and tree growth. If the pond or water body is susceptible to evaporation, allow partial	Autumn annually

		shading to western elevation.	
Scrub plantings and tree stock	Maintain good hedgerow form	Monitor and allow hedge cutting seasonally to prevent leggy growth. 33% of hedgerows with slowest growth to be uncut each season.	Autumn annually
	Prevent hedgerows from becoming leggy	New hedgerows to be laid in, 8-year dependent on their establishment rate. Leggy hedgerows to be laid.	As required
	Check tree guards and supports	Remove and adjust as required.	Six monthly
	Check stock for vermin damage, disease etc.	Assess problems and address with specific management.	Monthly
	Maintain scrub densities	Selective coppicing dependent on species, allow approx. 20-40 % to develop into dense stands.	Annually October
	Retain areas of deadwood	All trimmings and cut timber to be retained and formed into habitat piles. Any diseased stock to be removed and burnt.	Annually
Clawdd/ hibernacula	To maintain access to hibernation areas and refuges by fauna	Check openings and clear any soil, turf coverings etc. and clear obstructions without damage to scrub cover.	Summer Annually
Public access and effect	Reduce disturbance and public impacts to habitats	Discourage over access by public, remove litter and debris in ponds and general areas. Protect Water Vole burrows, nest sites etc. as required.	Periodic monitoring
Species monitoring	Bat	Two external surveys to be carried out for evidence of use.	May and September
	Birds	Field surveys to list species nesting activity and diversity.	Annually March to June
	Mammals	Field surveys to log burrows, tracks, paths, and latrines.	On attendance

	Invertebrates	Field surveys to monitor butterfly populations within the site.	Annually between Mid-May and Mid-July.
	Flora	Record species development and diversity.	Seasonally
	Invasive species	Monitor and remove as required, see attached list.	Monthly

Note:

Monitoring of bird nesting and mammal activity is to be logged incidentally during work operations. Specific in-depth surveys are not required, i.e., bird species log and nesting activity if identified. Badger tracks, runs, latrines to be logged on observation during site monitoring visits. Similarly, during the site visits a log of any recorded invasive species are to be logged and notified accordingly to NRW/COFNOD.

Site visits are set either monthly, bi-monthly or by identified month. It is assumed on delivering the cost of the seasonal works that the workload is identified per visit i.e., all works needed to be undertaken that month as identified in the schedules are undertaken as one visit as opposed to individual tasks being priced as individual standalone visits.

Example:

The above schedule 'Public access and effect' has four identified tasks to be undertaken, all site-based tasks can be undertaken on the same visit. The fence checks, litter picking and grass cutting can be undertaken at the same time. It is therefore anticipated that the costs are delivered in this format.

7.4 Invasive Species

Careful consideration of the landscape plan is to be undertaken to ensure that no INNS are inadvertently introduced as part of the scheme. Any management works should be undertaken following the development of a biosecurity risk assessment. This is to ensure that any management works undertaken do not introduce any INNS, and any management of INNS identified on site are removed from site. Any removal of INNS must be undertaken with an approved method so as not to contaminate adjacent land or any other sites by accidentally translocating materials that may contain INNS.

Table 3: Non-native species which require to be monitored for colonization.

Scientific Name	Common Name
Azolla filiculoides	Water fern
Cabomba caroliniana	Fanwort
Cotoneaster microphyllus	Cotoneaster
Cotoneaster simonsii	Cotoneaster
Crassula helmsii	Australian swamp stonecrop
Eichhornia crassipes	Water hyacinth
Elodea candensis	American or Canadian Waterweed or Pondweed
Elodea nuttallii	Western Waterweed
Reynoutria japnoica	Japanese knotweed
Gunnera tinctoria	Giant Rhubarb / Gunnera
Heracleum mantegazzianum	Giant Hogweed

