



Five Fords Solar Array

Caulmert Limited on behalf of Dwr Cymru Welsh Water

Report number:	ASCRE-042-312-02-r2	Author:	A Logan
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1 INTRODUCTION

- 1.1.1 This Habitat Enhancement and Management Plan (HEMP) sets out habitat enhancement measures in relation to the proposed Five Fords Solar Array at Five Fords Waste Water Treatment Works (the Site). This document also details ecological management practices to be adopted with the aim of developing and maintaining wildlife habitats to provide a net gain for local biodiversity.
- 1.1.2 Habitat enhancement measures and ongoing management practices are proposed in line with guidance produced by BRE (2014) *Biodiversity Guidance for Solar Developments* that will enhance and safeguard key habitats (e.g. hedgerows and trees) for the benefit of wildlife, and enhance the ecological value of land. The design and long-term management of the land seeks to conserve and improve habitat connectivity with the wider landscape for wildlife through protecting and enhancing potentially important wildlife corridors. This will contribute to the establishment of coherent ecological networks.
- 1.1.3 Habitat enhancement measures are illustrated in Drawing 14/09/LP/01 Issue 6 'Proposed Layout'.

2 ECOLOGICAL BASELINE – PRE-DEVELOPMENT

- 2.1.1 Detailed descriptions of habitats and species can be found in the Ecological Appraisal (Avian Ecology, September 2014). A Phase 1 habitat plan showing the pre-development baseline is presented as Figure 1 of the Ecological Appraisal report.
- 2.1.2 Pre-development, the Site comprised 9.7ha dominated by tall ruderal vegetation; with dominant species including nettle *Urtica dioica*, hogweed *Heracleum sphondylium*, cleavers *Galium aparine*, great willowherb *Epilobium hirsutum*, spear thistle *Cirsium vulgare*, lesser burdock *Arctium minor* and broad-leaved dock *Rumex obtusifolius*. Invasive Himalayan balsam *Impatiens glandulifera* was present to the north-western border of the Site. To the far north of the Site the ruderal vegetation merged with a stand of dense scrub vegetation, comprising blackthorn dominated by bramble.
- 2.1.3 Part of the north-eastern section of the Site comprised semi-improved grassland that had developed over previously developed land. The grassland supported common species such as cocksfoot *Dactylis glomerata*, timothy *Phleum pratense*, rye grass *Lolium perenne* and common bent *Agrostis capillaris* with white clover *Trifolium repens*. Adjoining the semi-improved grassland was an area of short, ephemeral vegetation over bare ground, with scentless mayweed *Tripleurospermum inodorum* dominant. Towards the western boundary of the Site was an extent of open bare ground.
- 2.1.4 The habitats immediately surrounding the Site comprised areas of tall ruderal vegetation (similar to those that dominated within the Site), arable fields and stands of mature broad-leaved woodland. The operational Five Fords WwTW lies immediately west of the Site.
- 2.1.5 The ecological value of the Site overall was considered to be low and it did not form part of any statutory or non-statutory designated site. No protected or notable species were observed during the survey carried out for the Ecological Appraisal.

3 ECOLOGICAL MITIGATION MEASURES

Habitats

- 3.1.1 All retained mature trees within and immediately adjacent to the Site will be protected during the construction phase of the development in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction*.
- 3.1.2 The following pollution prevention measures in accordance with Environment Agency (now Natural Resources Wales (NRW) in respect of Wales) Pollution Prevention Guidance (PPG) will also be implemented throughout construction works:
- PPG1 Understanding Your Environmental Responsibilities – Good Environmental Practices;
 - PPG2 Choosing and using oil storage tanks;
 - PPG3 Choosing and using oil separators;
 - PPG5 Works and maintenance in or near water;
 - PPG7 Operating refuelling sites.
- 3.1.3 Over time, dirt and dust can accumulate on the glass surface of the module, reducing its power output. Periodic cleaning of PV modules where required will utilise a soft brush and using soft, clean water with a recommended pressure less than 690kPa, which is typical of most municipal water systems. Solar PV modules are designed to withstand high snow loads. However, snow can be gently removed using a brush. No chemicals are required.
- 3.1.4 All works will be undertaken in line with measures detailed in a biosecurity risk assessment for this site to ensure that site operations do not lead to spread of invasive species or spread of plant and animal diseases to previously unaffected areas.

