



THE
ENVIRONMENT
PARTNERSHIP



Land off Abbey Road
Wrexham Industrial Estate
Ecological Assessment

TEP Ref 7218.003

TEP
Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Tel: 01925 844004
Email: tep@tep.uk.com
www.tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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Author	Dr Rachel Roberts
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Checked	Elizabeth Seal
Approved	Elizabeth Seal

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G7128.005	Ecology Plan
G7128.006	Proposed Amphibian Fencing Plan
G7128.007	Elm Point Mitigation Areas
G7128.003F	Habitat Enhancement Plan
MH19/01	Current Landscape Proposals

APPENDICES

Appendix A:	Proposed Site Plans
Appendix B:	Desk Based Assessment

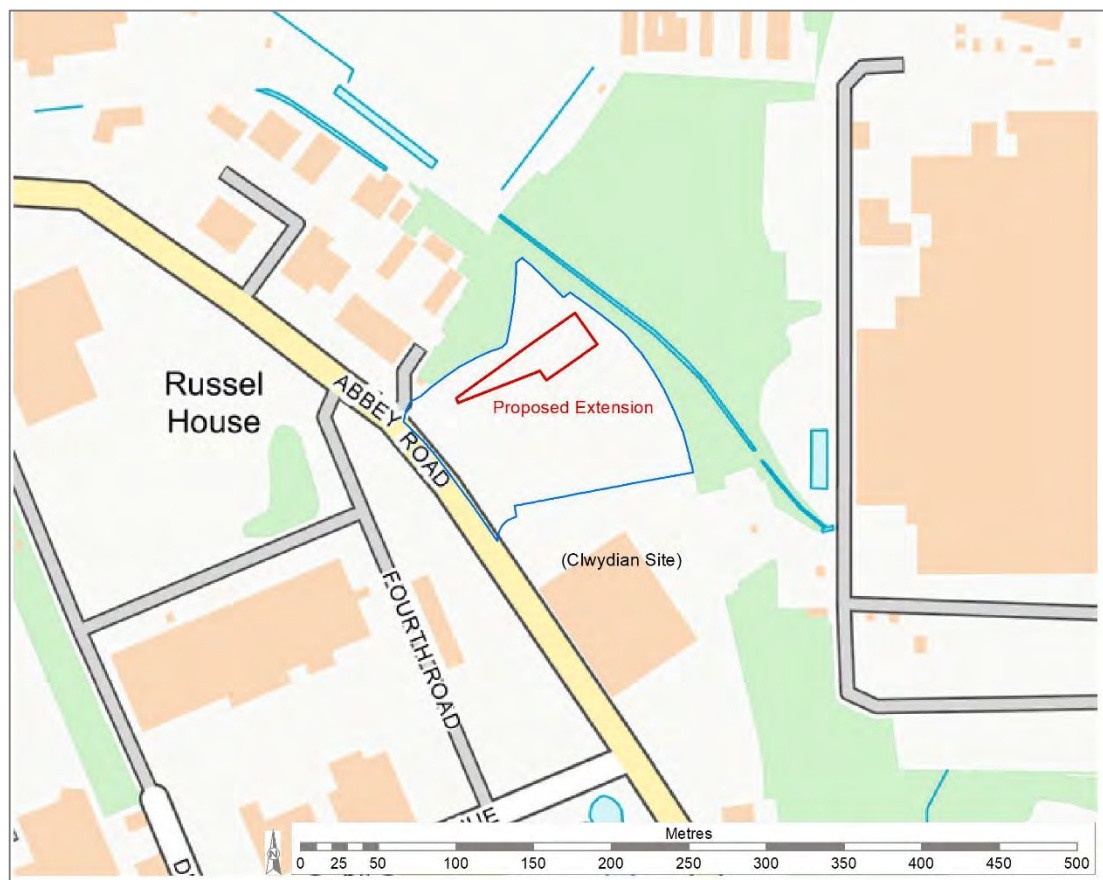
1.0 INTRODUCTION

- 1.1 TEP was commissioned in June 2018 by M&L Investments Partners Ltd to carry out an ecological assessment of a parcel of land within Wrexham Industrial Estate, off Abbey Road, Wrexham.
- 1.2 This assessment has been requested to inform planning proposals for a new extension to Unit 1 in the northwest of site. Planning consent has been previously granted for Unit 1 and associated yard area and access (Ref P/2017/1013). The extension to Unit 1 is now required for the viable operation of the site. Proposed site plans are included in Appendix A of this report, with the current landscape proposals shown in Drawing MH19/01.

Site Location

- 1.3 The site is located east of Wrexham, approximately 4.5km from the city centre. The previously consented development, remains within the amphibian exclusion fencing. The proposed extension to Unit 1 and the corresponding extension to the service yard extends outside of the currently excluded footprint into the Elm Point ecological mitigation area. The approximate central grid reference is SJ 3851 5051. The extent of the proposed extension is shown in Figure 1.

Figure 1: Site Location



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- 1.4 The proposed extension measures approximately 0.1ha. The site containing the existing Unit 1 and proposed extension is bounded to the west by Abbey Road, to the south by Elm Road and to the east and north by a small area of woodland. The site is surrounded by industrial developments, within the industrial estate. The wider area is predominantly agricultural land.

Background

- 1.5 The M & L site off Abbey Road previously formed part of a wider site, the former Elm Point site (formerly known as Redwith Central), owned by Wrexham County Borough Council (WCBC). A number of buildings existed across the site that required demolition and the site required remediation. An ecological mitigation area was established as part of the demolition and remediation measures. A mitigation licence for great crested newt *Triturus cristatus* (ref GCN/2658/WG/IND) was acquired by Marches Ecology on behalf of WCBC for the wider site to enable exclusion of the proposed development footprint and the capture and translocation of great crested newts and other amphibians into the establish mitigation area. Broadly, the mitigation area is positioned around the west, north and east boundaries of the M & L site and extends south along the eastern boundary of the Clwydian Group site.
- 1.6 Clwydian Group Ltd leased and took control of the wider site in 2015. Clwydian Group Ltd acquired responsibility for the ongoing management and monitoring of the mitigation area. The mitigation area is subject to an Ecological Management Plan¹ (EMP), which is currently implemented by Ecological Land Management (ELM) and monitoring is undertaken by Marches Ecology.
- 1.7 Clwydian Group Ltd obtained planning consent for an industrial unit and offices in November 2015 (ref P/2015/0886). Prior to development of the Clwydian site, additional remediation measures were required that were located within licensable distance to a badger *Meles meles* sett present on the east boundary of the wider site. A licence was obtained by Marches Ecology on behalf of Clwydian Group Ltd (Ref NAW 33-14). The sett was retained as part of the proposals for the Clwydian site.
- 1.8 Development of the Clwydian site, south of the shared service road access off Abbey Road, is now complete although ecological mitigation and monitoring in ongoing by Marches Ecology and ELM, on behalf of Clwydian Group Ltd in accordance with the EMP and great crested newt licence.
- 1.9 M & L Investment Partners Ltd has acquired the remainder of the site, north of the access road. The pre-existing newt great crested newt licence was divided between the two ownerships, and as of August 2017 this included division of the ecological mitigation area and responsibility for ongoing management and monitoring.