Hyacinthoides hispanica	Spanish bluebell
Hyacinthoides x massartiana	Hybrid Bluebell
Impatiens glandulifera	Himalayan balsam
Lagarosiphon major	curly waterweed
Myriophyllum aquaticum	Parrots Feather
Pistia stratiotes	Water lettuce
Robinia pseudoacacia	False acacia
Rhododenron ponticum	Rhododenron
Rhododendron x superponticum	Hybrid Rhododenron
Rhododendron ponticum x maximum	Hybrid Rhododenron
Salvinia molesta	Giant salvinia

7.5 Monitoring

Post-development monitoring will be carried out for two consecutive years following the completion of the development works.

Bat-

Monitoring each year will comprise two external inspections of bat boxes for signs of use. If evidence of activity is identified an emergence surveys are to be undertaken by a licensed bat worker in May and September. Any vandalism is to be reported to the site managers SG Estates and any adaptation or repair is to be overseen by the retained ecologist.

Badger-

Monitoring each year will comprise two walk over surveys to log the presence of mammal tracks, dung pits/latrines, snuffle holes. Checks to fence lines is to ensure connectivity is being maintained throughout the Proposed Development.

Amphibian-

One seasonal torch count is to be undertaken approximately mid-April to check for presence of amphibians and general health of the water body.

All data collected by the retained ecologist is to be uploaded to Nature Resources Wales (NRW) and COFNOD (the local environmental records centre for North Wales) data centre.

7.6 Mechanism for ensuring delivery of post-development works

The housing stock and development site are retained in the ownership of SG Estates. All funding for maintenance and monitoring is undertaken by SG Estates and the appointed management company. SG Estates is to appoint an ecological land manager to undertake the monitoring and maintenance of the wildlife areas, and all costs to be index linked going forward. In the event of the SG Estates ceasing to trade, the site will be taken up by an equally approved developer guaranteed by the Welsh Assembly Government. In regards to the private holdings, the standard agreement is to secure a service charge as part of the land transfer to offset management costs, including wildlife management costs.

In the interim period of appointing an ecological land manager the responsibility of the management of the wildlife areas will be undertaken by either their main contactor or an in house management teams under the supervision of the retained ecologist, all in accordance with the management plan.

7.7 Ecological Compliance Audit

The initial works and mitigation will be overseen by the ecological consultants for the duration of the works to ensure compliance with the planning approvals. The management plan is to be adopted and will be applied for two years following the completion of the development. This should include the site owners or their successor in title or future occupier' in the event that the site management and control of the site is taken over by a third party during these two years.

A compliance audit scheme will be undertaken to demonstrate compliant implementation of the provisions of the planning approvals and conditions. To facilitate and inform this assessment, specified parameters (performance indicators), which are listed below, will be used to assess component and overall performance of this project. This assessment will then indicate whether performance is satisfactory and in compliance with legal or other requirements or conditions.

Table 4: Ecological Compliance Audit

No	Requirement	Performance Indictor	Pass (Yes/No)
1	A suitably experienced licensed ecologist will be appointed and retained during the construction phase, to provide on-site advice.	Ecologist adviser retained on site:	
2	Prior to undertaking ground works the retained ecologist will undertake a check survey to identify any variation to survey. If the works are to be undertaken during the bird nesting season, a pre works nesting bird survey is to be undertaken.	Report on findings to be produced. Any variations to be adopted into the scheme.	
3	Implementation of surveillance or monitoring of schemes, during and post development.	Has identified or required implementation of surveillance or monitoring been undertaken during the implementation phase of the project and results submitted to the local authority? Has identified or required implementation of post project surveillance or monitoring been undertaken and results submitted to NRW, COFNOD and NBN gateway?	
4	Following completion of mitigation works, an ecologist is to inspect the buildings and created habitats to ensure ecological works have been carried out as specified in plans or in	Have mitigation works been carried out as specified in the method statement or plans?	

	the method statements.		
5	Following completion of each phase of compensation/mitigation works, the bat specialist will inspect the building to confirm bat roost safeguard and that that exit points have not been blocked or illuminated. Replacement of bat roosting sites at each phase of the project if necessary.	Inspection will aim to confirm that bat exit points are not blocked and not illuminated.	
6	Implementation of works during identified or specified times.	Inspection log confirming works have been undertaken during specified or conditioned times.	

