



Ecological and Landscape

**Mitigation Method Statement and
Management Plan**

Wrexham Biomass Power Facility,

Bryn Lane, Wrexham

Delta-Simons Project No: 15-0050.05

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**ECOLOGICAL AND LANDSCAPE MITIGATION METHOD STATEMENT AND
MANAGEMENT PLAN
WREXHAM BIOMASS POWER FACILITY, BRYN LANE, WREXHAM
FOR BESTER GENERACION
DELTA-SIMONS PROJECT NUMBER: 15-0050.05**

1.0 INTRODUCTION

1.1 Context and Purpose

Delta-Simons Environmental Consultants Ltd was instructed by Bester Generacion (the “Client”) to provide an Ecological and Landscape Mitigation Method Statement and Management Plan (ELMMSMP) for the proposed Biomass Power Facility off Bryn Lane in Wrexham (hereafter referred to as the “Site”). The ELMMSMP is required in order to satisfy pre-commencement planning conditions for the consent (planning ref P/2010/0642). The planning consent requires the provision of a hard and soft landscaping scheme (Condition 25), a landscape management plan (Condition 28) as well as an Ecological Management Plan (Condition 29), as provided in the text below. As the management of the Site for long-term ecological benefit is fundamental in determining how the landscape is managed, it has been considered appropriate to present a combined strategy in a single document.

The relevant planning conditions state:

Condition 25 “No development shall commence until full details of the hard and soft landscaping have been submitted to and approved in writing by the Local Planning Authority. The works shall be implemented in accordance with a timescale to be approved in conjunction with the scheme of details.”

Condition 28 “No occupation of the development shall take place until a Landscape Management Plan, including long term design objectives, management responsibilities and maintenance schedules for all landscape areas, has been submitted to and approved in writing by the Local Planning Authority. The landscaping shall be managed and maintained in strict accordance with these details as approved.”

Condition 29 “No development shall commence until an Ecological Mitigation Method Statement and Management Plan, which takes into account the ecological interest of the site, has been submitted to and approved in writing by the Local Planning Authority. This scheme shall demonstrate how existing and proposed features of ecological/wildlife interest will be protected and managed in the long-term, how these measures will be secured and also include details of proposed monitoring. The report must also propose and deliver appropriate conservation schemes and ‘Reasonable Avoidance Measures’. Any mitigation measures required shall be implemented in

accordance with the timescales to be agreed as part of the measures before development commences on-site.”

Please note that the pre-commencement conditions also require the provision of an Arboricultural Method Statement for working around trees. A stand-alone document is being prepared for this and will be submitted under separate cover. The ELMMSMP has been written based on information provided by the Client, the results and recommendations reported by Delta-Simons Ecological Surveys (report references: Habitat Assessment and Bat Roost Potential Survey, 15-0050.01, September 2015; and Great Crested Newt Translocation Report, 15-0050.06, November 2015). In addition, a review was undertaken of the tree felling works that have been undertaken to date to facilitate the proposals. The ELMMSMP has also been produced with reference to the Wrexham Biodiversity Action Plan.

The proposals covered within this Report have taken into consideration the proposed development in relation to the creation and maintenance of visibility splays from the access off Bryn Lane, and also the drainage proposals for the Site.

The aims of the ELMMSMP are to:

- △ Set out best practice working methodologies and mitigation measures in order to protect the existing ecologically valuable habitats and any protected or notable species that may occur at the Site;
- △ Provide enhancement measures to increase the biodiversity value of the Site; and
- △ Provide a management and monitoring plan in order to manage the landscape in the long-term, with the objective of maintaining and enhancing the ecological value of the Site in the long-term.

1.2 Site Description

The Site is situated to the east of Bryn Lane, within the eastern extent of Wrexham Industrial Estate. The Site covers an area of approximately 1 hectare, and comprises an area of land formerly supporting recreational grounds associated with the adjacent industrial land. At the time of the surveys, the Site was unmanaged with overgrown grassland, scattered patches of ruderals, and colonising scrub. A dense hedgerow and broadleaved trees defined the western Site boundary whilst scattered broadleaved trees bordered an off-Site pond at the eastern Site boundary. An area of hard standing

within the south-eastern area of the Site featured encroaching scrub vegetation. A plan showing the site / location is provided as Figure 1.