¹ The EMP was also included with the GCN licence method statement

- 1.10 Planning consent for Unit 1 in the northern area of the wider site (hereafter referred to as “the site”) was granted, subject to conditions, in January 2018 (Ref P/2017/1013). Marches Ecology produced an Ecological Statement in support of the planning application that summarised the existing ecological condition of the site, historic and ongoing ecological mitigation measures, monitoring and management applicable to the ecological mitigation area and recommendations in respect of the proposed industrial warehouse and service area.
- 1.11 The footprint and construction working areas for the previously consented Unit 1, service yard and access remains excluded by amphibian exclusion fence, implemented under the new great crested newt licence (Ref 76782:OTH:EPS:2017).
- 1.12 A badger mitigation licence (Ref 78926:OTH:BD:2018) was acquired in 2018 by Marches Ecology on behalf of M & L Investment Partners to permit disturbance of the badger sett located on the east edge of the site during construction for Unit 1.

Pre-Existing Ecological Measures

- 1.13 The approximate extent of the ecological mitigation area within the M & L site is illustrated in Drawing G7128.005. This drawing also illustrates the ecological mitigation and enhancement measures currently implemented within the mitigation area. The establishment of the mitigation area has included:
- (i) Exclusion and translocation of amphibians from the development footprint (covering the wider site), including capture and relocation of eight great crested newts and 127 other amphibians into the mitigation area;
 - (ii) Maintenance of the amphibian exclusion fence;
 - (iii) Creation of hibernacula for great crested newts;
 - (iv) Formation of low nutrient input substrate and landform suitable for grizzled skipper and dingy skipper;
 - (v) Natural recolonisation across the new landform with some localised translocation of suitable vegetative material;
 - (vi) Installation of two bird boxes (one Schwegler 1B and one Schwegler 1N-robin box) and three bat boxes (two Schwegler 2FN and one Schwegler 2F-DFP);
 - (vii) Implementation of the EMP.
- 1.14 The EMP was produced by Marches Ecology in 2012 on behalf of WCBC and sets out a ten year management and monitoring strategy for the ecological mitigation area. Two annual monitoring reports have to date been produced by Marches Ecology (Year 1 report dated December 2016 and Year 2 report dated November 2017).

2.0 Methods

Desk Based Assessment

- 2.1 Information regarding historic species records and protected sites within a 1km radius of the site was requested and gathered from the sources listed in Table 1. This collated data gives a useful indication of the distribution and abundance of ecological receptors at a given locale.
- 2.2 An absence of pre-existing records does not indicate the absence of protected species from the search area. Field assessment seeks to verify the potential for any protected species to be present.

Table 1: Sources of Ecological Information

Source of Information	Nature of Information
Magic Map	Maps showing legally protected sites and habitats of value to biodiversity within 1km and international sites within 5km
COFNOD	Protected species records and locally designated sites
Wrexham County Borough Council	Land allocations and relevant policies
ArcMap10	Ordnance & Aerial survey mapping
Planning Application Ref P/2015/0886 (Clwydian site)	Marches Ecology (December 2016) Elm Point Mitigation Area – Annual Monitoring and Management Report (Ref C261/1.1) Marches Ecology (November 2017) Elm Point Mitigation Area – Annual Monitoring and Management Report Year 2 (Ref C261/Y2/1.1) Cube Architecture and Design (July 2015) Design and Access Statement for the Proposed Industrial Building Abbey Road, Wrexham Industrial Estate
Planning Application Ref P/2016/0186 – discharge of conditions imposed under P2015/0886	Marches Ecology (August 2012) Proposed Demolition of Various Buildings, Redwith Central, Abbey Road, Wrexham Industrial Estate – Ecological Management Plan for Mitigation Area
Planning Application Ref P/2017/1013 (Proposal site)	Marches Ecology (October 2017) Elm Point, Abbey Road, Wrexham Industrial Estate – Ecological Statement (Ref C348) C4 Consulting Design and Access Statement for Proposed Warehouse Building, Land Adjoining Clwydian Site, Abby Road, Wrexham Industrial Estate
Planning Application Ref P/2018/0110 – discharge of Condition 11 (Proposal site)	Copy of Great Crested Newt Licence granted by Natural Resources Wales (Ref 76782:OTH:EPS:2017) (licence only; method statement not attached)
Planning Application Ref P/2018/0110 – discharge of Condition 12 (Proposal site)	Shields Arboricultural Consultancy (February 2018) Tree Protection Plan and Arboricultural Method Statement: Land at Abbey Road, Wrexham Industrial Estate

Source of Information	Nature of Information
McCarthy Haulage	Marches Ecology (March 2018) Proposed Development at Elm Point, Abbey Road, Wrexham Industrial Estate – Badger Licence Application Method Statement (Ref C348/Badger_MS/1.0)
North Wales Wildlife Trust	Wrexham Industrial Estate Towards a Living Landscape
Marches Ecology	Site knowledge including EMP works, monitoring and protected species licensing.

Site Assessment

- 2.3 A walkover and habitat survey was carried out by Principal Ecologist Lee Greenhough and Graduate Ecologist Annabel Walker-Evans on 9th July 2018. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC 2010²) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017³).
- 2.4 Conditions recorded during the July 2018 were excessively dry to the prolonged hot summer. The low nutrient status vegetation communities present within the site and ecological mitigation area were therefore not displaying optimum conditions for evaluation. A repeat site visit was undertaken by Lee Greenhough on 26th September 2018.
- 2.5 Habitat types were recorded using the JNCC habitat categories. Plant species were identified in accordance with Stace (2010) and recorded as target notes using the DAFOR scale. Weather conditions during both the survey visits were dry and bright.
- 3.1 The walkover survey included an assessment of the site and surrounding habitats for their potential to support species of conservation concern. Particularly statutorily protected species or species identified through Section 7 of the Environment (Wales) Act 2016, and recorded any signs indicating the presence of these species.

² JNCC 2010. Handbook for Phase 1 Habitat Survey: A technique for environmental audit.

³ CIEEM 2017. Guidelines for Preliminary Ecological Appraisal.