8.0 CONCLUSION

There is a slight potential for ingress to the development area by the protected species GCN, however the development of the site is not considered to have an adverse impact on this species and is considered to be negligible over the medium to long term.

It is therefore the surveyor's opinion that the proposed development proposals are considered to be negligible. With the proposed landscaping an increased species diversity could show slight beneficial gain through appropriate management and is likely to have no long-term impact on the favorable conservation status of locally recorded protected species, or their ecological functionality if the works are carried out in accordance with the recommendations given within this report.

Tobias Hodnett
January 2025

9.0 APPENDICES

9.1Plans

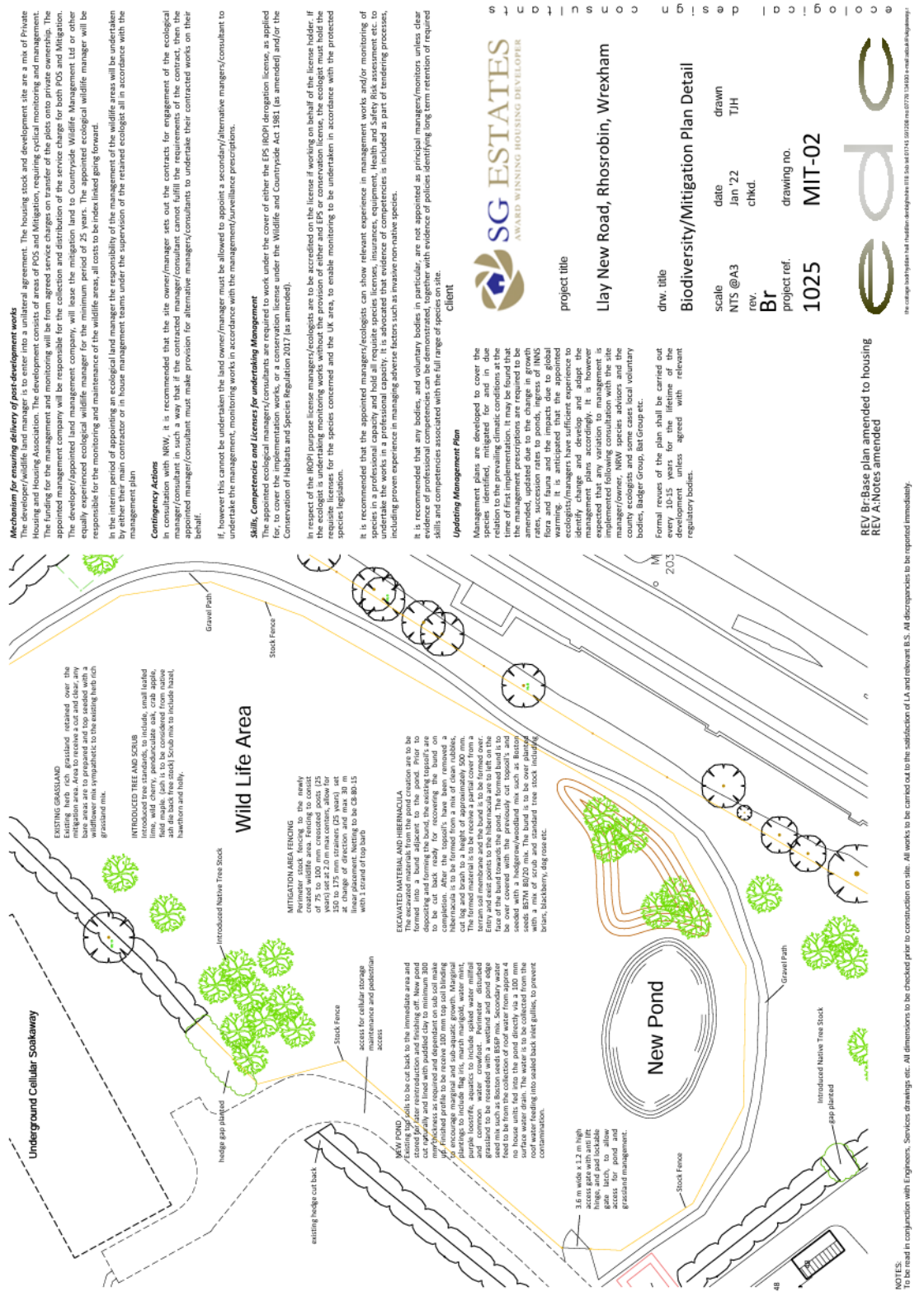
9.2 Species Lists from 2023 Survey

9.3 Photographs

9.4 CE Pond Reference

12.1 Plans

1025-Rhosrobin Mitigation Plan-MIT-02



Mechanism for ensuring delivery of post-development works

The developer/wildlife land manager is to enter into a unilateral agreement. The housing stock and development site are a mix of Private Housing and Housing Association. The development consists of areas of POS and Mitigation, requiring cyclical monitoring and management. The funding for the management and monitoring will be from agreed service charges on transfer of the plots onto private ownership. The appointed management company will be responsible for the collection and distribution of the service charge for both POS and Mitigation. The developer/appointed land management company, will lease the mitigation land to Countryside Wildlife Management Ltd or other equally experienced ecological wildlife manager for the minimum period of 25 years. The appointed ecological wildlife manager will be responsible for the monitoring and maintenance of the wildlife areas, all costs to be index linked going forward.

In the interim period of appointing an ecological land manager the responsibility of the management of the wildlife areas will be undertaken by either their main contractor or in house management teams under the supervision of the retained ecologist all in accordance with the management plan

Contingency Actions