1.3 Proposed Development

Planning permission has been granted for a Biomass Power Facility. As part of the development, it is proposed to create a number of key habitat features and to manage them in order to increase the biodiversity value of the Site. Following the development, the land will be taken into appropriate management in perpetuity to enhance its biodiversity value long-term.

2.0 PREVIOUS REPORTS AND BASELINE DATA

2.1 Initial Survey

Ecological surveys of the Site and the surrounding area were completed by Derek A Whitcher Ltd and Whitcher Wildlife Ltd between 2008 and 2010. An Extended Phase 1 Habitat Survey was undertaken in 2008 with further Site visits in 2010 to update any change in habitat conditions. Great Crested Newt (GCN) surveys were undertaken of the area in 2005 and updated in 2008 and 2010. Bat surveys of the Site and the wider area were undertaken in 2008, and updated in 2010, and a Bird Census was completed in 2008.

GCNs were recorded in 16 ponds within 500 m of the Site, with small and medium populations recorded. Bat activity was recorded to be consistent with predicted foraging behaviour along main hedgerows and over ponds within the wider survey area. No protected or notable bird species were identified.

2.2 Habitat Assessment and Bat Roost Potential Survey

A Habitat Assessment and Bat Roost Potential (BRP) Survey were undertaken by Delta-Simons in August 2015 (see Appendix I) in order to identify habitat types on the Site using the standardised Phase 1 Habitat Survey technique, and to identify areas of potential for protected species/ species of conservation concern within the Site and immediately surrounding the Site, and the potential impacts of the proposed development on these species. This specifically included a BRP survey of the trees at the Site. The assessment included a data search commissioned from the North Wales Environmental Information Service (NWEIS) to identify protected and notable species within a 2 km radius of the centre of the Site.

The survey report concluded that:

- △ The trees, scrub and hedgerow at the Site provide suitable habitat for nesting birds which, without appropriate mitigation, may be at risk of disturbance during Site clearance works if required during March-August (inclusive);
- △ The terrestrial habitats at the Site were considered suitable to support GCNs and other amphibians. Whilst the pond immediately off-Site to the east was considered to be not in a favourable condition to support breeding GCNs, this species was recorded to be present in 2010, in addition to other populations identified within numerous ponds within 500 m of the Site. There is, therefore, the potential for GCNs to be present at the Site and the proposed development

has the potential to kill or injure individual newts as well as destroying suitable terrestrial habitat. Appropriate mitigation is, therefore, required in order to allow the proposed development to be undertaken lawfully;

- △ Whilst none of the trees at the Site were assessed to be suitable to support roosting bats, the Site and surrounding landscape may provide suitable habitat for foraging and commuting bats that occur in the local area; and
- △ The overgrown nature of the grassland at the Site was not considered ideal to support either grizzled skipper or dingy skipper butterflies. Furthermore, a lack of host plant species was considered to further reduce the Site's value to these species, such that they were not anticipated to be present.

2.3 Great Crested Newt European Protected Species Licence

Following a survey of the habitats at the Site, Delta-Simons recommended that appropriate mitigation measures would be required for GCNs in order to facilitate the proposed development, and a GCN Licence application was submitted to, and approved by, Natural Resources Wales (NRW) (Licence No 67880:OTH:EPS:2015).

The GCN population at the Site was estimated to be small, therefore, a trapping exercise was completed for 30 consecutive nights' subject to appropriate weather conditions (no extreme rainfall causing flooding, minimum dusk temperature of 5 °C), and did not cease until five consecutive nights with no GCN captures was completed.