3.0 Results

Desk Based Assessment

Planning Context

- 3.2 A summary of the results of the desktop study are set out below. Further details, including maps, are provided in Appendix B.

Relevant Planning Policies and Guidance

- 3.3 Chapter 5 of Planning Policy for Wales Edition 9 (November 2016) outlines the Welsh Government's of the country's natural heritage in the planning system. Some relevant extracts are provided in the following paragraphs:

5.1.2 The Welsh Government's objectives for the conservation and improvement of the natural heritage are to:

- promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats;*
- ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment;*
- ensure that statutorily designated sites are properly protected and managed;*
- safeguard protected species, and to*
- promote the functions and benefits of soils, and in particular their function as a carbon store.*

5.2.8 The planning system has an important part to play in meeting biodiversity objectives by promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable.

5.5.2 When considering any development proposal (including on land allocated for development in a development plan) local planning authorities should consider environmental impact, so as to avoid, wherever possible, adverse effects on the environment. Where other material considerations outweigh the potential adverse environmental effects, authorities should seek to minimise those effects and should, where possible, retain and, where practicable, enhance features of conservation importance.

- 3.4 The National planning policy is supplemented by a series of Technical Advice Notes (TANs). TAN 5, Nature Conservation and Planning (2009) includes guidance on how the planning system should contribute to enhancing biodiversity. Section 4 of the Tan details considerations for development control, Section 4 considers designated sites and habitats and Section 6 protected and priority habitats and species.
- 3.5 The site is unallocated within Wrexham County Borough Council's Unitary Development Plan (UDP). The UDP was adopted in February 14th 2005 and will be replaced by the Local Development Plan (LDP) currently being prepared by WCBC. The UDP currently remaining in force sets out specific policies for the use of land and buildings providing a framework for local decision making and reconciling the need for development and conservation interests

3.6 The following policies are most relevant to this assessment:

- Policy GDP1;
- Policy EC4;
- Policy EC6 and;
- Policy EC7.

3.7 Wrexham Industrial Estate is one of the largest in Europe, covering 550ha. The estate contains vacant plots of land which have re-vegetated and form a network of habitats that can support a diverse range of species. The industrial estate is specifically referenced within the Wrexham UDP and planning guidance within the Wrexham Local Biodiversity Action Plan (2002). Local Guidance Note 29 'Wrexham Industrial Estate: Employment Development and Nature Conservation' was adopted by WCBC in April 2009.

Designated Sites

3.8 There are no internationally or nationally designated sites for nature conservation within 1km of the development boundary. The closest statutorily protected site is Midland Meres and Moses RAMSAR site, approximately 4km northwest.

3.9 The site falls within the Site of Special Scientific Interest (SSSI) Impact Risk Zones (IRZ) for the River Dee SSSI and Dee Cliffs Famdun SSSI which are located approximately 3.3km to the east and 3.8km north east of the site boundary respectively. The proposed development is not listed as a likely risk for the designated sites associated with this IRZ's.

3.10 Wrexham Industrial Estate Wildlife Site is located within 1km. The closest parcel is approximately 400m south east of the site and includes a mosaic of scrub, grassland and tall herb.

Mitigation Area

3.11 The mitigation area that surrounds the site containing the proposed extension to the northwest, north and east is subject to a great crested newt mitigation licence (current ref Ref 76782:OTH:EPS:2017).

3.12 Although not statutorily designated or locally allocated, the inclusion of this mitigation site under licence requires due consideration under the terms of the licence. No activity that would impact great crested newts or the mitigation approved and delivered under licence would be permissible without appropriate and justifiable modification to the licence.

3.13 The primary focus of the mitigation area is to deliver terrestrial refuge and foraging habitat for great crested newts. Secondary objectives relate to dingy skipper *Erynnis tages* and grizzled skipper *Pyrgus malvae*, species rich grassland (pre-existing within the mitigation area and translocated swards) and historically⁴ locally scarce flora

⁴ At the time of establishing the EMP several plant species on site were listed as locally scarce, in May 2014 the County Rare Plants Register was updated, the species listed here are no longer locally scarce.

including species such as hoary ragwort *Senecio erucifolius*, sticky groundsel *Senecio viscosus*, bristly ox-tongue *Helminthotheca echioides* and hairy St. John's-wort *Hypericum hirsutum*.

Great Crested Newt

- 3.14 Over 50 records of great-crested newts were identified by Cofnod, primarily located to the north, south and east of site. The closest record was approximately 0.3km from the site boundary.
- 3.15 Previous mitigation work to address ecological impacts of the demolition and remediation of the former Elm Point site, implemented by WCBC, included the exclusion, capture and translocation of great crested newts from within the remediation area to the mitigation area. A total of eight great crested newts and 127 other amphibians (smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and common toad *Bufo bufo*) were released into the mitigation area.
- 3.16 An extant licence remains in place for the proposed extension site, existing development area for Unit 1 and the mitigation area.

Badger

- 3.17 Two badger sett records and one live sighting of badger were identified by Cofnod within the 1km search area between 2007 and 2018. These records are located approximately 0.9km from site, however exact location of the setts is confidential.
- 3.18 A badger sett is located 8-10m east of the existing development area for Unit 1 and is the subject of a badger licence (Ref 78926:OTH:BD:2018). The sett comprised up to three entrances that are partially used and the sett was classified by Marches Ecology in 2017 to be an outlier. The wider site of Elm Point was assessed to be of negligible value for badgers; badgers access the site via the eastern boundary but otherwise do not use the site extensively and it was considered by Marches Ecology that the badgers did not use the site for foraging. Land immediately north of the sett was inaccessible to Marches Ecology but was described as dense scrub/woodland of likely value for badgers.

Butterflies

- 3.19 The desktop search identified records of 9 dingy skipper and 11 grizzled skipper both on site and within 1km. Monitoring by Marches Ecology of the mitigation site and the proposed development area for Unit 1, prior to commencement of construction, in 2016 and 2017 confirmed presence of both species, although neither were present within any of the habitat creation areas (butterfly banks). In May 2018 Marches Ecology recorded four grizzled skipper within the mitigation area, two within the retained grassland and 2 within the created habitat (within the footprint of the proposed extension). These species are listed through Section 7 of the Environment (Wales) Act 2016 as species of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.
- 3.20 Monitoring by Marches Ecology in 2017 also recorded common blue *Polyommatus icarus*, small copper *Lycaena phlaeas* and Mother Shipton *Callistege mi* within the northern extent of the mitigation area, including the grassland area retained in the

northwest corner. In 2018 monitoring by Marches Ecology identified common blue as frequent in the created habitats.