In consultation with NRW, it is recommended that the site owner/manager sets out the contracts for engagement of the ecological manager/consultant in such a way that if the contracted manager/consultant cannot fulfill the requirements of the contract, then the appointed manager/consultant must make provision for alternative managers/consultants to undertake their contracted works on their behalf.

If, however this cannot be undertaken the land owner/manager must be allowed to appoint a secondary/alternative mangers/consultant to undertake the management, monitoring works in accordance with the management/surveillance prescriptions.

Skills, Competencies and Licenses for undertaking Management

The appointed ecological managers/consultants are required to work under the cover of either the EPS lROPI derogation license, as applied for, to cover the implementation works, or a conservation license under the Wildlife and Countryside Act 1981 (as amended) and/or the Conservation of Habitats and Species Regulation 2017 (as amended).

In respect of the lROPI purpose license managers/ecologists are to be accredited on the license if working on behalf of the license holder. If the ecologist is undertaking monitoring works without the provision of either and EPS or conservation license, the ecologist must hold the requisite licenses for the species concerned and the UK area, to enable monitoring to be undertaken in accordance with the protected species legislation.

It is recommended that the appointed managers/ecologists can show relevant experience in management works and/or monitoring of species in a professional capacity and hold all requisite species licenses, insurances, equipment, Health and Safety Risk assessment etc. to undertake the works in a professional capacity, It is advocated that evidence of competencies is included as part of tendering processes, including proven experience in managing adverse factors such as invasive non-native species.

It is recommended that any bodies, and voluntary bodies in particular, are not appointed as principal managers/monitors unless clear evidence of professional competencies can be demonstrated, together with evidence of policies identifying long term retention of required skills and competencies associated with the full range of species on site.

