



Land at Clywedog Rd East (Site 3) Wrexham Industrial Estate

Outline Habitat Management Plan

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CONTENTS

1	Introduction.....	2
1.1	Background	2
1.2	Habitat and Wildlife Summary	2
1.2.1	Habitats	2
1.2.2	Key Species	3
2	Outline Habitat Management Plan	4
2.1	Overview	4
2.1.1	Development Proposals	4
2.1.2	Mitigation Plan Aims	4
2.1.3	Management Plan Delivery	4
2.2	Proposals.....	5
2.2.1	Overview	5
2.2.2	Proposed Mitigation Area	5
2.2.3	Initial Habitat Preparation/ Habitat Creation	6
2.2.4	Habitat Management	7
2.2.5	Wardening, Monitoring and Reporting	8
2.2.6	Wider Habitat Management Strategy	8
3	Appendix.....	10

1 Introduction

1.1 Background

Kingdom Ecology have produced an Outline Habitat Management Plan to support the proposed development of 'Site 3' which is an approximate 1.2ha area of land located adjacent to Unit 73, Clywedog Road East, Wrexham Industrial Estate, LL13 9XE (National Grid Reference- SJ 372 493). Figure 1 in the Appendix shows the Site location.

This document identifies areas of land that will be subject to long term management to promote their biodiversity value and provides outline prescriptions for management of this habitat.

This management plan includes proposals associated with this specific site and also shows how these will tie-in with a wider strategy of long-term habitat management proposals to be located throughout the south western quarter of the industrial estate within other areas of FI-REM owned land.

The outline recommendations within this document should be used to inform the preparation of detailed management prescriptions and method Statements to support any future development of the site.

1.2 Habitat and Wildlife Summary

1.2.1 Habitats

An initial desk study and an Extended Phase 1 Habitat Survey of the Site was carried out on the 19th September 2017. Further surveys comprising of botanical, butterfly and reptile surveys were completed in Spring/Summer 2018.

To summarise, the Site was found to comprise of an area of regularly mown, species-poor, semi-improved grassland habitat with scattered ornamental trees within the grassland.

The grassland habitats were found to support habitats and species that are of relatively low botanical interest and are commonly occurring throughout the UK within similar less intensively managed sites.

There is a continuous band of broadleaved woodland which runs along the southern boundary of the site.

The woodland forms part of a more-or-less unbroken corridor of semi-natural vegetation which runs for approximately 1600m from the southern boundary of the study site on Bridge Road South, through the wider Industrial Estate, before joining Redwither Brook approximately 950m to the east of the site.

The woodland is considered to be of relatively low botanical interest, however owing to its likely function as one of the main wildlife corridors through the Industrial Estate, the woodland is considered to be a feature of locally important biodiversity value.

The woodland lies outside of the proposed development area.

Further surrounding landuses largely comprise of industrial units with associated areas of hardstanding and patches of amenity grassland.

1.2.2 Key Species

The Wrexham Industrial Estate is acknowledged as maintaining important populations of the dingy and grizzled skipper butterfly. Both of these butterflies are 'Species of Principal Importance' as listed under Section 7 of the Environment (Wales) Act 2016.

A review of existing data and site surveys did not record the presence of either of these butterflies at the proposed development site. In addition, the habitat assessments of these sites did not indicate that they were potentially viable for the presence of these species.

Although neither species was recorded within the study site, the adoption of habitat creation and management within and outside of the site has the potential to provide additional resources and contribute to the maintenance and enhancement of the butterfly, and other invertebrate, populations within the Wrexham Industrial Estate.

Other wildlife that could use the site include small mammals, common bat species plus farmland and woodland bird assemblages.

2 Outline Habitat Management Plan

2.1 Overview

2.1.1 Development Proposals

Development proposals are to construct an industrial unit at the site with associated areas of hardstanding. This will result in the loss of approximately 1.34ha of species-poor grassland habitats. The proposed development would include the retention of a 0.23ha area of grassland which would be managed principally for its conservation benefit.

The grassland area would require some re-profiling to create a small SUDS (Sustainable Urban Drainage System) attenuation basin which would allow some storage of flood water during extreme storm events. However, this area would in the main, remain dry.

2.1.2 Mitigation Plan Aims

The habitat management plan for this site has been designed around the following key principles and aims:-

- Where possible, retain blocks of interlinked habitat as opposed to isolated pockets of habitat;
- Maximise the biodiversity value of retained habitats at the site;
- Promote botanical interest within grassland habitats;
- Where possible include suitable habitat for notable invertebrate species;
- Ensure the long-term viability of the proposed ecology sites by appropriate, long-term management and long-term protection of the sites;
- Allow for a flexible and iterative process with regards to the management of the habitat through an annual review of the habitats present and the management plan to allow biodiversity opportunities to be explored and promoted.