Birds

- 3.21 Several species of birds were identified by Cofnod within the 1km search radius:
- Goshawk *Accipiter gentilis* (WCA1⁵)
 - Grasshopper warbler *Locustella naevia* (WCA1, S7⁶, BRd⁷)
 - Great black-backed gull *Larus marinus* (WCA1, BAm⁸)
 - Green woodpecker *Picus viridis* (WCA1)
 - Little ringed plover *Charadrius dubius* (WCA1)
 - Peregrine *Falco peregrinus* (WCA1)
 - Swift *Apus apus* (WCA1, BAm)
 - Willow warbler *Phylloscopus trochilus* (WCA1, BAm)
 - Woodcock *Scolopax rusticola* (WCA1, BRd)
- 3.22 Two little ringed plover were observed by Marches Ecology on two occasions during monitoring visits in April and early May 2016 in potentially suitable nesting habitat within the mitigation area. However, the birds were not recorded later in May 2016 and were not detected during monitoring visits completed by Marches Ecology in 2017.
- 3.23 One record for woodcock provided by Cofnod dated to the 13/02/2018 and was located within the site ownership boundary.
- 3.24 Five bird boxes were installed into the mitigation area; two of these boxes (one Schwegler 1N and one Schwegler 1B) are located in the mitigation area surrounding the proposed extension to Unit 1. Both were found to be occupied by nesting birds during monitoring undertaken by Marches Ecology during 2016 and 2017. Three bat boxes located in the mitigation area surrounding the proposed extension were found during monitoring by Marches Ecology to have been occupied by nesting birds.

Bats

- 3.25 Multiple records for bats were identified by Cofnod within the 1km search area:
- Common pipistrelle *Pipistrellus pipistrellus* (EPS⁹, WCA5¹⁰, S7);
 - Myotis bat species *Myotis* (EPS, WCA5, S7);
 - Whiskered bat *Myotis mystacinus* (EPS, WCA5, S7);

⁵ Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended

⁶ Species of principal importance under Section 7 of the Environment (Wales) Act 2016

⁷ Species on the Red list of Birds of Conservation Concern, of high concern

⁸ Species on the Amber list of Birds of Conservation Concern, of moderate concern

⁹ European Protected Species

¹⁰ Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended

- 3.26 Marches Ecology also identified a record of one brown long eared bat (EPS, WCA5, S7) found within the Clwydian building on 02/11/2017.
- 3.27 A secondary objective of the EMP is to deliver a corridor of suitable commuting and foraging habitats for bats along the north and east of the site (continuing southwards through the Clwydian site).
- 3.28 Six bat boxes were installed into the mitigation area, three of which are located within the mitigation area surrounding the proposed extension to Unit 1. Monitoring by Marches Ecology in 2016 and 2017 has not, to date, confirmed occupation by bats in the M & L site (droppings of *Myotis* sp. were identified in one of the bat boxes in the Clwydian mitigation area).

Field Survey

- 3.29 Habitats currently present are illustrated in Drawing G7128.005 and described in the following paragraphs and photos.

Tall Ruderal

- 3.30 Tall ruderal herb dominates the west of the mitigation area, centered on the bund bordering Abbey Road. Species include rosebay willowherb *Chamaenerion angustifolium*, nettle *Urtica dioica*, false oat grass *Arrhenatherum elatius* and shrub species. ELM undertake control of vegetation around the planted shrubs on this bund along with chemical treatment of *Cornus alba* and *Symphoricarpos alba*.

Figure 2: Tall ruderal habitat bordering Abbey Rd, west of site



Bare Ground with Ephemeral / Short Perennial

- 3.31 The north of the mitigation area is dominated by a mix of bare ground with ephemeral / short perennial habitat. This habitat has been created using a mixture of sub-soil, rubble and small diameter limestone hardcore and has been allowed to naturally regenerate. To date no seeding and no plug-planting has been undertaken (though

the latter is proposed in places). Small fragments of vegetation material containing creeping cinquefoil were translocated to the M & L mitigation area during the Clwydian construction phase in May 2016. Species present include locally abundant creeping cinquefoil *Potentilla reptans* and bird's-foot trefoil *Lotus corniculatus* (important butterfly food plants). Marches Ecology report the area contains yellow wort *Blackstonia perfoliata*, blue fleabane *Erigeron acris*, common spotted orchid *Dactylorhiza fuchsii* and the Locally Scarce fern grass *Catapodium rigidum*.

- 3.32 Across much of the northern mitigation area this habitat is in succession with tall ruderal vegetation (dominated by teasel at the time of the survey) becoming widespread. However, this area is subject to an annual cut and is unlikely to transition into tall ruderal habitat.

Figure 3: Bare ground with ephemeral / short perennial in the north of mitigation area



Figure 4: Butterfly bank



- 3.33 Butterfly banks were also created as part of the establishment of the mitigation area. These features are dominated by creeping thistle *Cirsium arvense*, bristly ox-tongue *Helminthotheca echioides*, dandelion *Taraxacum agg.*, teasel *Dipsacus fullonum* and willowherb *Epilobium* species. Marches Ecology report creeping cinquefoil is also present.

Figure 5: Consented scheme under construction and application site (west)



Figure 6: Consented scheme under construction and adjacent application site (east)



Unimproved Neutral Grassland

- 3.34 A small area of unimproved neutral grassland exists within the northwest corner of the mitigation area. The area comprises retained habitat and grassland translocated in May 2018 from elsewhere on site. Figure 7 shows the retained habitat on the right side of the image and the recently translocated habitat on the left.
- 3.35 Species present during the survey visits included hoary ragwort *Senecio erucifolius*, teasel *Dipsacus fullonum*, field horsetail *Equisetum arvense*, oxeye daisy *Leucanthemum vulgare*, red fescue *Festuca rubra*, common knapweed *Centaurea nigra*, dog rose *Rosa canina* agg., bramble *Rubus fruticosus* agg., nettle *Urtica dioica*, agrimony *Agrimonia eupatoria*, red clover *Trifolium pratense*,

willow *Salix* sp. Marches Ecology report grass vetchling *Lathyrus nissolia*, a Locally Scarce plant, also is locally frequent in this habitat.

Figure 7: Unimproved neutral grassland



Invasive Species

- 3.36 No non-native invasive species plant species were noted within the extension site during the 2018 field survey. However, the Marches Ecology 2017 EMP monitoring report of the wider site recorded montbretia and cotoneaster.