Updating Management Plan

Management plans are developed to cover the species identified, mitigated for and in due relation to the prevailing climatic conditions at the time of first implementation. It may be found that the management prescriptions are required to be amended, updated due to the change in growth rates, succession rates to ponds, ingress of NNIS flora and fauna and the impact due to global warming. It is anticipated that the appointed ecologists/managers have sufficient experience to identify change and develop and adapt the management plans accordingly. It is however expected that any variation to management is implemented following consultation with the site manager/owner, NRW species advisors and the county ecologists and consultee local voluntary bodies, Badger Group, Bat Group etc.

Formal revues of the plan shall be carried out every 10-15 years for the lifetime of the development unless agreed with relevant regulatory bodies.

REV Br:Base plan amended to housing
REV A:Notes amended

client

SG ESTATES
AWARD WINNING HOUSING DEVELOPER

project title

Llay New Road, Rhosrobin, Wrexham

drw. title

Biodiversity/Mitigation Plan Detail

scale	date	drawn
NTS @A3	Jan '22	TJH
rev.	chkd.	
Br		

project ref. | drawing no.

1025 MIT-02

edc

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NOTES:
To be read in conjunction with Engineers, Services drawings etc. All dimensions to be checked prior to construction on site. All works to be carried out to the satisfaction of LA and relevant B.S. All discrepancies to be reported immediately.

12 no. Bat box/brick to be attached or built in to the southern and western elevations at eaves height. Boxes/bricks to be adjacent to non habitable areas i.e. landings, bathrooms. Boxes/bricks are not to be positioned above doors or windows.

14 no. Bird boxes to be a mix of sparrow and swift nest boxes. Bird boxes to be erected at eaves height on the eastern elevations. Boxes/bricks to be adjacent to non habitable areas i.e. landings, bathrooms. Boxes/bricks are not to be positioned above doors or windows.

Plot fencing to be mammal friendly to allow migration and movement for hedgehog. Fencing is to be set at a 150 mm above ground level or have access. If the fencing is to be set to the ground then Hedgehog friendly access holes are to be cut/formed. Access holes to be no less than 130 x 130 mm. Holes to be located to allow connectivity to adjoing area/plots etc., this will allow access for locally threatened biodiversity species like Hedgehog which are impacted heavily by closed gardens.

The existing hedgerow boundaries are to be retained, and enhanced where required. The landscape planting is to include standard trees planted to provide foraging opportunities for insects (blossom) and birds (berries), and year-round cover and nesting sites for birds. (crab apple, flowering currant,)

Planting is to include shrub beds to provide cover and additional nesting sites for birds, and flower borders to provide foraging opportunities for insects.

Open grassland is also important for ground feeding birds like Blackbird

REV Dr: base plan amended to housing
REV C: sub station added
REV B: notes ammended
REV A: mitigation area revised layout

client

SG ESTATES
AWARD WINNING HOUSING DEVELOPER

project title

Llay New Road, Rhosrobin, Wrexham

drw. title

Biodiversity/Mitigation Plan

scale	date	drawn
NTS @A3	Jan '22	TJH
rev.	chkd.	
Dr		
project ref.	drawing no.	
1025	MIT-01	

edc
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1025-Rhosrobin Mitigation Plan-MIT-01C