2.1.3 Management Plan Delivery

FI-REM will make provision to allow the appointment of an appropriate managing organisation who will be responsible for the maintenance and management of the FI-REM owned habitat compensation areas across the Wrexham Industrial Estate. The detail of this will be arranged at an appropriate stage in the future.

Detail on areas of habitat creation, management prescriptions and timetabling would be provided within a detailed Habitat Management Method Statements to be produced at a later stage.

Funding for the ongoing management of the site would be secured ideally through a unilateral undertaking. This amount paid would need to include for the following:-

- Initial habitat preparation and creation
- Ongoing management and maintenance over a 20 year period
- Wardening and monitoring of the site
- Production of an annual report for the site
- A contingency fund to allow for any modifications to the habitat management plan or ad-hoc remediation works

2.2 Proposals

2.2.1 Overview

Habitat Management proposals for this area will aim to maintain areas of species-rich grassland including flower-rich neutral grassland, rank coarse grassland, south facing calcareous grassland on butterfly banks and marshy grassland habitats within the proposed attenuation basin.

Proposed habitat management prescriptions are shown on Figure 2 in the Appendix.

2.2.2 Proposed Mitigation Area

The proposed mitigation area comprises of an existing 0.23ha triangular patch of land located at the southeast corner of the site.

The area currently comprises of regularly mown, species-poor, semi-improved grassland. The grass is cut several times a year and the arisings are currently left in situ. The grass sward is therefore relatively short throughout the year. The grassland supports a range of coarse grasses with herbs throughout.

Grasses present comprise of frequent perennial rye-grass with occasional red fescue, rough meadow-grass, cock's foot, Yorkshire fog, sweet vernal grass, meadow foxtail and common bent.

Herbs present include frequent creeping buttercup and dandelion, with occasional creeping cinquefoil, bird's-foot trefoil, white clover, red clover, ribwort plantain, common knapweed, yarrow and meadow vetchling.

Common knapweed, bird's foot trefoil, creeping cinquefoil, red clover and meadow vetchling are species that occur in less intensively managed grassland with soils that are not overly nutrient rich. The presence of these species indicates that the botanical value of the grassland can be improved by sensitive management practices that will aim to further reduce soil nutrient levels, to help to control the vigour of coarse grasses and to promote a greater density of herbs within the grassland sward.

Development proposals in this area will include the installation of a SUDS attenuation basin which will likely only hold water during extreme flood events. The basin will be dry for the majority of the time.

The attenuation basin will have gradually sloping sides and will be located approximately 1m below the surrounding ground levels.

The attenuation basin will provide opportunities for wildlife at the site by creating a more varied topography, the basin will likely support damp soils and consequently the site may be able to support a greater variety of grassland habitats including marshy grassland.

The basin will also create dry, south facing slopes which can be of value to invertebrates.

Spoil from the basin can be used to create further areas of conservation habitat including butterfly banks along the northern edge of the site.

2.2.3 Initial Habitat Preparation/ Habitat Creation

Proposals within this mitigation area will include:-

- Management of existing areas of grassland
- Habitat creation within the proposed attenuation basin
- Creation of butterfly banks along northern boundary of the site

It is recommended that an Ecological Clerk of Works (EcOW) is appointed to produce detailed Method Statements for the initial habitat creation works and to oversee and advise on sensitive stages of the initial ground works.

It is advised that the mitigation area is prepared in advance of the wider site clearance as this will allow opportunities to identify and translocate flower-rich grassland turves into the mitigation areas from the proposed development area. Alternatively, flower-rich turves within other FI-REM sites which will be developed can be used to enhance the mitigation area. Sites 2 and 5b support suitable species-rich turves.

It is recommended that the extent of the construction area for the attenuation basin is kept to a minimum to avoid compaction of soils within the areas of land to be managed as wildflower grassland.

Areas of grassland to be retained and managed should be fenced off by the EcOW to prevent encroachment by construction vehicles.

It is recommended that flower-rich turves that support plant species valuable to dingy and grizzled skipper (e.g. common bird's-foot trefoil, agrimony and creeping cinquefoil) are transplanted onto the southern slope of the attenuation basin.

Timing of grassland translocation is of critical importance. Ideally, grassland turves should be moved in the autumn when soils are warm and moist and immediately prior to rainfall.