Habitat Connectivity

- 3.37 The site is immediately surrounded to the north, south and west by industrial developments and large, busy roads that run through the Industrial Estate. However pockets of woodland and stepping stone habitats of hedgerows and scrub are present in the land to the northeast and southeast of the site and these link into other green or as yet undeveloped areas in the estate.
- 3.38 Of particular note the mitigation area established for this site forms a linear corridor which extends southwards down the east edge of the Clwydian site, connects with other land established for another managed mitigation site, west of Bryn Lane. Part of this mitigation land is locally designated as a Wildlife Site "Bryn Lane", located approximately 400m from the site.
- 3.39 Wrexham Industrial Estate supports a number of other Wildlife Sites. The largest is "The Oaks" which lies an estimated 1km south of the site boundary and which provides unmanaged grassland habitat, ancient broadleaf woodland and a mosaic of scrub, grassland and tall herb.

Fauna

Great Crested Newt

- 3.40 A great crested next exclusion fence has been installed that excludes the consented development site for Unit 1 from the adjacent mitigation area. The fence has been maintained in good condition.
- 3.41 There is no aquatic habitat within the proposed extension, or within the mitigation area or development site for Unit 1. Terrestrial habitats within the proposed extension will offer foraging potential. The purpose built hibernacula are located outside the proposed extension.

Badger

- 3.42 One outlier badger sett is located within 10m of the construction for Unit 1; Marches Ecology have previously identified this sett as an outlier comprising two to three entrances and active but with only periodic use. At the time of writing this report Marches Ecology confirmed that they had undertaken monthly monitoring of the sett since April 2018, during this period no evidence of recent badger use was recorded although the holes were inhabited by fox and rabbit at various times. In September 2018 TEP identified a total of four mammal holes, although there were no obvious signs of recent activity and there was a strong smell of fox in the area. Due to the confidential nature of this information, the location of the sett is not provided within this report.
- 3.43 The badger sett is located approximately 30m from the proposed extension at its closest point although temporary working areas may extend closer to the sett. Monitoring reports and the badger licence application method statement for Unit 1 produced by Marches Ecology indicate the site is unlikely to be of significant value for badgers, however the sett is accessed along the east of the site.

Butterflies

- 3.44 During the site walkover in July 2018, four species of butterfly including common blue were recorded within the mitigation area. No sign of dingy or grizzled skippers were observed, however targeted butterfly monitoring was not implemented as part of the walkover and July is sub-optimal for recording this species as it is unlikely to be on the wing in North Wales at this time. Further details of butterfly monitoring by Marches Ecology including in 2018 is provided at paragraphs 3.19 and 3.20.

Birds

- 3.45 The footprint of the proposed extension is small and narrow and comprises a generally sparse newly establishing grassland sward. There is a lack of any structure that would offer nesting potential for passerine species. There may be some limited potential for ground nesting species, however no ground nesting birds have been reported by Marches Ecology within the mitigation area (two little ringed plover were seen by Marches Ecology in early 2016 but were not recorded nesting and were not recorded at all in 2017) and the proposed extension's proximity adjacent to the ongoing development for Unit 1 means that visual and noise disturbances will reduce the

attractiveness of this small portion of the site for nesting birds. The proposed extension area contains sub-optimal nesting habitat for little ringed plover as the bare ground areas are interspersed with taller vegetation (including teasel) which can obstruct sight lines and increase perception of predation risk.

Bats

- 3.46 The proposed extension footprint has negligible opportunities for bats; there are no potential roosting habitats present and the footprint is small, comprising a newly establishing grassland sward.
- 3.47 The trees bordered site to the north may provide foraging and commuting routes for bats, however these are not proposed to be affect by the extension development.

4.0 Impact Assessment

Designated sites

- 4.1 There are no internationally or nationally designated wildlife sites within the proposed development or within 2km of the site. The site falls within the IRZ of River Dee SSSI and Dee Cliffs Farnham SSSI but the proposed development does not meet any of the risk criteria identified for the IRZ. There are no pathways by which development at the site would result in adverse impacts, direct or indirect, upon the SSSIs.
- 4.2 Wrexham Industrial Estate Wildlife Site (Ref: W337) is composed of several distinct land parcels, the closest is the Bryn Lane component, located approximately 400m southeast of site. This site will not be directly impacted by the development. The scheme (including the consented scheme and the application site for the extension) are connected to the Bryn Lane component by the wider Elm Point mitigation area which connects to another mitigation site which is itself adjacent to the wildlife site. Where the Elm Point mitigation runs along the east boundary of the application site it will be widened therefore no adverse impacts on the Wildlife Site are predicted.

Habitats and Flora

- 4.3 The proposed extension would result in the loss of approximately 0.1ha, primarily comprising bare ground and ephemeral/short perennial herb. The habitats within and surrounding this location may potentially qualify as “open mosaic on previously developed land”, incorporating areas of tall herb, patchy bare ground and short ephemeral/short perennial and a small area of previously retained species rich unimproved neutral grassland. In isolation, the small extent of this mosaic habitat within the proposed extension footprint is unlikely to qualify as the S7 priority habitat; however, because it is continuous with a wider extent of the habitat across the mitigation area and in combination with the green network in the Wrexham Industrial Estate, it can be considered as S7 priority habitat. Without mitigation, the habitat loss could therefore be contrary to National and Local Policy and the objectives of the EMP currently being implemented for the site. Mitigation is detailed in Section 5 of this report.
- 4.4 The woodland habitat to the northeast of site will not be impacted by the proposed extension. No protected (WCA8) or invasive species (WCA9) were identified within the footprint of the proposed extension site. However, invasive plants have been recorded in the wider site and the site supports locally scarce flora and important food plants for dingy and grizzled skipper. Subject to implementation of the measures included in the Biosecurity Risk Assessment (part of the current GCN licence documentation), the proposed application is unlikely to result in the spread of any invasive species or the loss of locally scarce plants, however, without mitigation, some butterfly food plants will be lost.

Great Crested Newt

- 4.5 The footprint of the proposed extension lies almost entirely outside the currently GCN excluded development area for Unit 1 (Drawing G7128.005). Construction of the

proposed extension would therefore put great crested newts at risk of killing or injury without appropriate mitigation measures.

- 4.6 The habitat within the proposed extension forms part of a mitigation area that was previously established, under licence from Natural Resources Wales, to address impacts upon great crested newts arising from previous consents (demolition and remediation of the former site and subsequent development of the southern area by Clwydian Group Ltd). The loss of this habitat therefore not only has implications in respect of great crested newt foraging but also has legal compliance implications in respect of the existing great crested newt mitigation licence. Mitigation is detailed in Section 5 of this report.