Birds

- 3.1.5 Site clearance activities and ground preparation works will be undertaken outside of the breeding bird season (March – September inclusive) where possible. Where this cannot be avoided a pre-site clearance survey for nesting birds will be undertaken by a suitably competent ornithologist prior to the commencement of clearance activities.
- 3.1.6 Only once the appointed ornithologist is satisfied that clearance works will not result in an offence with regards to nesting birds, works may proceed.
- 3.1.7 PV module cleaning will also be undertaken outside of the breeding bird season in so far as reasonably practical.

Bats

- 3.1.8 The protection of mature trees as outlined above will serve to safeguard any potential tree roost sites and maintain foraging and commuting opportunities. A building (modified as a bat roost) is located to the north of the Site; this is currently fenced off (wooden post and rail fence) but will be further protected by the installation of a 'heras' fence on the outside of the current wooden fence preventing construction works encroaching or disturbing the building.

Badgers

- 3.1.9 A pre-construction badger survey will be undertaken immediately prior to the commencement of construction to identify any new setts which may have been created, within 30m of the construction area.
- 3.1.10 All ground excavations during the construction phase will be covered overnight or fitted with a means of escape suitable for badgers that may become trapped. All construction materials will also be stored in secured compounds or raised off the ground.
- 3.1.11 To prevent the security fencing from cutting off valuable foraging resources for badgers and other wildlife, gaps or gates will be fitted within the fencing to allow the free passage of mammals through the Site. These locations will be established during the pre-construction badger survey.

Otters and Water Voles

- 3.1.12 No waterbodies are located within the Site. A ditch and the River Clywedog are located to the north of the Site. It was considered that the river could provide suitable habitat for both otter and water vole. The ditch was considered unsuitable (being shallow, containing no aquatic vegetation and being concrete-lined).
- 3.1.13 The proposed development will stand clear of watercourses and with standard pollution prevention measures in place during the construction phase, no direct or indirect impacts to habitats of otter or water vole (if present) in the locality will occur.

Amphibians and Reptiles

- 3.1.14 No waterbodies are present within the Site; the nearest waterbody being a sludge lagoon approximately 80m south of the Site boundary (assessed as having a poor suitability for great crested newts). A further 5 ponds were located within 250m of the Site.
- 3.1.15 The Site, dominated by tall ruderal vegetation, provides suitable terrestrial habitat for amphibians including great crested newt *Triturus cristatus*, particularly in offering foraging opportunities. The terrestrial habitat may also support common species of reptile such as slow worm *Anguis fragilis* and common lizard *Zootoca vivipara*.
- 3.1.16 No evidence of great crested newt was identified during surveys undertaken in 2014; however, a precautionary approach is proposed with the adoption of a series of Reasonable Avoidance Measures (RAMs) as outlined in Appendix 1 of the Ecological Appraisal report.

4 ECOLOGICAL ENHANCEMENT MEASURES

Habitat Enhancement

- 4.1.1 Management practices are proposed that will enhance and safeguard key habitats (e.g. hedgerows and mature trees) for the benefit of wildlife. The design and long-term management of the land seeks to maintain and improve functionality through protecting and enhancing potentially important wildlife corridors i.e. through additional planting of native species hedgerows and reinforcing existing hedgerows as well as enhancing freshwater habitats and their function as ecological stepping stones within the environment.

