



Habitat Management Plan

Project: Gwelfor, Trimsaran
Instructed by: Acom (3000) Ltd

Reported by: Ecological Services Ltd
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1. Introduction

1.1) The landowner is seeking planning consent to develop a parcel of land at Gwelfor, Heol Llanelli, Trimsaran, Kidwelly, SA17 4AR. The proposed development site is centred at NGR SN 45767 04322 and the proposed development boundary is shown below.

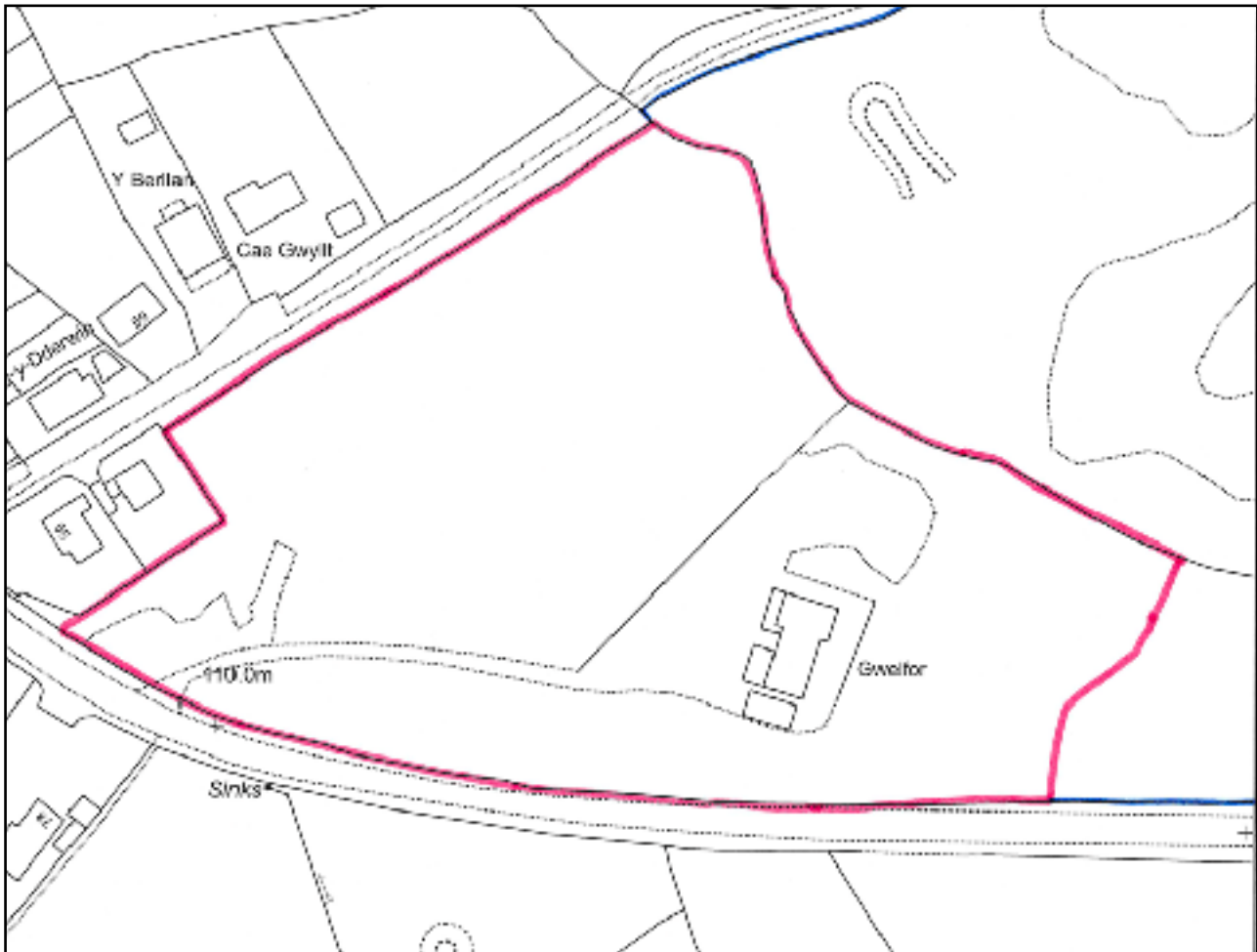


Figure 1 - Proposed Site Boundary

1.2) The development proposals seek to create a number of residential units within the site boundary including the creation of an access road to serve the new dwellings. Planning consent has been granted for the creation a single bungalow (reference PL/05005) to the western edge of the development site. It is understood that planning consent has already been granted for the creation of a 100m long access road entering the site from the B4317 to the west.

1.3) The proposed development site contains purple moor grass and rush pasture which is a priority habitat under Section 7 of the Environment (Wales) Act 2016. The site is also bordered by an area of broadleaved woodland which is also a priority habitat under Section 7 of the Environment (Wales) Act 2016. As part of the planning application process

information is required to ensure the development proposals appropriately consider wildlife and demonstrate compensation and an overall biodiversity enhancement.

1.4) Ecological Services Ltd have been instructed to provide a mitigation strategy for the creation of a residential development within the development site boundary. The development proposals seek to create approximately 28 residential dwellings within the site boundary. The mitigation strategy will focus on off-site compensation for the loss of SINC quality habitat and on site biodiversity enhancement measures.

1.1 Report Prepared By

1.1.1) This report has been prepared by Aislinn Harris of Ecological Services Ltd. Aislinn Harris is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Aislinn is an ecologist with 14 years experience undertaking a wide range of flora and fauna surveys. Aislinn is a licenced bat worker with a current NRW survey licence (S089732/1), licenced dormouse ecologist (S089729/1) and licenced great crested newt ecologist (S089731/1).

1.2 Site Location and Context

1.2.1) The proposed development site measures approximately 1.72 hectares (ha) in size and encompass land around the residential property of Gwelfor. The site is located to the south east of Trimsaran, Carmarthenshire on the outskirts of the town. Residential properties are present to the north west and the B4308 / Trimsaran Road runs along the southern boundary of the site. A single lane tarmac track runs just past the north western boundary of the site, providing vehicle access to a farm further north. Woodland is present to the north and east of the site

1.2.2) In the wider landscape, woodland extends to the north, east and south of the site. To the east of the development site the woodland becomes patchy and grades out into scrub and open fields. Ffos Las Racecourse is located approximately 1.3km to the north. The development site is considered to site in a semi rural location being surrounded by residential housing to the west and north west and natural habitat to the north, east and south.

1.3 Previous Ecological Survey Work

1.3.1) I & G Ecological Consulting undertook an ecological assessment of the proposed development site on the 16th January 2022. A data search was also undertaken with West Wales Biodiversity Information Centre. The ecological assessment covered roughly half of the proposed development, the north and western areas roughly 0.7ha in extent. The assessment found the site to contain poor semi improved grassland habitat with marshy species bounded by hedgerow and broadleaved woodland.