Badger

- 4.7 An exclusion zone has been created surrounding the badger sett on site and a badger licence is currently in place which permitted the construction of Unit 1, which retains the sett but requires disturbing activities within close proximity.
- 4.8 The proposed extension area habitat does not offer suitable habitat for sett excavation and the site generally is assessed by Marches Ecology to offer negligible value to badgers for foraging. This is presumably a result of the low nutrient substrate and soil composition which is unlikely to be optimal for badger foraging. However, the sett is accessed by badgers along the eastern edge of the site. While located at a greater distance from the sett than the existing construct of Unit 1, the proposed extension to Unit will potentially result in a slight elongation of the corridor through which badgers would need to access within the site. However, taking into account existing habitats offsite to the north and east, this extended footprint is unlikely to significantly impact upon the ability of badgers to access the sett. The distance of these works from the sett are not likely to pose a substantial threat to the integrity of the sett although there may be indirect disturbance from construction activities.

Butterflies

- 4.9 The proposed extension will result in the loss of approximately 0.1ha of grassland created and managed under the EMP which contains locally abundant important food plants for dingy and grizzled skippers which use the area. A further 5m wide temporary construction working area will also be required. Without mitigation the loss of this habitat, (which was previously established as mitigation for earlier phases of development at the former Elm Point site), would be detrimental to the long-term preservation and expansion of these butterfly species and therefore contrary to National and Local Policy and the objectives of the EMP currently being implemented for the site. Given that the existing mitigation area has a variety of micro-habitats and aspects, it is considered unlikely that, even in the absence of mitigation, there would be extinction of the species within the mitigation area and immediate surrounds. However, to minimise this risk, mitigation is detailed in Section 5 of this report.

Birds

- 4.10 The proposed extension is not likely to result in any loss of bird nesting habitat nor any significant losses of valued foraging habitat for bird species likely to be utilising the adjacent or nearby habitats.

Bats

- 4.11 The proposed extension will not result in the loss of roosting habitats nor the loss or physical fragmentation of nearby foraging or commuting impacts. The proposed extension has the potential to bring artificial lighting impacts closer to habitats in the north and northeast. As is often the case, detailed lighting proposals are not part of the application documents.

5.0 Recommendations

- 5.1 Part 1 of the Environment (Wales) Act 2016 covers sustainable management of natural resources and Section 6 (1) states that '*A public Authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.*' Public authorities should take of (amongst others) ecosystem diversity, connectivity and condition and have regard to the list of species and habitats published under Section 7 of the Act and Area Statements¹¹ published in response to Section 11 of the Act.
- 5.2 Furthermore, the proposed extension will need to ensure compliance with extant protected species licences in respect of great crested newt and badger and will need to deliver ongoing (and additional) commitments for monitoring and management of the mitigation area to deliver the long-term objectives of the EMP.
- 5.3 The measures below outline the mitigation, compensation and enhancement measures recommended to ensure the proposed extension does not result in any long term adverse effects upon protected species or the overall biodiversity value or function of the site, specifically the pre-existing mitigation area. The recommended measures are not identified as replacements or substitutes for the existing mitigation framework or ongoing management or monitoring (as currently implemented by Ecological Land Management and Marches Ecology) of the mitigation area and its component features. Rather, the recommended measures are identified as additional measures required to address the anticipated ecological impacts that would otherwise result from the proposed extension.
- 5.4 Fundamentally, the provision, purpose and long term management of the mitigation area is unchanged by these proposals, simply they reposition the location and layout of the mitigation area.
- 5.5 The following paragraphs are supported by Drawings G7128.007 Elm Point Mitigation Areas, G7128.006 Amphibian Fencing Plan and G7128.003F Habitat Enhancement Plan.

Invasive Species

- 5.6 A method statement outlining the approach to avoid construction activities resulting in the spreading of invasive plant species will be produced and can be secured by a suitably worded planning condition. Alternatively, as a Biosecurity Risk Assessment is already included within the GCN licence documentation, and it would be a requirement of NRW to review and update this document at the point of submitting an amended or new GCN licence application to include the proposed extension, the LPA may deem a separate document is not necessary. If necessary updates to the EMP can also be made to include methods to control the long term (natural) spread of invasive plants, although it is noted that ELM also addresses this issue in their annual review of management activities.

¹¹ NRW's North East Wales Area Statement is still under production

Great Crested Newt

- 5.7 Under licence, the footprint and construction working area of the proposed extension will need to be fenced out with amphibian exclusion fencing and the habitats within the new exclusion area will need to be cleared of any amphibians that may be present. Although no hibernacula are present within the proposed extension footprint, any other feature present that may offer temporary shelter or refuge for amphibians will need to be searched and relocated to undisturbed locations within the mitigation site. On satisfactory clearance of amphibians and habitat features from the excluded footprint the fence line between the existing excluded area and the new excluded footprint should be removed. A proposed amphibian fencing plan is presented in Drawing G7128.006.
- 5.8 To compensate for the loss of great crested newt foraging habitat, which is part of the previously delivered mitigation area, the land currently excluded from the mitigation area (east and southeast of Unit 1) will be enhanced and will then be incorporated into the mitigation area. This area measures approximately 0.1ha and will therefore deliver at least like for like compensation to ensure no net loss within the existing approved mitigation area. Furthermore, incorporation of this area of habitat will extend the width of the mitigation area along the east boundary of the site from that currently approved under licence by approximately 3m to 10m (width varies). Drawing G7128.007 illustrates the current and proposed mitigation areas. As these habitats are already fenced and excluded no additional translocation will be required to permit habitat enhancement works. On satisfactory completion of the habitat measures, the existing amphibian exclusion fence bordering the compensation area should be removed, thus integrating the compensation area into the mitigation area. The changes in the disposition of the mitigation area, compared to current conditions, will not significantly disrupt habitat connectivity within the wider landscape, provided that measures are taken to rapidly establish new habitats in the mitigation area.
- 5.9 The new compensation area south and east of Unit 1 offers the opportunity to deliver net gain and increase habitat diversity within the mitigation area through the creation of at least one new hibernacula and new aquatic habitat. New aquatic habitat associated with the corridor function of the mitigation site in this location of the site would serve to improve functionality in respect of foraging opportunities and, subject to detailed design, breeding opportunities. Given the nature of the substrate likely to be present, any new aquatic habitat feature will need to be appropriately lined to ensure sufficient retention of water levels. The proposed location to the rear (north) of Unit 1 would protect the new aquatic habitat from accidental run off from the service yard or other hard standing areas associated with the development. The broad location and size of waterbody is illustrated on Drawing G7128.003F but it is anticipated that detailed pond design would be secured by an appropriately worded planning condition and / or via licensing document approved by Natural Resources Wales (NRW).
- 5.10 Drainage proposals for the scheme will need to incorporate measures to mitigate the risk of amphibians becoming trapped. This can include consideration of the location of gully pots and the use of dropped or amphibian curb stones. The existing scheme was approved and licensed with a slot drain in the centre of the yard and minimal gully

pots at the entrance. The approved and licensed Clwydian site used Aco Wildlife Kerbs.