This timing will also allow opportunity for some root growth prior to winter and will limit the risk of roots under developing prior to the dry summer weather.

Turves should be cut to a depth of approximately 40cm and transported immediately to the donor site. Turves must be planted immediately after harvesting and cannot be stored. If no rainfall is forthcoming then turves will require supplementary watering.

These works should be overseen by the EcOW who will ensure that turves are correctly cut, transported and planted.

The remainder of the basin and any other areas of bare ground should be re-seeded with an appropriate wildflower mix (e.g. Emorsgate Seeds EM3).

The ground will need to be appropriately prepared- wild flower grassland requires a high-quality tilth. Any compacted soils will need to be broken up, at least in the upper horizon, using a power harrow or equivalent. Cultivation is best carried out in dry conditions during the summer with the grassland seed sown in late summer/early autumn.

Subsoil from the attenuation basin can be used to help construct the butterfly bank along the southern boundary of the site. The soil should be mixed with a medium-coarse aggregate material with a limestone or other high pH material preferable as it facilitates the development and maintenance of an open, species-rich sward.

The banks should be sown with an appropriate wildflower mix (e.g. Emorsgate Seeds EM6F) and supplemented with a translocation of flower-rich turves (again those supporting common bird's-foot trefoil, agrimony and creeping cinquefoil).

Patches of bare ground should be retained on the banks of the attenuation basin and on the butterfly bank.

2.2.4 Habitat Management

Habitat management at the site should seek to encourage diverse grassland habitats. This will be achieved through the maintenance of low nutrient soils, through the control of scrub encroachment and by careful timing of cuts to allow grasses and herbs to flower and set seed.

No fertiliser should be applied to the mitigation grasslands.

The grassland habitats at the site should be mown just twice a year, with the first cut carried out in early April and the second cut in September/October.

Following mowing, all arisings must be removed from the site.

A 3m wide band of rank grasses should be retained along the southern boundary of the site where it backs on to the adjacent woodland block.

This area of grassland should be cut once every two years in either April or September.

It may not be necessary to frequently cut the vegetation from the butterfly banks. The banks should be monitored by an appropriate ecologist in the summer and they will determine whether parts of the bank will require strimming during the autumn.

The ecologist will also determine whether parts of the site will require patches of earth scraped back to provide areas of bare ground/early successional grassland.

Management of habitats should be carried out for at least 20 years, following the completion of construction.

2.2.5 Wardening, Monitoring and Reporting

Land at Wrexham Industrial Estate can suffer some anti-social behaviour including fly tipping, unauthorised use of off-road vehicles and use of land by unauthorised gypsy and traveller encampments.

In this instance, the Site is set back from the road and behind the proposed industrial unit. Consequently, vehicular access is restricted and the risk of the described undesirable activities are considered to be low.

Nevertheless, some infrequent wardening of the site should be carried out at least once every three months.

Where identified during wardening visits, remediation works should be promptly carried out at each site. This could include repair of fencing, clearance of fly-tipped debris, litter picking etc.

Monitoring of the site should be carried out annually during the summer to assess the success of the habitat management plan and to allow for any refinement of management practices. The monitoring works should be completed by an appropriately qualified ecologist. Monitoring should comprise of an assessment of the botanical value of the site and also an assessment of the suitability of habitats for dingy and grizzled skipper butterflies. The ecologist will determine whether any additional works to the standard mowing regime are required in the following Autumn including any strimming of the butterfly bank and whether any areas of bare ground are required.

An annual monitoring report with management recommendations (where relevant) would be produced and submitted.

2.2.6 Wider Habitat Management Strategy

A wider habitat management strategy has been produced for other areas of FI-REM land located around the southwest corner of the industrial estate.

This wider plan aims to provide inter-connected blocks of semi-natural habitat that are managed to maximise their biodiversity value.

Where possible, areas of land have been allocated where they adjoin other patches of semi-natural habitat both outside and inside of FIRM's ownership, to provide large continuous blocks of valuable wildlife habitat.

This wider management strategy will include areas of managed woodland and managed grassland habitats. Bat and bird boxes will also be installed within the managed woodland habitats,

The habitat compensation area associated with this site adjoins a block of woodland which forms part of a large continuous block of woodland and grassland mosaic surrounding the Pentre Maelor housing estate and so contributes towards the aims of the wider Habitat Management Strategy.

Figure 3 in the Appendix shows the proposed layout of the wider habitat compensation strategy along with proposed habitat types to be managed.

3 Appendix

FIGURE 1- Site Location



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Ordnance Survey 100054686



Study Area