1.3.2) A Marshy Grassland Mitigation and Enhancement Plan was prepared by I & G Ecological Consulting in February 2023. The report was prepared to support the planning application for a single bungalow within the site boundary. The mitigation strategy proposes off site habitat compensation for the loss of marshy grassland to create 1 dwelling within the site. It is unclear when a habitat assessment of the compensation site was undertaken but it is understood that the compensation site contained over grazed grassland, bare ground, rush pasture and scattered scrub.

1.3.3) The February 2023 mitigation strategy recommends:

- The gathering of baseline data for the compensation site,
- Temporary fencing is erected to delineate the compensation site,
- The removal of approximately 1/3 of the current scrub habitat,
- Harrowing and or light tilling to break up ground compaction,
- Vegetation augmentation,
- Spreading green hay,
- Site monitoring in years 0, 5 and 10.
- Monitoring in year 5 in the form of fixed point photography, measurements of habitat extent, indicator species and any management issues. A short report is to be provided to the Local Planning Officer
- Species specific protection measures for reptiles, amphibians, birds, bats and otters.

1.3.4) Two separate planning applications were submitted for further development within the site boundary in 2023. To inform the planning applications for site an updated ecological assessment was undertaken by I & G Ecological Consulting in May 2023. A site visit which covered the entire site boundary (detailed in Figure 1 above) was undertaken on the 21st and 25th May 2023. The ecological assessment found the site to contain species rich marshy grassland, willow scrub and semi improved neutral grassland. The site is bounded by a small amount of hedgerow to the south west and broadleaved woodland to the north and east.

1.3.5) The May 2023 ecological appraisal report concludes that the marshy grassland is SINC quality habitat and the natural grassland is also likely to be of SINC quality. The report advises further survey work for reptiles species is undertaken and that appropriate compensation for marshy and neutral grassland habitat loss is provided. Providing the site layout does not affect dormouse habits, further survey work for this species is not recommended. Evidence of badger foraging and commuting through the development site was also noted. However no recommendations are made for this species.

1.3.6) To support the additional planning applications a Marshy Grassland Mitigation and Enhancement Plan was prepared by I & G Ecological Consulting in May 2023. The mitigation strategy proposes off site habitat compensation for the loss of marshy grassland to create approximately 30 dwellings within the site.

1.3.7) The report recommends that a full site assessment of the off site compensation site is undertaken. The May 2023 mitigation strategy recommends:

- The gathering of baseline data for the compensation site,
- Temporary fencing is erected to delineate the compensation site,
- The removal of approximately 1/3 of the current scrub habitat,
- Harrowing and or light tilling to break up ground compaction,
- Vegetation augmentation,
- Translocation of the existing marshy grassland turf
- Site monitoring in years 0, 2, 4, 6,8 and 10.
- Monitoring to be in the form of fixed point photography, measurements of habitat extent, indicator species and any management issues. A short report is to be provided to the Local Planning Officer
- Species specific protection measures for reptiles, amphibians, birds, bats and otters.

2. Development Site Visit

2.1) Ecological Services Ltd have been instructed to provide a mitigation strategy for the creation of a residential development within the development site boundary. The development proposals seek to create approximately 28 residential dwellings within the site boundary.

2.2) Design team discussions have explored the development proposals and suitable compensation strategies. Comments have been received as part of the planning process regarding the ecological impacts of the development proposals. The comments have been reviewed and used to steer the development design progression.

2.3) Ash Harris of Ecological Services Ltd conducted a site visit of the development site on the 17th July 2024. The site visit included a site walkover to broadly assess the habitats present on site and to discuss the likely implications of the development proposals.

2.4) Photographs of the development site are provided below. The site is approximately 2ha in size and wraps around the residential dwelling known as Gwelfor. The majority of the development site is **marshy grassland** habitat. Species noted within the marshy grassland habitat include Purple Loosestrife, meadow vetchling, hemp agrimony, yorkshire fog, sharp flowered rush, birdsfoot trefoil, compact rush, common knapweed, creeping buttercup, meadowsweet, greater stitchwort, marsh bedstraw, square stalked st johns wort, meadow thistle, ragged robin, greater birds foot trefoil, common figwort, glaucous sedge, common fleabane and a species of mint,

2.5) The Guidelines for the Selection of Wildlife Sites in South Wales by The South Wales Wildlife Partnership provides a criteria for a site to be considered a Site of Importance for Nature Conservation (SINC) based on the habitats and species present. The table within Appendix 1 details which species are present within the development site that are considered indicator species of SINC quality marshy grassland habitat. 13 indicator species were present during the July 2024 site visit. At least 12 indicator species need to be present for marshy grassland to be considered species rich and SINC quality habitat.

The marshy grassland within the development site is considered to qualify as SINC habitat.

2.6) Scattered stands of Japanese knotweed are present within the marshy grassland. Woody scrub species such as gorse, alder and willow saplings are starting to encroach within the marshy grassland habitat as well. This perhaps indicates a lack of suitable habitat management.



Marshy grassland looking west



Marshy grassland looking east



Possible presence of ephemeral pool within marshy grassland



Marshy grassland looking south towards Gwelfor



Japanese knotweed stand within marshy grassland



Marshy grassland looking north towards woodland area

2.7) Remaining habitats within the site boundary include a **gravel access track** which serves Gwelfor and an expanse of **gravel hardstanding** which wraps round Gwelfor. Short perennial vegetation colonising the gravel hardstanding with species noted including coltsfoot, Italian rye grass, ribwort plantain, creeping buttercup, common horsetail, selfheal, a species of Elliot, cocksfoot, white clover, common cats ear and hedge mustard. The **gravel access track** is boarded by wooden a **post and rail fence**. A band of **mown grassland** approximately 3m wide sits between the track and marshy grassland.



Gravel hardstanding to the north of Gwelfor



Gravel hardstanding to the east of Gwelfor



Mown grassland bordering gravel access track

2.8) Gwelfor, the access track and gravel hardstanding sit higher within the site on a flat plateau. The land slopes from south down the north. A banks of **tall ruderal vegetation** and bramble scrub sit on the bank between the gravel hardstanding and marshy grassland habitat. Species noted within the tall ruderal vegetation include a dense large stand of Japanese knotweed, bramble, hoary willowherb, nettle, yorkshire fog, tufted vetch, meadow vetchling, nettle, common bent, hedge bindweed and birds foot trefoil.



Tall ruderal vegetation on bank between Gwelfor & marshy grassland



Tall ruderal vegetation on bank between Gwelfor & marshy grassland

2.9) The site is bounded by mature broadleaved woodland to the north and east. Whilst the woodland is understood to sit outside of the development site boundary, given the proximity of the development proposals, indirect impacts to the tree line maybe experienced without suitable mitigation measures. A band of dense willow dominated **scrub** is present to the east of the gravel hardstanding. The land rises steeply in this area making full access difficult.