Native Hedgerow Planting and Enhancement

- 4.1.2 Hedgerow planting and reinforcement (where existing hedgerows occur) will be undertaken along the boundaries of the Site (as per Drawing 14/09/LP/01 Issue 6) with native species. Species recommended by Wrexham County Borough Council are listed below:

- Hawthorn *Crataegus monogyna*
- Blackthorn *Prunus spinosa*
- Hazel *Corylus avellana*
- Dog rose *Rosa canina* spp
- Black current *Ribes nigrum*
- Gooseberry *Ribes uva-crispa*
- Bramble *Rubus fruticosus* spp
- Crab apple *Malus sylvestris*
- Wild cherry *Prunus padus*
- Field maple *Acer campestre*

- 4.1.3 Hedgerow planting will be undertaken at 5 plants per linear metre in a double staggered row. These will provide a dense and well-structured hedgerow of value for wildlife. Species to be planted will be of UK provenance. New planting will be protected, where required, by stock proof fencing (in order to prevent grazing).

- 4.1.4 Bare-root stock will be stored in a sheltered area and not allowed to dry out prior to planting. Mycorrhizal inoculant (contractor's choice) to be applied to bare root plants before planting. All plants supplied shall comply with BS 3936: Parts 1 to 10 as relevant, and BS 4043, the National Plant Specification, published by the Horticultural Trades Association, as appropriate.

- 4.1.5 The areas for hedgerow planting should contain good quality topsoil; this comprises a 0.75m wide planting strip, with good quality soil to a depth of 300mm.

- 4.1.6 A mulch (for example comprising coarse bark chips) will be laid to 75mm in depth along the planting strips (the 1.5m corridor) in order to minimise competition from weeds during the

establishment period. The mulch must be laid over wet soil or the ground watered well before laying. All weed growth within the width of the strips of mulch should be removed by hand pulling or the use of carefully applied herbicide.

- 4.1.7 Species providing valuable food resources to wildlife, including hazel and blackthorn, will be managed to allow them to flower, set fruit and seed in order to provide an increased food resource for a range of species, including birds and small mammals as well as invertebrates.
- 4.1.8 The exact timing of the proposed hedgerow planting will be dependent on the ground conditions but planting should take place between the months of November and March inclusive. It is expected that ground conditions and climate will allow for earlier planting (i.e. before January), and this will allow the plants more time to establish a network of feeder roots before the onset of spring. Planting should avoid freezing and water logged conditions.

Shrub Belt Planting

- 4.1.9 An area of shrub belt planting, comprising hawthorn *Crataegus monogyna* (60%), blackthorn *Prunus spinosa* (30%), elder *Sambucus nigra* (5%) and holly *Ilex aquifolium* (5%) is proposed along the north eastern boundary of the Site. Further details are provided on Drawing 14/09/LP/01 Issue 6.

Native Tree planting

- 4.1.10 Planting of native broadleaved tree whips will be undertaken within the north-eastern boundary of the site as shown on figure 14/09/LP/01 Issue 6. Species planted will be fruit bearing and include hawthorn, blackthorn and elder. These will be planted with the aim of providing connectivity of foraging and commuting features for bats between the new hedgerow planting and the bat mitigation barn and will link up with existing mature tree cover within this area.

Grassland Enhancement

- 4.1.11 Initial grassland enhancement will have to consider the historic land-use of the Site. Fields of a former arable use will initially require areas not already grassed to be seed sown to revert them back to grassland.
- 4.1.12 After re-instatement, the grassland vegetation within the Site will be managed to provide a varied habitat structure providing nesting opportunities for birds and provide nectar, pollen and shelter for invertebrates, amphibians, reptiles and small mammals. The majority of the Site will be managed by sheep grazing, however areas shown in gold and red spotted on the layout plan will be fenced off and managed to provide rank grassland habitat through a late annual cut after seeds have set (late July/August). The purpose of these areas is to provide cover for small mammals, reptiles and amphibians across the year and enhance habitat connectivity around the site perimeter in combination with hedgerow planting. Such measures will also increase foraging opportunities for species such as barn owl *Tyto alba* which are known to be present in the wider area.
- 4.1.13 In order to enhance habitat diversity within the site, the land to the south and east of the bat mitigation barn will be fenced off from the main solar footprint and sown with a tussock seed mix incorporating wild flowers e.g. Emorsgate EM10 or equivalent. This will be managed in line with the other grassland areas through a late annual cut after seeds have set (late July/August). This area will also be planted with a native shrub mix to provide structural and botanical diversity and enhance cover for wildlife. Details of proposed planting mixes are provided on revised figure 14/09/LP/01 Issue 6.