Perimeter semi-permanent amphibian fencing was installed around the Site boundary, and along the north-eastern and eastern aspect of the off-Site receptor area that ran adjacent to the Site at its north-eastern extent. Pitfall traps were installed along the interior of the fence line and drift fencing (Temporary Amphibian Fencing) divided the Site into four distinct sections with pitfall traps installed on both sides. In addition, carpet tiles were placed alternatively between the pitfall traps to provide an additional means to capture GCNs, and any other amphibians. Trapping commenced on 16th October 2015 and ceased on the 14th November 2015. Any captured animals were placed within the designated receptor area to the east of the Site.

At the end of the trapping exercise Environmental Land Management undertook vegetation manipulation works at the Site in order to assist with the destructive search, and to try to encourage any remaining amphibians to move towards the fence line. The vegetation in all the compartments was cut down and removed, and the grass cuttings

were baled and placed in the receptor site. At the same time, a suitability qualified ecologist undertook a destructive search of any areas within the compartments which could be utilised as refugia.

Five GCNs were translocated over the duration of the trapping period. There were also 196 toads, 20 frogs and 50 smooth newts translocated from the four compartments during the trapping period. In addition to the amphibians translocated during the bucket checks, 27 toads, 7 frogs and 8 smooth newts were found and translocated into the receptor area during the destructive search. No GCNs were found during the destructive search. See Appendix II for the GCN Translocation Report.

2.4 Tree Removal and Nesting Birds

To facilitate the development, a number of trees required felling from the eastern area of the Site, such that a total of four poplar *Populus* spp. trees and three London plane *Platanus x acerifolia*, were removed from this area of the Site.

Tree felling has been undertaken at the Site by Ecological Land Management (ELM) with the agreement of Jon Brewin (Wrexham County Borough Council (WCBC) Tree Officer) as confirmed by email dated 7th May 2016 (see Appendix III).

Since these works were undertaken during the nesting bird season, works were preceded by a nesting bird check completed by a suitably experienced employee of ELM to ensure no active nests were disturbed.

2.5 Hedgerow Clearance

A Site meeting was held on 30th June 2016 with Wrexham Council highways, Jon Brewin (tree officer), representatives from ELM, Delta-Simons, Bester Generation and Capita (who have responsibility for designing the access and the surface water drainage solution) to discuss the visibility splays required to facilitate the development and be compliant with Planning Condition 6, which is stated below.

“The proposed access onto Bryn Lane serving the development site shall be a minimum width of 5.5m at a maximum gradient of 1:20 and shall provide visibility splay of 2.4 x 120m in both directions measured to the nearside edge of the adjoining highway in which there shall be no obstruction in excess of 1.0m in height.”

It was confirmed at this meeting that the above planning condition could not be met without removal of sections of hedge along Bryn Lane to both the south and north of the proposed access. Permission was provided in this meeting by Jon Brewin to

remove all the hedge along the frontage of Bryn Lane that is within the boundary of our Site (to the north of the access) and all the hedge to the lamp post to the south of the access; the section of hedge that has been retained is shown on L1. This work was completed by ELM on 5th and 6th July 2016.

Following removal of this hedge, the visibility splays were re-measured and it was confirmed by Capita that further hedge along Bryn Lane (to the north of the Site) required removal. Consent for the removal of this hedge was provided by Jon Brewin on 26th July 2016. At the time of reporting, these removal works are yet to be undertaken.

3.0 LEGISLATION AND POLICY

The main legislation, planning policies and guidance relevant to the protection, conservation and enhancement of nature conservation interests at the Site are detailed below.

3.1 Birds

All wild birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Subsection 1(1) makes it an offence to intentionally kill, injure, or take any wild bird; take, damage or destroy the nest of any such bird whilst it is in use or being built; or take or destroy an egg of any such wild bird. It is, furthermore, an offence to either intentionally, or recklessly, disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird. The law covers all species of wild birds including common, pest or opportunistic species.

3.2 Amphibians

All amphibians are protected under the WCA 1981 (as amended), with some species also protected under the European Habitats Directive (92/43/EC), transposed in England and Wales through the Conservation of Habitats and Species Regulations 2010 (as amended). All amphibians are protected from keeping, transporting, selling or exchanging. This means that in practice reasonable measures must be taken to avoid their incidental mortality.