2.10) There is one mature oak tree present to the north of Gwelfor which is likely to be removed as part of the development proposals. The tree is mature and a small number of damaged branches were noted during the site inspection.



Scrub present to the south east of site



Mature Oak tree adjacent to Gwelfor

3. Off-Site Compensation Strategy

3.1) The development proposals are likely to result in the loss of the majority of habitats currently found within the development site boundary. The marshy grassland habitat is approximately 2.2 acres in extent. Whilst the marshy grassland habitat is not designated as a SINC it does meet the criteria for SINC quality habitat.

3.2) Purple Moorgrass & Rush Pasture is a Section 7 habitat under the Environment (Wales) Act 2016. The criteria for this priority habitat is defined via the UK Biodiversity Action Plan Priority Habitat Description. The habitat descriptions refer to the presence of purple moor grass, this species was not identified during the July 2024 site visit and the tussocky sward usually indicating the presence of purple moor grass was also not present. Thus it is considered debatable if the marshy grassland habitat truly meets the criteria to be considered Purple Moorgrass & Rush Pasture.

3.3) Habitat compensation for the loss of the marshy grassland habitat is required. Policy EQ3 and paragraph 6.6.24 of the Local Development Plan advise that '*where there is a demonstrated overriding social, economic or environmental need for the development at the particular location, and there is a lack of alternative sites, significant habitat creation measures and/or improved management measures for existing habitats will be required to ensure that there will be no overall reduction in the overall nature conservation value of the area or feature.*' On-site mitigation and enhancements measures will be provided as part of the development proposals. However this will not be sufficient to compensate for the habitat loss of the SINC quality marshy grassland on site.

3.1 Off Site Compensation Site Visit

3.1.1) Off-site compensation is required for the loss of 2.2 acres of marshy grassland. It is proposed to enhance and managed 5 acres of habitat to create species rich marshy grassland habitat. The off-site compensation site is centred at SN 46364 04203. A site visit to the compensation site was completed by Ash Harris of Ecological Services Ltd on the 17th July 2024. The site visit included a site walkover to broadly assess the habitats present on site.

3.1.2) The compensation site is considered to be a mixture of species poor marshy grassland, scrub and semi improved grassland. Photographs of the site are shown below and a broad habitat map is provided in Appendix 3. A tree line is present along the southern boundary with a dense band of bramble and bracken scrub along it. The eastern boundary is a dirt single lane access road leading northwards. There is no clear boundary along the north and western edge of the site.



Off-site Compensation Site - Area proposed for Marshy Grassland Habitat Creation

3.1.3) **Marshy grassland** habitat is present within the compensations site with species noted including purple loosestrife, meadow thistle, meadow sweet, greater birds-foot trefoil, greater stichwort, compact rush, tormetil, marsh bedstraw, tufted grass, sneezewort, purple loosestrife, purple moor grass, ragged robin and false oat grass. The current presence of marshy grassland indicates the site is suitable to support this habitat type.



Example view of marshy grassland habitat



Example view of marshy grassland habitat

3.1.4) **Scrub** is encroaching into the site and without suitable management the site is likely to progress entirely into scrub habitat in the near future. Willow and bramble **scrub** is present along the eastern and northern edge of the site progressing towards the interior. The scrub is dense and difficult to fully access being around waist height. Patches of bracken dominated **scrub** are scattered across the interior of the compensation site.



Scrub habitat to the south looking west



Example view of scrub encroaching into marshy grassland habitat

3.1.5) A band of **semi improved grassland** is present to the south of the site. Species noted within the semi improved grassland include ragwort, red clover, ribwort plantain, yorkshire fog, common bent, common mouse ear, silverweed, tufted vetch, birdsfoot trefoil, knapweed, crested dogs tail, Italian rye grass, sweet vernal grass, common cats ear, self heal and compact rush. It appears that vehicles may frequently move across this portion of the site resulting in the lower sward. The marshy grassland and semi improved grassland appear to grade into each other towards the western end of the compensation site.



Semi improved grassland grading into marshy grassland



Semi improved grassland leading west

3.1.6) The proposed compensation site contains marshy grassland at present. Appendix 2 details which species are present within the compensation site that are considered indicator species of marshy grassland habitat. The marshy grassland is dominated by compact rush with march thistle, meadowsweet and tufted hair grass abundant. Purple moor grass and sneezewort were rare within the habitat. The marshy grassland habitat is suffering from a lack of management with scrub habitat encroaching.

3.1.7) Ideally when designing habitat compensation schemes you would start with a site that lacks the habitat to be created. However given the difficulties of creating marshy grassland habitat, due to the need for hydrological conditions to be right, in this instance the presence of marshy grassland is considered a benefit as it demonstrate the ground conditions are suitable to support this habitat type. The presence of purple moor grass would also indicate that, with the right ongoing management Purple Moor Grass & Rush Pasture (Section 7 habitat under the Environment (Wales) Act 2016) habitat could be created and increased.

3.2 Ecological Considerations of Compensation Site

3.2.1) The vegetation within the development site boundary is considered to be suitable for use by nesting birds and reptile species. The ground conditions are likely to be wet for much of the year. Therefore hibernation use of the scrub and grassland by reptiles is considered to be unlikely. Reptiles are likely to use the site during the summer months only.

3.2.2) No evidence of large mammal movement was noted through the site or areas of dense scrub. The presence of badger cannot be discounted but is considered to be unlikely. **Precautionary measures will be put in place during vegetation clearance for badger, please see Section 4.1 and A.2.**

3.2.3) Scrub habitat can be suitable for dormouse. Much of the scrub within site boundary proposed to be impacted on by works is scattered and to overly dense **Precautionary measures will be put in place during vegetation clearance for dormouse, please see Section 4.1 and A.2.**

4. Off-Site Compensation Site Management Strategy

4.1) It is proposed to manage the off-site compensation site in perpetuity as marshy grassland habitat for the benefit of wildlife. The overall aim of the ongoing management will be to reduce the presence of scrub habitat, increase the presence of marshy grassland, increase floral diversity within the marshy grassland habitat and increase the presence of purple moor grass.

4.2) In order to achieve the management aims of for the compensation site a management strategy is required. The management strategy will run for at least 25 years and will be reviewed every 5 years. Ongoing monitoring will be required, undertaken and used to inform any changes to the programme of management works within this document. A table is provided in Appendix 4 which details the management work required and when work needs to be undertaken.

4.3) For the purpose of the management works and timetable within Appendix 4 year 0 will be the year work detailed within the Compensation Site commences. **Year 0 will be a 12 month period from when management works in the compensation site commences. All work detailed to be undertaken within the compensation site during year 0 will be undertaken prior to any vegetation clearance work or development work commencing within the development site.**

4.1 Species Specific Considerations

4.1.1) Any tree and scrub removal must be completed outside of the bird nesting season of March to August inclusive. If this is not achievable an ecologist must inspect any vegetation with the potential for birds to be present for active birds' nests prior to removal works beginning. If an active nest is identified a buffer zone of at least 5m around the nest must be observed until the chicks have fledged. Only then can the vegetation be removed. Greater buffer zones around nests may be required depending on the species and habitat the nest is within.