- 4.1.14 Grassland creation will be in accordance with RSPB guidance '*Mitigation and enhancement Package for Solar Farms on Former Arable Land* (RSPB 2013). The BRE (2014) Guidance notes that, as panels are raised above the ground on posts, over 95% of a field utilised for solar farm development is still accessible for plant growth and complementary agricultural activities such as conservation grazing. The Site will be converted to grassland under and around the solar panels using seed mixes appropriate to the soil type, tolerant of both sun and shade and native to the UK. Nutrient-rich former arable land does not readily convert to species-rich wildflower meadow, and the objective for the Site is to manage the grassland areas to encourage the development of both species and structural diversity over time through appropriate management.

Ground Preparation

- 4.1.15 Prior to the sowing of the seed mixes any existing weeds or crop cover within the area to be seeded will be sprayed out with a glyphosate based herbicide (with consideration to the nearby watercourses) and cultivated to a 100mm depth in order to remove weeds and debris. The surface will then be firmed and levelled as appropriate to create a suitable planting bed.

Sowing

- 4.1.16 Areas of the site to be grazed will be sown with a species rich grassland mix suitable to the soil conditions at the site (for example EM2 Standard General Purpose Meadow Mixture (Emorsgate Seeds)). Mixtures with a high percentage of fescue and bent species, with clover as nectar sources for invertebrates (rather than rye mixes), will provide enhanced biodiversity value and improve the Site's value as a foraging resource for birds. Areas around the proposed shrub planting will be sown with a tussock grass mix incorporating wildflowers e.g. Emorsgate EM10.
- 4.1.17 These areas will be sown in accordance with suppliers instructions, generally between 2g and 4g per m² (following seed mix guidance) within the planting bed, ideally during early autumn (September - October) or spring (March – April), but can be sown at other times of year provided that there is sufficient moisture and warmth for seed germination (absence of frost, drought or waterlogging).
- 4.1.18 All seeding shall be carried out in accordance with BS 4428:1989 Code of Practice for general landscape operations (excluding hard surfaces), or the most up to date and current British Standard. Preparation of the soil for sowing will be undertaken in line with Appendix 3 of the ecological appraisal for this site to ensure that invasive Himalayan balsam is not caused to spread.

Pond/Scrape Creation

- 4.1.19 Exact details of the waterbody to be provided will be agreed with the LPA Ecologist and NRW. A proposed location is presented in drawing number 2084.PLG.10 dated 10.12.2014.
- 4.1.20 Pond creation would be based on the following principles. A pond will be created within the DCWW land holding; this will be designed with the intention of providing aquatic habitat for amphibian species and other wildlife.
- 4.1.21 Should initial investigation indicate clay based soils at the Site, construction of a pond should be possible using natural materials only, but if required, a bentonite liner will be used to provide a permanent waterbody. The pond will have a range of micro-habitats and the design will incorporate the follow features:

- gently sloping sides;
- a range of pond depths;
- an irregular shape.

4.1.22 The gently sloping pond edges will create a wide drawdown zone that will encourage a diversity of plants and invertebrates. Shallow areas of less than 10cm allow for a range of marginal species to develop which in turn will provide habitat for invertebrates. Aquatic vegetation provides egg laying substrate for newts, micro-habitat for prey species and refuge from predators.

4.1.23 Figure 1 below illustrates a pond outline and profile that would achieve the wildlife benefit desired from the pond creation. The diagram is taken from The Amphibian Habitat Management Handbook (Baker et al., 2011).