12.2 Species Lists from 2023/2025 onsite assessment

Scientific name	**Common Name**
Quercus robur	Common Oak
Fraxinus excelsior	Ash
Fagus sylvatica	Beech
Acer pseudoplatanus	Sycamore
Prunus avium	Wild Cherry
Prunus sp.	Ornamental Cherry
Corylus avellana	Hazel
Crataegus monogyna	Hawthorn
Prunus spinosa	Blackthorn
Salix caprea	Goat Willow
Ilex aquifolium	Holly
Hedera helix	Ivy
Sambucus nigra	Elder
Rubus fruticosis	Bramble
Mercurialis perennis	Dog's-mercury
Ranunculus acris	Meadow Buttercup
Ranunculus repens	Creeping Buttercup
Hyacinthoides non-scriptus	Bluebell
Ranunculus ficaria	Lesser Celandine
Arum maculatum	Lords and Ladies
Taraxacum officinale	Dandelion
Trifolium repens	White Clover
Urtica dioica	Stinging Nettle
Prunella vulgaris	Self-heal
Plantago lanceolata	Ribwort Plantain
Luzula campestris	Field Woodrush
Lotus corniculatus	Bird's-foot Trefoil
Rumex acetosa.	Common Sorrel
Epilobium angustifolium	Rosebay willowherb
Cirsium arvense	Creeping thistle
Cerastium fontanum	Common Mouse-ear
Digitalis purpurea	Foxglove
Galium aparine	Cleavers
Heracleum sphondylium	Hogweed
Hypochoeris radicata	Cat's-ear
Senecio jacobaea	Ragwort
Vicia sativa	Common vetch
Anthriscus sylvestris	Cow parsley
Cirsium hetrophyllum	Melancholy thistle
Rumex crispus	Curled dock
Rumex obtusifolius	Broad-leaved dock
Senecio vulgare	Groundsel
Symphoricarpos albus	Cloudberry

Cirsium vulgare	Spear Thistle
Scientific name	**Common Name**
Dactylorhiza fuchsii	Common Spotted Orchid
Centaurea nigra	Common Knapweed
Leontodon sp.	Hawkbit
Filipendula ulmaria	Meadowsweet
Achillea millefolium	Yarrow
Trifolium pratense	Red Clover
Geum urbanum	Wood Avens
Geranium robertianum	Herb Robert
Tragopogon pratensis	Meadow Salsify
Agrostis capillaris	Common bent
Cynosurus cristatus	Crested dog's-tail
Lolium perenne	Perrenial Ryegrass
Dactylis glomerata	Cock's-foot
Deschampsia cespitosa	Tufted hair-grass
Eltrygia repens	Couch
Festuca rubra	Red fescue
Glyceria fluitans	Floating sweet-grass
Holcus lanatus	Yorkshire fog
Anthoxanthum odoratum	Sweet-scented vernal grass
Poa pratensis	Meadow Grass

Scientific name	**Common Name**
Turdus merula	Blackbird
Parus caeruleus	Blue Tit
Parus major	Great Tit
Erithacus rubecula	Robin
Fringilla coelebs	Chaffinch
Columba palumbus	Wood Pigeon
Prunella modularis	Dunnock
Chloris chloris	Greenfinch
Carduelis carduelis	Goldfinch
Curruca communis	Whitethroat
Apus apus	Swift
Sylvia atricapilla	Blackcap
Phylloscopus collybita	Chiffchaff
Bombus hypnorum	Tree Bumble Bee
Bombus pascuorum	Common Carder Bee
Sympetrum striolatum	Common Darter
Maniola jurtina	Meadow Brown
Aphantopus hyperantus	Ringlet
Thymelicus sylvestris	Small Skipper

Polyommatus icarus	Common Blue
Argynnis pandora	Cardinal
Vanessa atalanta	Red Admiral
Pieris rapae	Cabbage White

12.3 Site Photographs



Photo 1 – north eastern boundary 2021



Photo 2 – north eastern boundary 2023



Photo 3 – hedgerow H3 2021



Photo 4 – hedgerow H3 2023



Photo 5 – south eastern boundary 2021



Photo 6 – south eastern boundary 2023



Photo 7 – field 3 looking north east 2021



Photo 8 – field 3 looking north east 2023



Photo 9 – field 1 looking north west 2021



Photo 10 – field 1 looking north west 2023



Photo 11 – hedgerow H1 2021



Photo 12 – hedgerow H1 2023

12.4 CE Pond reference plan



Figure 2: Location of water-bodies