4.1.2) Scrub clearance will be supervised by a suitably experienced ecologist. If at any point evidence of badger or holes indicating a badger sett are found all work will stop and advice will be sought from the supervising ecologist. No holes will be closed or structurally affected during the vegetation clearance.

4.1.3) Scrub clearance work will be supervised by a NRW dormouse licenced ecologist. If at any point dormouse or evidence of dormouse is found during vegetation clearance work all work will stop and NRW will be contacted for advice. This advice may include that a development licence is sought prior to works recommencing.

A) Scrub Clearance

A.1) A large amount of woody scrub and bramble scrub is present within the compensation site. The scrub habitat is encroaching into the marshy grassland and without management scrub will overtake the site and likely succeed into woodland over time. The removal of 75% of the scrub habitat within the site boundary and long term management will improve the quality and extent of the marshy grassland habitat on site.

A.2) Scrub clearance will be undertaken in two stages and outside of the nesting bird season. The Ecological Clerk of Works (ECoW) will be present for the start of scrub cutting. They will provide a toolbox talk covering the two stage vegetation cutting required and what to do if any protected species are encountered as per section 4.1.

A.3) At least 75% of all scrub habitat within the site boundary will be removed. The vegetation will be cut in two stages. It is anticipated that a 3m wide buffer zone of scrub habitat will be retained along the north and eastern and southern boundary of the site only. The remainder of the site will be managed to establish grassland habitat.

A.4) Every two years the extent of scrub habitat will be reviewed. Should the 3m buffer zone be exceeded the vegetation will be cut down to ground level with the cuttings collected and removed from the compensation site.

Tree / Scrub Clearance

A.5) **First Stage** - the woody vegetation (trees / scrub) will be cut down to a height of 50cm above ground level. The brash will be removed from the site within 24hrs of being cut. This stage can only be completed between the months of September to February inclusive to avoid impacts to nesting birds.

A.6) **Second Stage** - tree roots will be grubbed up using a toothed bucket of a JCB or an appropriate sized digger. As reptiles are considered unlikely to be hibernating within the site boundary due to wet ground conditions, no restrictions are proposed to the timing of this work. All roots will then be removed from the proposed development site.

A.7) **Second Stage** - Remaining vegetation to be cut to 50mm in height. All cuttings must be removed from site within 24hrs of being cut.

A.8) Any suitable refugia such as large fallen branches will be carefully lifted, inspected and removed under ecological supervision, for the presence of reptiles on or around this feature. Any which are found should be allowed to exit and disperse away from the site voluntarily, or should be carefully gathered up using gloved hands and taken for release in suitable habitat off the site.

B) Fencing

B.1) The entire compensation site will require fencing to create a clear boundary and area to be managed. The east, north and west site boundary will require fencing, the southern boundary is already secure. Ideally timber treated wooden post and rail fencing would be used, however post and wire fencing can be used if costs dictate a cheaper option.

B.2) If post and wire fencing is to be used, a gap must be provided between the base of the wire fence and ground level of at least 20cm. This will allow mammal movement through the compensation site.

C) Eradication of Japanese Knotweed

C.1) A small stand of Japanese knotweed was noted to the south east of the compensation site. The approximate location is shown on the habitat map in Appendix 3. Left untreated, the knotweed will spread into the surrounding habitat.

C.2) All Japanese knotweed within the site boundary will be subject to treatment to remove the plant from site. A scheme of herbicide treatment for at least 5 years will be undertaken until the plant is eradicated. It is recommended that a specialist contractor is appointed to undertake this work.

D) Grassland Management

D.1) Once all work within Section A and B is undertaken the remaining habitat within the site boundary will be managed as grassland habitat. The habitat will be managed with the overall aim to establish marshy grassland and encourage the marshy grassland already present to improve in species diversity.

D.2) The marshy grassland present is dominated by rush with scattered scrub encroaching into the habitat. This is reducing the species diversity and quality of the habitat. Suitable long term management to reduce the dominance of rush and remove the scrub habitat will help to improve the floral diversity

D.3) By removing the scrub and woody scrub within the compensation site the ground will open up allowing the establishment of grassland habitat. Given the presence of marshy grassland on site and wetter tolerant tree species such as alder and willow in the woody scrub, the ground conditioned are thought to be wet and therefore suitable for marshy grassland creation.

D.4) Marshy grassland is best managed via cattle grazing. Cattle grazing and cutting or topping can be used to reduce the dominance of rush within a habitat. The areas of habitat where scrub are removed from in year 0 will likely suffer from an initial dominance of more ruderal plant species and require intense management in the first two years.

D.5) The best management methods and timing of management are site specific. The management recommendation made within this section are a starting point. It is important

that botanical monitoring is completed and the results used to inform long term management. This management plan is written on a 5 year basis and will be updated every 5 years, agreed in writing with the LPA ecologist and based on the results on monitoring visits.

Initial Management - Years 0, 1 and 2

D.6) In order to reduce the dominance of rush within the established marshy grassland habitat and suppress the growth of ruderal habitat and allow marshy grassland species to establish, all areas of the site will be subject to cutting via mowing. The vegetation will be cut, collected and removed from site.

D.7) Cutting will be undertaken using an adjustable height flail attachment on a tractor. The vegetation will be cut to 100mm in height and then raked up and removed. All habit areas will be cut in the months of March, July and September. Given the wet nature of the ground winter cutting is not advised at present as machinery could become stuck and damage the ground conditions

Long Term Management

D.8) A botanical monitoring visit will be undertaken by an ecologist in Year 2. Providing grassland habitat has established in the areas previously cleared and rush dominance has been reduced long term low intensity grassland management can begin.

D.9) Marshy grassland is best managed via cattle grazing. Cattle grazing during the summer months of May - September by 2 cattle (depends on the type of cattle used) should help to reduce rush dominance, prevent scrub establishment, break up dense vegetation and improve species diversity.

D.10) If cattle grazing is not an option, mowing using a cut and collect process can be used. In year 3 50% of the grassland habitat will be cut in July and 50% of the grassland will be cut in March. All cuttings will need to be collected and removed from site.

D.11) In year 4 the section of grassland cut during March will be cut during July and vice versa. The varied management of different sections of the site will always provide vegetation cover for wildlife and a nectar resource for invertebrates. It will also help to encourage floral diversity in the sward.

5. Development Site Enhancement Measures

5.1) The development site layout has been revised following consultation with the Local Planning Authority and design team taking into account the ecological constraints and opportunities of the site. Drawing AA109 by Evans Banks Planning Ltd details a site layout based on 28 residential properties and an access road being created within the site boundary.