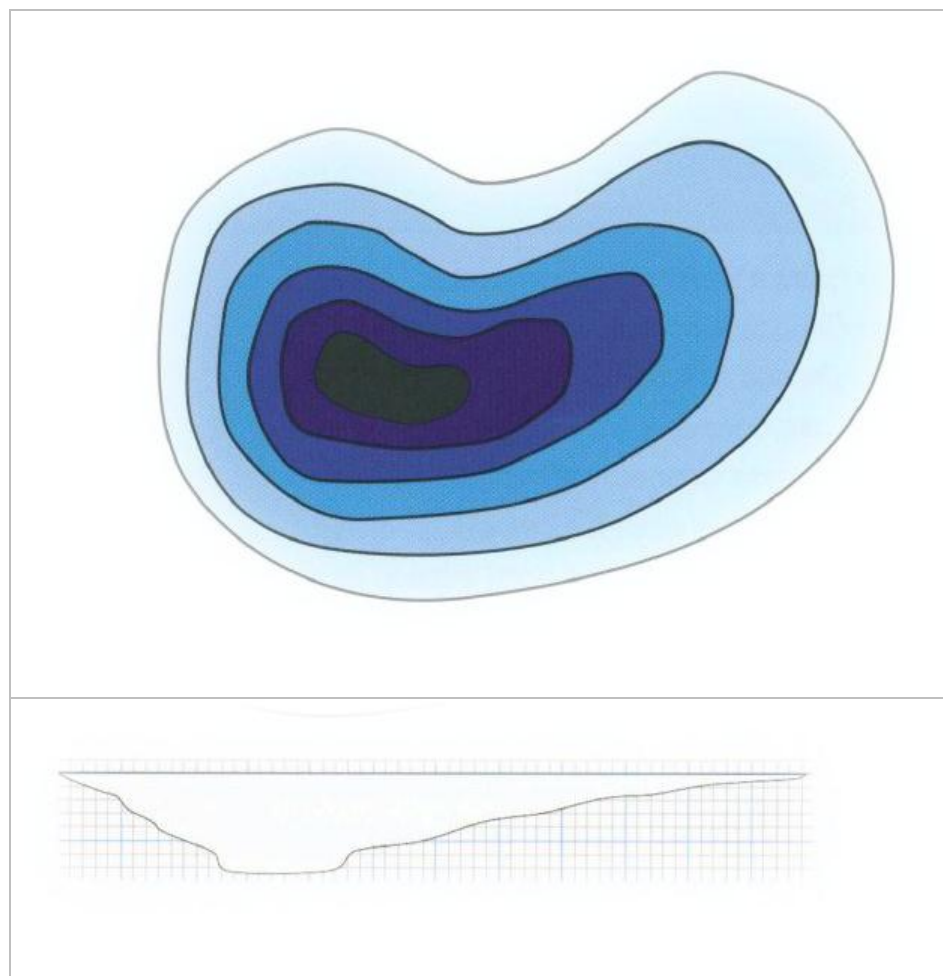


Figure 1. Wildlife pond outline and profile (illustration taken from Amphibian Habitat Management Handbook (Baker *et al.* 2011)).

4.1.24 It is proposed that the pond be constructed as part of the initial ground works of the development. The pond will be constructed under the direction of an ecologist (licensed as appropriate).

Species

Invertebrates

- 4.1.25 Log/brush piles formed from vegetation management will be placed at several locations within the Site (exact locations to be determined during pre-construction badger survey). Contractors will ensure that vegetation that may contain invasive Himalayan balsam seeds is not caused to spread through these measures (see Appendix 3 of the Ecological Appraisal report – Management of Himalayan balsam). Log piles will provide valuable invertebrate habitats and shelter for other species including small mammals. Arising's from ongoing hedgerow management can be used to supplement these piles, which should remain in the same locations from year to year.

Great Crested Newt

- 4.1.26 In order to ensure that the favourable conservation status of this species is not only maintained, but also improved locally, it is proposed that a pond or scrape will be created within land within the DCWW landholding. The exact location of this will be determined in consultation with NRW and the Wrexham CBC Ecologist, but this is provisionally proposed for land to the south of Marchwiell Covert, to tie in with existing ponds and enhance the freshwater resource locally. Pond creation measures are detailed above.