- 5.11 Works would require a modification to the existing great crested newt mitigation licence. The above proposals are therefore subject to consultation with the Licence Ecologist named on the great crested newt mitigation licence (Marches Ecology) and approval of any amended or new licence application by Natural Resources Wales as the licensing authority.
- 5.12 All licensable works would require supervision by the Licence Ecologist or their authorised assistants.
- 5.13 The existing EMP prepared and implemented by Marches Ecology would also require updating to account for the change in layout to the mitigation area and the addition of new habitats/features including the additional hibernacula and new aquatic habitat. Monitoring of these new habitats and features¹² would need to be incorporated into the revised extended EMP and provision to deliver this additional monitoring input would need to be secured. The term of the EMP should be extended (with an appropriate funding mechanism) to a minimum ten year term from the completion of habitat enhancement and creation measures recommended above. The EMP updates, extension of its term and funding of the management and monitoring can be secured by an appropriately worded planning condition.
- 5.14 Ultimately in respect of GCN favourable conservation status, the scheme is designed to maintain GCN populations, maintain habitat connectivity within the site and within the wider landscape, increase habitat diversity and maintain security of conservation management.

Badger

- 5.15 The incorporation of the new habitat area east of Unit 1 within the mitigation area will provide an extended buffer between the badger sett and the development edge. No additional habitat mitigation is proposed.
- 5.16 Any licensable works within 30m of the sett would require supervision by the Licence Ecologist named on the badger mitigation licence. Marches Ecology currently have six months of monitoring where no badger activity has been recorded, however NRW guidance¹³ states:

A badger sett is defined in the legislation as “any structure or place which displays signs indicating current use by a badger”. Some badger setts, such as outlier setts, may be used seasonally and NRW takes the Badgers Act definition to include such seasonally used setts. Before a sett can be damaged or closed without a licence it would have to be demonstrated that the sett had been abandoned by badgers and is not just currently unoccupied. Monitoring for a period of up to 12 months may be needed to demonstrate this.

¹² GCN monitoring will follow the Wales GCN Monitoring Form, developed by Cofnod on behalf of NRW and ARC in April 2016 (current version in V1b).

¹³ Badgers – A Guide for Developers, Natural Resources Wales, January 2018

- 5.17 There is no intention to damage or close the outlier sett but no guidance is given on the appropriate monitoring period for disturbance impacts. The current licence runs until 31.12.18 and therefore an amended licence may be appropriate to account for additional or extended noise/vibration disturbance that would likely result from the construction for the proposed extension. Any amended licence application would require approval by Natural Resources Wales (NRW).

Butterflies

- 5.18 There will be no net loss of mitigation area, although the provision of a pond in the north (to the benefit of GCN and the incidental increase in biodiversity) will result in a small reduction in terrestrial habitat but this is unlikely to reduce the carrying capacity for butterflies at this site. Mitigation efforts will concentrate on creating new habitats for butterflies in the south and east of the site where the new mitigation areas are provided in compensation for the area lost to development in the north. As butterflies have currently been recorded in the north of the site, efforts to extend their range throughout the site have the potential for long term benefits by encouraging the expansion across the wider green network. Measures to mitigate impacts on butterflies are as follows:
- The provision of additional mitigation area in the east and south will create a wider corridor of open habitats that can be managed for butterflies.
 - At least one additional butterfly bank will be created in the new compensation area in the south, either through utilising and enhancing existing site topography or by creating a brand new feature.
 - Vegetation and substrates from the extension footprint will be translocated into new habitats.
 - Previously translocated areas of creeping cinquefoil will be moved from the construction area of the extension and into the new habitats in the south.
 - Plug planting of larval food plants will be incorporated into the mitigation area along the east of the site to provide replacement foraging adjacent to areas currently used by butterflies and to encourage butterflies to colonise habitats in the south.
- 5.19 Given creeping cinquefoil is a perennial it should be possible to plant some areas this autumn to allow a degree of establishment, which should make the plant more resilient to any periods of drought in 2019. Combining this with further planting in spring 2020 would reduce risks of establishment failure and any short-to medium term impacts associated with initial habitat loss. Translocation of habitats is a relatively rapid process, given the small volumes of material involved, and is thus unlikely to constrain the overall construction programme. If translocated habitats fail, plug planting will be used to fill gaps.
- 5.20 Additional seeding or plug-planting of target species has been identified as a possible requirement within the Year 2 monitoring report produced by Marches Ecology. Concern is also raised within the Marches Ecology monitoring reports that compaction of substrate may have occurred in some areas which is limiting vegetation

establishment and remedial measures were recommended subject to ongoing monitoring. However, Marches Ecology have since confirmed that 2018 monitoring results now indicate these remedial measures are no longer required.

- 5.21 These interventions to promote successful establishment of the mitigation area along with continuing and expanding the management of habitats to maintain the sparse sward (with patches of bare ground and some taller vegetation), would constitute appropriate compensation measures for the loss of previous mitigation habitat to ensure no net loss of habitat quality within the mitigation area. Detailed planting and seeding plans including ground preparation could be secured by an appropriately worded planning condition.
- 5.22 A sparse sward, usually including bare ground, is important for the Dingy Skipper. Patches of taller vegetation provide shelter and roosting sites.
- 5.23 Where habitat enhancement works fall outside the amphibian exclusion fencing measures must be taken to avoid injury or killing of GCN. Depending on the habitat works avoidance measures could include a combination of habitat manipulation, hand searching and sensitive timing of works and should be included under the GCN licence for the site and as such would require approval by NRW.

Birds

- 5.24 Should any works (including great crested newt mitigation measures) be proposed for implementation within the bird nesting season, a walkover of the proposed extension area and surrounding habitats should be undertaken by a suitably experienced and qualified ecologist to ensure no nesting birds are present.
- 5.25 In the unlikely event nesting birds are present, subject to nest location and species, an exclusion zone may be practicable to protect the nest from disturbance while works continue elsewhere; the attending ecologist would advise of the area for any such exclusion zone. However, considering the narrow shape of the footprint, it is more likely that works would need to be delayed until nesting is completed.

Bats

- 5.26 New guidance for artificial lighting has been published by the Institute of Lighting Professionals and the Bat Conservation Trust¹⁴. This new guidance, in addition to updates to relevant British Standards, should be consulted in the design of the lighting scheme for the proposed extension. It is recognised that lighting will be required to ensure a safe working environment is provided for the operation of the site but it should be possible to achieve this while minimising light pollution on the wooded boundaries of the site in the north and east. A bat sensitive lighting strategy, reviewed by a suitably experienced ecologist, could be secured by an appropriately worded planning condition.