5.2) An Arboricultural Impact Assessment has been undertaken by RTAC and a report issued to help inform the development proposals. The report details that G1, T434 and T518 will be removed to facilitate the development proposals. All other trees, scrub and woodland areas will be retained. During the site visit by Ecological Services Ltd in July 2024, a ground based visual assessment of G1, T434 and T518 was undertaken. G1 and T434 were found to have no bat roosting features suitable for use by bats. No gaps or cracks suitable for bat roosting use were noted.

5.3) T518, a sessile oak, was of an age and structure where potential roosting features for bats could be found. Full access around the tree was possible during the site visit. A small number of damaged branches were visible on the western elevation of the tree approximately 3m high from ground level. No other potential roost features were visible within the tree, however it is recognised that the tree was in leaf and foliage perhaps could obscure features higher up. The damaged branches do not appear to extend into the trunk and are superficial in nature. T518 is considered to have NONE bat roost potential and no further survey work recommendations are made for this tree.



T518 - damaged branches



T518 - damaged branches

Bat Boxes

5.4) Surface mounted bat boxes have previously been agreed as suitable bat roost features to be included within development proposals for previous planning applications for the site. A surface mounted bat box will be provided on each building created within the development site boundary. A Beaumaris Woodstone Bat Box or similar woodcrete design will be used depending on stock availability. The bat box will be fitted on a gable end of the building at the apex of the roof line.

5.5) In total, 28 surface mounted bat boxes will be provided as part of the development proposals.

Bird Boxes

5.6) Surface mounted bird boxes have previously been agreed as suitable bat roost features to be included within development proposals for previous planning applications for the site. A surface mounted bird box will be provided on each building created within the development site boundary. A Vivara Pro Woodstone House Sparrow Next Box or similar woodcrete design will be used depending on stock availability. The bird box will be fitted on a gable end of the building at the apex of the roof line.

5.7) In total, 28 surface mounted bird boxes will be provided as part of the development proposals.

Buffer Zone

5.8) A 5m wider buffer zone will be created between the closest edge of development and the canopy edge of woodland adjacent to the building. The site layout plan demonstrates the buffer zone to be provided. The buffer zone will have be multipurpose as it will prevent conflict with trees over shadowing residential properties, provide habitat connectivity around the development site, reduce overall habitat loss and prevent indirect impacts to any protected species using the woodland and woodland edges ie dormouse or bats.

5.9) The buffer zone will be marked out and fenced off using heras style fencing or similar during the construction period. The location of the fencing and secure installation will be checked and agreed by an ecologist. Once construction is finished and soft landscaping works are underway the temporary fence line can be removed and the permanent fencing be installed around plots. The buffer zone will be open (un-fenced) where it doesn't abut a residential plot. This will allow access for maintenance.

5.10) The buffer zone will sit outside of private plot ownership. The boundary fence line of any individual unit will follow the 5m buffer zone line indicated on all site layout drawings. The buffer zone will be subject to low intensity management via a management company funded by residents.

5.11) The buffer zone will be subject to an annual cut during September. All cuttings will be collected and either removed from site or located in a compost heap within

the grounds. A compost heap will also provide a habitat enhancement, ent for reptiles such as slow worm and grass snake and invertebrate / lower plant species as the cuttings decompose.

Fencing

5.12) All fencing within the site boundary will provide mammal passes at the base of the fence line. Fencing must provide either a continuous gap between the bottom of the fence and ground of at least 13 cm; or 13 cm by 13 cm gaps cut every 3 m along the base of the fence line.

Soft Landscaping

5.13) Areas of soft landscaping, which sit outside of private plots, are present between Plots 8 and 9, to the east of Plot 26, to the north east of plot 27, to the south west of Plot 18 and to west of the site along the access road. These areas will be public open space and will require management.

5.14) Some of the public open space areas will be required for drainage purposes as part of a site wide drainage scheme. Details of the drainage proposals are not available at present. It is recommended that all SAB features provided within the development site are engineered to allow access for maintenance i.e shallow slopes to attenuation basins for allow access for mowing. If features such as attenuation basins or swales are proposed they must be engineered to allow native Mary grassland to establish. Imported seed mixes are not recommended, instead sensitive management will allow species form the natural seed bank to establish.

5.15) All other areas of public open space, which sit outside of private residential use, must be managed to benefit biodiversity. Detailed landscaping plans for the development site are not available at present. Within urban areas the general requests from residents are for areas to be well kept and reguarly mown. A compromise will need to be main with regards to management of the green spaces within the site boundary.

5.16) Ideally, any seed mixes proposed for use within the site would comprise of native grass species only. Then ongoing low intensity management would allow natural flora to establish. Grassland areas must be mown no more than two time per year, march and or September time. All cuttings will need to be collected and removed from the site. The cuttings can either tale to a waste management centre or moved to an agreed compost area within the site boundary.

5.17) The edge of grassland areas, 1-2m in width, could be mown more regularly. This would create a varied structure to grassland areas which benefits wildlife but also satisfy residents that the land within the site boundary is being managed.

Reptile Hibernacula

5.18) At least 1 reptile hibernacula will be provided within the development site along the souther and eastern edge of the site. The hibernacula must at least measure 0.5 m in depth, 2 m wide and 2 m long each. It will be made by creating layers of wood, brash, rubble and soil. The hibernacula will create a mound approximately 0.3 m above ground level which will be covered over with soil and seeded using a native seed mix. A diagram of a Reptile Hibernacula is located in XX for reference.

6. Monitoring Measures

6.1) A scheme of long term-term monitoring within the development site and compensation site is required. A summary of the **monitoring required within the compensation site** is provided within Table 1 below.

	Methodology	Date	Reporting
Management Work Monitoring	Annual update to LPA on what management measures have been undertaken across the compensation site i.e what and when was mown, scrub management etc	Annual report for each year for at least 20 years. Reporting period January - December. Report sent within 4 weeks of end of year	Report of management work undertaken submitted to the LPA. Reporting to commence from 2025
Botanical Monitoring	1 visit every 2 years. Site walkover recording botanical species within the compensation site	Bi-annual years 2, 4, 6, 8 and 10 once development completed. Each visit completed May - August inclusive. Anticipated to be 2025, 2027, 2029, 2031, 2033 etc	- Submit report to management company and Local Planning Authority - Submit records to Local Records Centre
Japanese Knotweed Monitoring	Annual inspection of infestation areas. Treatment with herbicide where required	For 5 years after the commencement of work at site	Report of management work undertaken submitted to the LPA. Reporting to commence from 2025

Table 1 - Ecological Monitoring Requirements for Compensation Site

6.2) A summary of the **monitoring required within the development site** is provided within Table 2 below.