5 HABITAT MANAGEMENT

Hedgerow, Tree and Shrub Planting – Management

- 5.1.1 The hedgerows, tree (whips) and shrub planting may require watering during drought. During drought, the soil moisture should be checked by inserting a finger into the soil beneath the mulch. If dry below 100mm, thorough watering is required.
- 5.1.2 Species providing valuable food resources to wildlife, including hazel and blackthorn, will be managed to allow them to flower, set fruit and seed in order to provide an increased food resource for a range of species, including birds and small mammals as well as invertebrates.
- 5.1.3 The planting area will be kept weed-free during the initial 12 month maintenance period, using approved herbicides. After 12 months, all dead, dying or diseased stock will be replaced by the subcontractor at his own cost.
- 5.1.4 During establishment (2-3 years) weeds within the hedgerow and shrub planting strips and around the base of new tree planting will be subject to weed clearance twice during the growing season. At the end of each growing season during this period, hedgerows will be cut back by half the growth of that year with pruning aiming to encourage the development of healthy well-shaped specimens.
- 5.1.5 After this period it is recommended that the hedgerows should be maintained at a height of approximately 2.5m to 3m and a width of approximately 1-2m. Cutting would be undertaken in late January or February. No cutting or trimming is to be undertaken during the breeding bird season (March to September inclusive).
- 5.1.6 Hedgerows will be cut on different sides each year and not all hedgerows will be cut in the same year, instead a rotational programme will be set up which will allow a varied structure for the benefit of wildlife.

Grassland Management

- 5.1.7 The arrangement of the solar panels within the site allows grass to grow beneath the panels. A cutting and grazing regime will be implemented across the site to allow grassland to develop and diversify with a varied structure, thus maximising its value as a biodiversity resource. Grassland outside of areas to be grazed will be stock fenced and managed with a single annual cut in late July/August, once seeds have set.
- 5.1.8 Grazing will take place within and around the solar panels and will aim to develop species-rich grassland with a varied structure. No animals should be introduced until the grassland has become established.
- 5.1.9 Initially, in the first year following sowing, checks should be made to assess and control annual weeds. An initial flush of annual weeds is likely to occur during the first season. These should be managed by topping and mowing prior to setting seed which will encourage lateral development of the grasses. Any topping undertaken between April and July should be no lower than 20cms to prevent harm to any ground nesting birds.

In the long-term, the grassland beneath the solar panels will be grazed by sheep, as detailed below:

Spring & Summer Grazing

- 5.1.10 The grassland beneath the solar panels will be grazed by sheep. Grazing will be reduced or removed during the summer months to maximise opportunities for species to flower and set

seed. The stock densities should be monitored and adjusted to prevent overgrazing or undergrazing and the sward should contain a mix of long and short vegetation with some plants in flower.

Autumn & Winter Grazing

- 5.1.11 The fields would be subject to light intermittent grazing by sheep between late August / September and late February where conditions allow. Moderate trampling will expose the ground for colonisation by annuals the next spring; however, heavy trampling can lead to ground poaching and infestations by weed species that will be detrimental to the site.

Stocking

- 5.1.12 It is best to aim for a stocking rate just sufficient to maintain a varied structure, rather than the maximum that the grassland can support. Grazing density (Table 2) is based on medium sized sheep (e.g. 60kg), it is important to constantly monitor the site to ensure the grassland is not under or over grazed and stock number and duration altered accordingly. The stocking density should be reduced in wet periods or in conditions when poaching would lead to a break-up of the sward and colonisation by aggressive weed species. The Site should be managed in accordance with neutral grassland using the classifications in Table 2.

Table 2: A guide to stocking levels for lowland grassland (number of sheep per hectare). Adapted from lowland grassland management handbook produced by Natural England.

Number of grazing weeks per year	Neutral Grassland (sheep per ha)	Wet / marshy grassland (sheep per ha)
16	12.5	6
20	10	5
24	8	4
36	5.5	3
52	4	2

- 5.1.13 The following indicators will be used to review and amend stocking densities:

- An increase in the amount of uneaten grass, the accumulation of litter, an increase in vigorous rank and unpalatable grasses, and a reduction in low growing herbs indicates stocking density is too low (increase density).
- A reduction in density of plants, excessive poaching, weed invasion and the development of bare patches indicates stocking density is too high (reduce density).