¹⁴ Institute of Lighting Professionals and Bat Conservation Trust (2018) Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series.

Construction Management Plan

- 5.27 A construction management plan will be required to detail measures to be implemented to protect the retained mitigation area and new compensation area from the proposed construction of the extension and ongoing construction of the main site. Protection measures should include prevention of encroachment into protected areas and prevention of run off, dust or debris or other potential contaminants entering the mitigation or compensation areas.

Ecological Compliance

- 5.28 As detailed throughout this report, the implementation of recommended mitigation, compensation and enhancement measures will require ecological compliance with legislation, policy and existing consents and mitigation licences. As recommended by NRW, Key Performance Indicators (KPI's) will be approved by the LPA for the purpose of assessing and evidencing compliance. The details of the KPIs and reporting schedule can be secured through a suitably worded planning condition.

Biosecurity

- 5.29 Monitoring undertaken by Marches Ecology has identified the presence of montbretia *Crocsmia x crocosmiiflora* and cotoneasters within the northwest of the mitigation area. These species should ideally be completely removed from within the mitigation area, applying appropriate biosecurity control measures. Invasive plant species are already subject to ongoing control measure by ELM, and extension of the EMP would include extension of this management aspect.
- 5.30 All works, including ecological mitigation, compensation and enhancement measures construction activities and subsequent operation of the site should be subject to a Biosecurity Risk Assessment. Appropriate control measures should be identified to prevent the introduction of invasive species or plant or animal pathogens into the site, specifically the mitigation area. In addition the measures detailed above regarding control of invasive plant species already on site, the assessment will include risks associated with bringing earth moving machines onto site, importing soil or other substrate, source of seed and plant stock and the method for filling new aquatic habitats. A Biosecurity Risk Assessment is already included within the GCN licence documentation, it would be a requirement of NRW to review and update this document at the point of submitting an amended or new GCN licence application to include the proposed extension. This could also be secured by an appropriately worded planning condition if deemed necessary.

6.0 Summary

Wildlife Corridors

- 6.1 The existing mitigation area is part of a wider green network within Wrexham Industrial Estate. Offsite links to the northwest are currently limited by Abbey Road and the adjacent large area of amenity grassland, therefore potentially greater strategic benefits can be achieved by concentrating site mitigation efforts in the north, east and south of the site. Terrestrial habitats for GCN are already good both within the mitigation area and the adjacent green habitats; however, the provision of new breeding habitat (pond) within the north provides the opportunity for expansion of breeding populations from the wider area notably Bryn Lane in the south. The existing mitigation area is already being managed for butterflies but adjacent offsite habitats are wooded and restrict opportunities for colony expansion. By widening the butterfly habitats along the eastern boundary this increases the value of the corridor for butterflies and encourages colonisation of new areas.

Habitats and Species

- 6.2 Table 2 summarises the losses that will result from the proposed extension and the gains that will be delivered through the recommended mitigation and compensation measures. This table is supported by the details provided in Sections 4 and 5 and Drawings G7128.007, G7128.006 and G7128.003F, demonstrating how no net loss in biodiversity, no long term impact on S7 butterflies or habitats and favourable conservation status of GCN will be achieved. To minimise the short-term reduction in habitat for S7 butterflies, the translocation of habitat from the extension footprint to the new mitigation land would be carried out in a timely manner, allowing sufficient time for satisfactory ground preparation.
- 6.3 Furthermore, significant adverse impacts on bats, badgers and nesting birds would be avoided through standard mitigation and avoidance approaches. Invasive plant species present on site will be controlled and loss of trees and unimproved grassland will be avoided.

Table 2: Biodiversity Losses and Gains

Mitigation Area Impacts	Mitigation Area Gains
Loss of approximately 0.1ha of mitigation land from the north of the site.	- Provision of approximately 0.1ha of land in the east and southeast of the site for inclusion in the mitigation area. Located to strengthen the mitigation corridor along the east of the site and substantially improved . - Extension of the scope of the EMP to include the new habitats and continuation of management and monitoring. - Additional funding to cover increased scope of EMP.

Mitigation Area Impacts	Mitigation Area Gains
Loss of approximately 0.1ha terrestrial habitat currently used by GCN.	- Fencing, translocation and other measures to avoid killing and injury of GCN. - Provision of 0.1ha of habitat currently excluded from the mitigation area. Enhancement of habitat for GCN through creation of further hibernacula and a permanent water body. - Amphibian friendly drainage measures.
Loss of up to 0.1ha habitat for grizzled and dingy skipper.	- Timely translocation of important butterfly habitat. - Plug planting and seeding of butterfly food plants. - Implementation of invasive species control measures. - Continuation of management actions to ensure habitats remain suitable.
Loss of butterfly mounds - Two in the North East corner (although not physically removed) - One 5m length - One 8m length - Total loss 13m	Butterfly habitat gains (butterfly banks) - Western bank 73m in length - Links to the bank at the Northwest corner (converted to a butterfly bund) 67 m making the Western and Northwest banks 727sqm - Butterfly bank in South East 55m 133sqm - Total gain 195m Net gain 182m

DRAWINGS

Drawing G7128.005: Ecology Plan
Drawing G7128.006: Proposed Amphibian Fencing Plan
Drawing G7128.007: Elm Point Mitigation Areas
Drawing G7128.003F: Habitat Enhancement Plan
Drawing MH19/01: Current Landscape Proposals

Appendix A: Proposed Site Plan

Appendix B: Desk Based Assessment



HEAD OFFICE

Genesis Centre,
Birchwood Science Park,
Warrington
WA3 7BH

Tel: 01925 844004
E-mail: tep@tep.uk.com

**MARKET
HARBOROUGH**

Harborough Innovation
Centre,
Airfield Business Park,
Leicester Road,
Market Harborough
Leicestershire
LE16 7WB

Tel: 01858 383120
E-mail: mh@tep.uk.com

GATESHEAD

Office 26, Gateshead
International Business
Centre,
Mulgrave Terrace,
Gateshead
NE8 1AN

Tel: 0191 605 3340
E-mail: gateshead@tep.uk.com

LONDON

8 Trinity Street,
London
SE1 1DB

Tel: 020 3096 6050
E-mail: london@tep.uk.com

CORNWALL

4 Park Noweth,
Churchtown,
Cury,
Helston
Cornwall
TR12 7BW

Tel: 01326 240081
E-mail: cornwall@tep.uk.com