	Methodology	Date	Reporting
Management Work Monitoring	Annual update to LPA on what management measures have been undertaken across the development i.e what and when was mown, scrub management etc	Annual report for each year to be undertaken for the lifetime of the development. Reporting period January - December. Report sent within 4 weeks of end of year	Report of management work undertaken submitted to the LPA. Reporting to commence from 2024

Botanical Monitoring	1 visit year 2. Site walkover recording botanical species within the development site. Visual inspection of 5m buffer zone	Visit to be completed May - August inclusive. Anticipated to be 2027	• Submit report to management company and Local Planning Authority • Submit records to Local Records Centre
Japanese Knotweed Monitoring	Annual inspection of infestation areas. Treatment with herbicide where required	For 5 years after the commencement of work at site	• Report of management work undertaken submitted to the LPA. Reporting to commence from 2025

Table 2 - Ecological Monitoring Requirements for Development Site

Management Work Monitoring

6.3) A report of all management work completed each year calendar year will be issued by the appointed management company and Carmarthenshire planning department for each year that work is completed. The management work report will be issued within 4 weeks of December each year.

Botanical Monitoring

6.4) All botanical monitoring will be completed by a suitable experienced botanist. Each survey visit will entail:

- 10 1m x 1m quadrats will be surveyed within the survey area. The GPS of each quadrat will be taken at the first survey visit. All repeat survey visits must survey the same quadrats.
- All plant species within each quadrant will be identified and noted.
- At each quadrat location a photograph will be taken looking north, east, south and west during each survey visit
- Monitoring visits will be completed every 2 years. Each visit will be completed between the months of April and September included.

6.5) Monitoring of the compensation site will be used to inform any changes to the proposed ongoing management of the site. The overall aim is to create high quality marshy grassland with a 3m dense scrub edge along the north east and southern boundary.

6.6) Monitoring of the development site will be used to ensure the proposed management works and biodiversity features are being undertaken and provided.

6.7) A report of findings will be issued to the appointed management company and Carmarthenshire planning department for each year that monitoring is completed. All records will be submitted by the botanical surveyor to SEWBRcC the same year they are collected.

7. Management Schedule

7.1) A programme of management works will be required for the development and compensation site to ensure each green asset is maintained and managed into the future. All work to create and install the soft landscaping within this document will be undertaken by contractors appointed by the site owner with supplementary external support when required from specialists.

7.2) Once all development work has been completed within the development site the land owner will appoint a management agency to manage the land within the development site boundary outside of private ownership. **All ongoing management work within the development site will be undertaken by the appointed management agency or contractors appointed on their behalf.**

7.3) Once all habitat work has been completed the compensation site the land owner will be responsible for the maintenance of the land within the compensation site boundary. **All ongoing management work within the compensation site will be undertaken by the landowner or contractors appointed on their behalf.**

7.4) **All work scheduled for year 0 detailed within Section 4 of this report must be completed prior to any development work (including vegetation clearance) within the development site.** This work will include the installation of fencing, scrub clearance works and the commencement of treatment for Japanese knotweed. Once this first stage of work has been completed under the supervision of an Ecological Clerk of Works (ECoW) and written confirmation that works have been completed as per the Habitat Management Plan has been sent, works within the development site can commence.

7.5) Vegetation management work within the compensation site could commence over the winter period of 2024/2025 depending on planning matter. **Construction work is anticipated to start in 2025 once all relevant planning conditions have been discharged and work within the compensation site completed.** Construction is anticipated to take approximately 18 months. Soft landscaping will be undertaken from 2027 onwards in a phased manner to reflect the progression of the construction. Given the phased nature of the development and uncertainty with planning conditions it is difficult to provide end dates for landscaping to be installed.

7.6) This management plan will run for a 5 year period once the construction work and landscaping work has been completed.

7.7) After 5 years the plan will be reviewed and amended if necessary. For the purpose of the management works and timetable within Appendix 4 year 0 will be the year work detailed within the HMP is completed. **Year 0 will be a 12 month period from when habitat**

manipulation works commence within the compensation site is completed which is believed to be 2025.

7.6) A Schedule is provided at Appendix 4 for the management works required for a 5-year period from the completion of habitat manipulation works within the compensation site and construction works within the development site boundary. Once the 5-year period has passed, the management plan and works within this document will be reviewed by an appropriately qualified and experienced ecologist. The management works will be amended as necessary to ensure that each ecological asset is retained and managed to meet the required objective(s). All relevant sections of this management plan and the management schedule at Appendix 4 will be amended and agreed in writing with the council ecologist and planning department for Carmarthenshire County Council

Bibliography

- '*Technical Note TN686; Conservation Grazing for Semi Natural Habitats*' dated September 2017 by the Farm Advisory Service
- Blakesley, D. And Buckley,G.P. (2016) *Grassland Restoration and Management*. Exeter; Pelagic Publishing, UK
- RTAC '*Gwelfor, Trimsaran: BS5837:2012 Tree Survey*' dated 4th October

Appendix 1 - Development Site Species List

Species	Common Name	Species	Common Name
Trees & Scrub		<i>Rumex crispus</i>	Curled dock
<i>Alnus sp</i>	alder	<i>Stellaria holostea</i>	Greater stitchwort
<i>Betula sp(p).</i>	birch	<i>Pulicaria dysenterica</i>	Common fleabane
<i>Buddleja davidii</i>	buddleia	<i>Lotus corniculatus</i>	Birds foot trefoil
<i>Rubus fruticosus</i>	Bramble	<i>Juncus conglomeratus</i>	Compact Rush
<i>Salix sp</i>	willow sp.	<i>Urtica dioica</i>	common nettle
<i>Ulex europaeus</i>	Gorse		
<i>Quercus sp</i>	Oak sp		
Herbaceous Plants			
<i>Lythrum salicaria</i>	Purple loosestrife		
<i>Eupatorium cannabinum</i>	Hemp agrimony		
<i>Centaurea sp</i>	knapweed		
<i>Dactylis glomerata</i>	cock's-foot		
<i>Filipendula ulmaria</i>	Meadowsweet		
<i>Galium palustre</i>	Marsh bedstraw		
<i>Hypericum tetrapterum</i>	Square-stalked st Johns wort		
<i>Hedera helix</i>	ivy		
<i>Epilobium parviflorum</i>	Hoary willowherb		
<i>Agrostis capillaris</i>	Common bent		
<i>Scrophularia nodosa</i>	Common figwort		
<i>Calystegia sepium</i>	Hedge bindweed		
<i>Equisetum arvense</i>	Common horsetail		
<i>Prunella vulgaris</i>	Selfheal		
<i>Lolium multiflorum</i>	Italian rye grass		
<i>Tussilago farfara</i>	Coltsfoot		
<i>Ranunculus flammula</i>	Lesser spearwort		
<i>Fallopia japonica</i>	Japanese knotweed		
<i>Holcus lanatus</i>	Yorkshire fog		
<i>Carex flacca</i>	Glaucous sedge		
<i>Ranunculus repens</i>	Creeping buttercup		
<i>Trifolium repens</i>	White clover		
<i>Sisymbrium officinale</i>	Hedge mustard		
<i>Hypochaeris radicata</i>	Common cats ear		
<i>Dactylis glomerata</i>	Cocksfoot		
<i>Melilotus sp</i>	Melliot sp		
<i>Cirsium dissectum</i>	Meadow thistle		
<i>Vicia cracca</i>	Tufted vetch		
<i>Lotus uliginosus</i>	Greater birds foot trefoil		
<i>Plantago lanceolata</i>	Ribwort plantain		
<i>Lathyrus pratensis</i>	Meadow vetchling		
<i>Heracleum sphondylium</i>	Hogweed		
<i>Juncus acutiflorus</i>	Sharp flowered rush		