- 5.1.14 The area of the site to be managed as longer grassland cover (shown in gold and red spotted on the layout plan), will be fenced off to prevent stock grazing and once established, subject to an annual cut after seeds have set (Late July/August).

Habitat piles

- 5.1.15 Any wood removed during habitat management or other work operations should be kept in habitat piles, placed along the edge of hedgerows or at woodland edge, in order to provide valuable invertebrate habitat and shelter for other species including small mammals. These should be placed in the same locations each year.

Pond Management

- 5.1.16 Pond management would follow the principles outlined below.

- 5.1.17 *Inspections* – The pond will be monitored annually following creation to assess colonisation by vegetation and any accumulation of sediment or debris. Annual routine management will include removal of debris and rubbish.
- 5.1.18 *General* – Overly vigorous or invasive plant species may need to be cut back or removed from the ponds using appropriate techniques to minimise disturbance to wildlife. Management of aquatic vegetation should be undertaken annually (little and often) with vegetation thinned rather than removed. Removed vegetation should be hand sorted to ensure no animals are caught up in the vegetation.
- 5.1.19 *Desilting* – Should water levels within the deepest area of the pond fall below half a metre, de-silting will be required. The work should be undertaken by a long armed excavator and where possible, entry and access to the pond should be limited to one point or section of bank.
- 5.1.20 Any build up of sediment requiring removal may require a licence from Natural Resources Wales (NRW). Wrexham Council and NRW should be contacted prior to any such works commencing. Herbicides should not be used within close proximity to ponds.

6 ECOLOGICAL MONITORING

- 6.1.1 The development of the biodiversity interest of the Site will be monitored over time by a suitably experienced ecologist. A walkover survey will be undertaken on years 3 and 5 and 10. This will involve an inspection of the planted hedgerows, trees, grassland and any other ecological enhancement features to ensure that they are being managed in a manner suitable for the enhancement of wildlife interest. The results of these monitoring surveys will be used to inform future changes in management and the need or otherwise to replace dead or dying tree and hedge plants. The management plan will be amended if necessary based on the monitoring recommendations (including amending the cutting regime if necessary).

7 INDICATIVE MANAGEMENT SCHEDULE

7.1.1 The following management programme shows possible months in which activities will commence within the first planting period after construction.

Initial Habitat Enhancement Year 1

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 1												
Tree/hedgerow/shrub planting.	✓	✓								✓	✓	✓
Grassland/meadow sowing.			✓	✓	✓			✓	✓	✓		
Installation of bird nest and bat roost boxes within the area of mature trees to the site boundary.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Management of Himalayan balsam				✓	✓							
Pond creation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Annual Habitat Management Year 2

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 2												
Light cutting of newly sown grassland (further cuts may be required depending on growth rates).		✓					✓	✓				
Light pruning of newly planted sections of hedgerow.	✓	✓							✓			
Checks by contractor through the initial maintenance period to comprise weed clearance, watering, checking stakes and ties and pruning.				✓	✓	✓	✓	✓	✓			
Replacement of any dead, dying or diseased tree, shrub or hedgerow specimens.										✓	✓	✓
Existing hedgerows cut on a 2 or 3 year cycle (no more than 1/3 cut in any one year).	✓	✓										
Management of Himalayan balsam				✓	✓							
Pond management	✓								✓	✓	✓	✓

Ongoing Annual Management

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 3 onwards												
Sheep introduced to graze grassland under panels (if established).	✓	✓						✓	✓	✓	✓	✓
Late cut of fenced off grassland (if established)								✓	✓			
Light pruning of newly planted sections of hedgerow for years 3 and 4.	✓	✓							✓			

Existing hedgerows cut on a 2 or 3 year cycle. All hedgerows from year 5 (no more than 1/3 cut in any one year).	✓	✓										
Management of Himalayan balsam				✓	✓							
Pond management	✓								✓	✓	✓	✓