Appendix 2 - Off-Site Compensation Site Species List

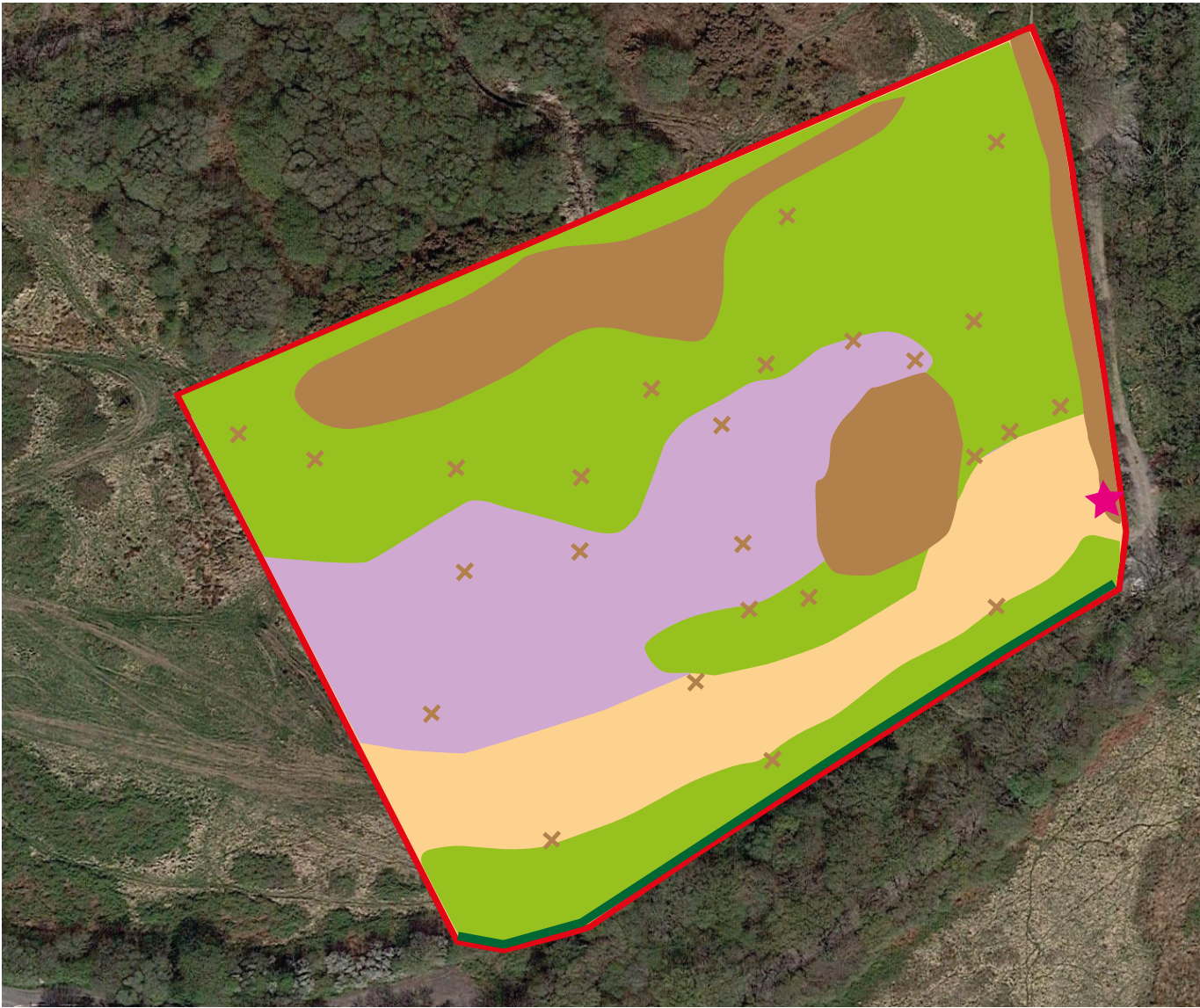
Species	Common Name	Species	Common Name
Trees & Scrub		<i>Juncus conglomeratus</i>	Compact Rush
<i>Alnus sp</i>	alder	<i>Urtica dioica</i>	common nettle
<i>Betula sp</i>	Birch sp		
<i>Rubus fruticosus</i>	Bramble		
<i>Salix sp</i>	willow sp.		
<i>Ulex europaeus</i>	Gorse		
<i>Quercus sp</i>	Oak sp		
Herbaceous Plants			
<i>Lythrum salicaria</i>	Purple loosestrife		
<i>Lotus corniculatus</i>	Birds foot trefoil		
<i>Centaurea sp</i>	knapweed		
<i>Dactylis glomerata</i>	cock's-foot		
<i>Filipendula ulmaria</i>	Meadowsweet		
<i>Galium palustre</i>	Marsh bedstraw		
<i>Jacobaea vulgaris</i>	Ragwort		
<i>Hedera helix</i>	ivy		
<i>Epilobium parviflorum</i>	Hoary willowherb		
<i>Agrostis capillaris</i>	Common bent		
<i>Cerastium fontanum</i>	Common mouse ear		
<i>Calystegia sepium</i>	Hedge bindweed		
<i>Argentina anserina</i>	Silverweed		
<i>Prunella vulgaris</i>	Selfheal		
<i>Lolium multiflorum</i>	Italian rye grass		
<i>Tussilago farfara</i>	Coltsfoot		
<i>Deschampsia cespitosa</i>	Tufted hair grass		
<i>Potentilla erecta</i>	Tormentil		
<i>Fallopia japonica</i>	Japanese knotweed		
<i>Holcus lanatus</i>	Yorkshire fog		
<i>Arrhenatherum elatius</i>	False Oat Grass		
<i>Achillea ptarmica</i>	Sneezewort		
<i>Ranunculus repens</i>	Creeping buttercup		
<i>Trifolium pratense</i>	Red clover		
<i>Cynosurus cristatus</i>	Crested dogs tail		
<i>Hypochaeris radicata</i>	Common cats ear		
<i>Dactylis glomerata</i>	Cocksfoot		
<i>Molinia caerulea</i>	Purple moor grass		
<i>Cirsium dissectum</i>	Meadow thistle		
<i>Vicia cracca</i>	Tufted vetch		
<i>Lotus uliginosus</i>	Greater birds foot trefoil		
<i>Lathyrus pratensis</i>	Ribwort plantain		
<i>Heracleum sphondylium</i>	Meadow vetchling		
<i>Lathyrus pratensis</i>	Hogweed		
<i>Anthoxanthum odoratum</i>	Sweet vernal grass		

Appendix 3- Off-site Compensation Site Habitat Map

GWELFOR, TRIMSARAN

Habitat Map - Compensation Site

July 2024



	Semi Improved Grassland		Scattered Scrub
	Marshy Grassland		Tree Line
	Scrub		Site Boundary
	Woody Scrub		Japanese Knotweed



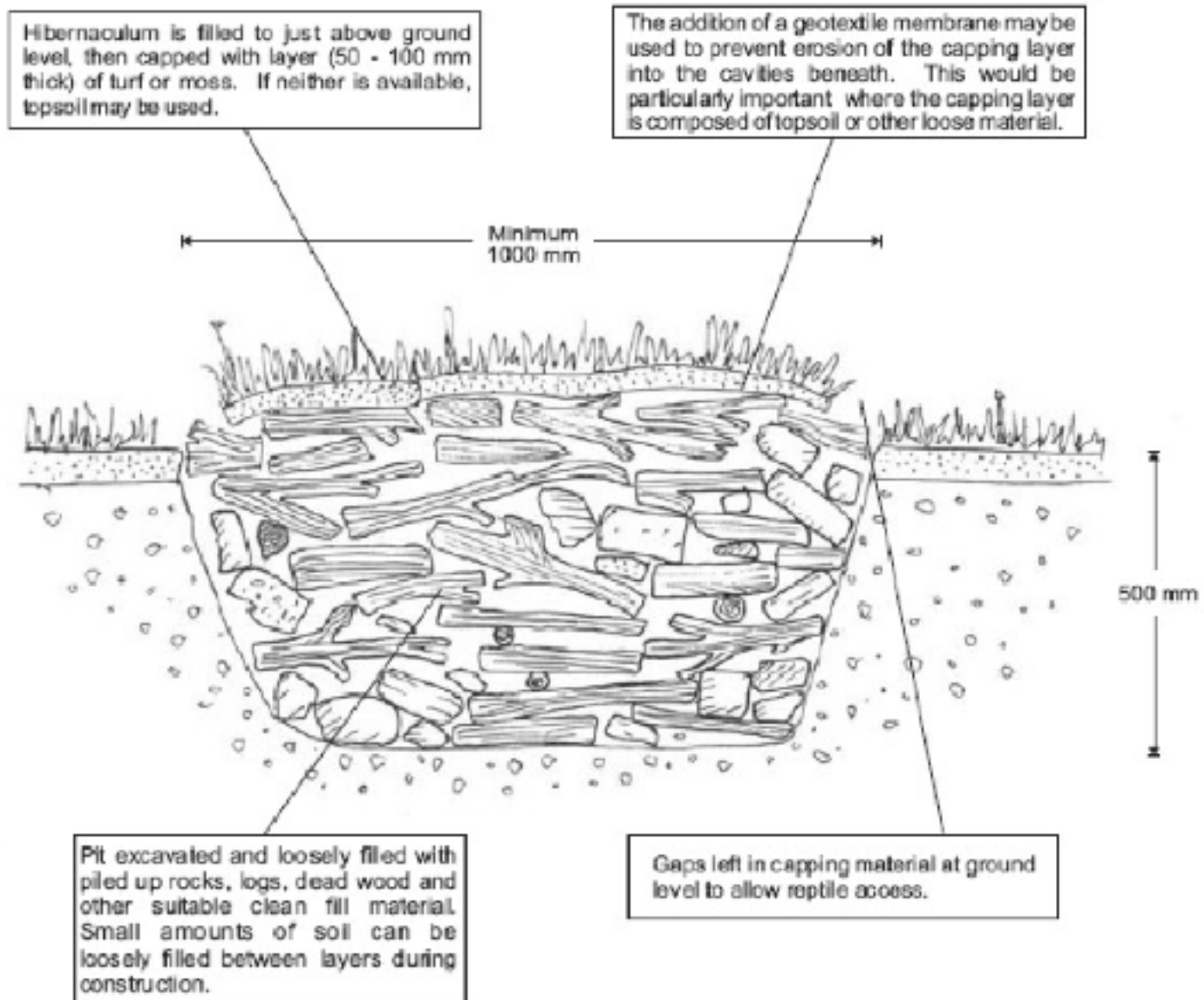
Appendix 4- Management Table

**** The management work detailed within this table is for the Off-Site Compensation Site Only****

*** The bracket sections within the table refer to the relevant management works within section 4 of this document ***

		Month											
	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Habitat Management													
Scrub clearance (Section 4.A)	0												
Install fencing (Section 4.B)	0												
Japanese knotweed Treatment (Section 4.C)	0 - 5												
Grassland Management - Cleared Habitat (Section 4.D)	0,1,2												
Grassland Management - Established Marshy Grassland (Section 4.D)	0,1,2												
Marshy Grassland Management (Section 4.D)	3,4,5												
On-going scrub management (A.4)	2, 4												
Monitoring													
Management Work Monitoring Report to LPA (section 6.1)	1 - 5												
Botanical Monitoring (section 6.1)	2, 4, 6, 8, 10												
Monitoring of invasive plants species (section 6.1)	1 - 5												
Monitoring visit & review of management plan	5												

Appendix 5 - Reptile Hibernacula



Source: Highways Agency (2005) *Design Manual for Roads and Bridges: Volume 10 Section 4 Part 7 – Nature Conservation Advice in Relation to Roads and Reptiles*

Appendix 6 - Legislation

Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulation 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, Bechstein's, noctule, brown long-eared, common pipistrelle, soprano pipistrelle, greater horseshoe and lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

Nesting Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981), as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird

Enhanced protection is afforded to species listed on Schedule 1 of the Act; this additional protection makes it an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Reptiles

Reptile such as the slow worm, common lizard, adder and grass snake are protected under the Wildlife and Countryside Act 1981(as amended). They are protected from killing, injuring and sale. In Wales sand lizard, smooth snake, adder, grass snake, slow worm and common lizard are listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

Otter

The common otter (*Lutra lutra*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Otter are listed on Schedule 5 of The Wildlife & Countryside Act 1981 (as amended) which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale an otter. Otter is listed in section 7 of the Environment (Wales) Act 2016, which makes them a key species to sustain and improve biodiversity.

Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;
- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended).

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general, there is usually a main sett which the family will use the most. There are then annex, subsidiary and or outlier setts which depending on family structures and environmental pressures may be used at different times of the year. As female badgers tend to have their cubs over winter the disturbance of and damage to badger setts is prohibited between December and June inclusive. Natural Resources Wales (NRW) are the licensing body for any actions which may contravene the above legislation.