The GCN is protected under the Conservation of Habitats and Species Regulations 2010 and Schedule 5 / 9(4)(b) and (c) of the WCA 1981 (as amended). It is an offence to deliberately kill, injure, capture GCN or to deliberately disturb this species, or to intentionally or recklessly obstruct access to their places of shelter or protection, to damage or destroy their breeding sites or resting places, or to intentionally or recklessly disturb a GCN whilst in a place of shelter or protection. The legislation applies to all stages of the life cycle including eggs, larvae and juveniles. It should be noted that GCNs spend the majority of their lives on land, venturing up to 500 m (but more usually 250 m) from their breeding ponds and as such any ground works within 500 m of a breeding pond could potentially have an adverse effect on GCNs.

3.3 UK Biodiversity Action Plan (BAP) / Wales Biodiversity Priority Species (EBP)

The UK BAP describes the biological resources of the UK and provides detailed plans for conservation of these resources. Action plans for the most threatened species and habitats are set out to aid recovery, and national reports, produced every three- to five-years, show how the UK BAP is contributing to the UK's progress towards the significant reduction of biodiversity loss. UK BAP priority species were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). As a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK list of priority species, however, remains an important reference source and has been used to help draw up statutory lists of priority species in Wales. UK BAP Priority Species and Habitats continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.

3.4 Wrexham Biodiversity Action Plan

The Natural Environment & Rural Communities Act 2006 states that *"The National Assembly for Wales must publish a list of the living organisms and types of habitat which in the Assembly's opinion are of principal importance for the purpose of conserving biodiversity."* This list forms the basis for which habitats and species are included in the Wrexham Local Biodiversity Action Plan (LBAP). In addition to those species considered of principle importance to Wales, additional species are included in the Wrexham LBAP as local priority species. These local priority species are those which are thought to be in decline, have fragile populations locally (though not nationally), or have a high profile which can be used for conservation of other species.

4.0 CONSTRUCTION PHASE MITIGATION MEASURES

Appropriate mitigation measures will ensure that notable species and key ecological habitats at the Site are protected through the Site clearance and construction phase of works, and that any risk of significant adverse impact upon a particular species/species group is minimised. Mitigation measures will be included within any tool box talks or inductions that are provided to the construction Site team by an ecologist.

4.1 Hedgerows and Trees

Retained trees and hedgerows within close proximity to the proposed development footprint will be protected during the works. Best practice measures will follow British Standard BS5837 (2012) to protect the existing trees and hedgerows both during and after the development works. A separate Arboricultural Method Statement will be prepared (as required by the planning consent), which will cover this in more detail. Where necessary barriers will be installed to prohibit vehicular movement and any construction works within close proximity to the retained vegetation, in order to ensure that trees are protected from direct impact and from severance or asphyxiation of the roots.

The existing hedgerow along the western Site boundary has been removed in order to facilitate the required visibility splay of the proposed access. This is to be replaced following the development in order to compensate for the loss (see Section 5.1). In addition, the ash trees along this aspect of the Site require pruning in order to allow the required visibility splay, and may require a crown lift to 6 m in order to facilitate development activities. This will be undertaken by a suitably qualified tree surgeon to ensure that the health of the tree is not impacted in the long-term.

4.2 Breeding Birds

The majority of required tree felling has already been completed at the Site, however, any further clearance or management works to be undertaken on the hedgerows, trees or scrub at the Site aside that already undertaken and instructed will be performed either before 1st March or after 31st August in order to avoid the main bird nesting season. If, however, works are deemed necessary during the nesting period an experienced ecologist will check the habitats immediately prior to works commencing to confirm that no nesting birds will be affected by the proposed works. If any active bird nests are found, the works will be delayed. An appropriate exclusion zone will be clearly marked out around the nest, and this area will be left undisturbed until after a

suitably qualified ecologist has confirmed that the chicks have fledged and the nest is no longer in use.

4.3 Amphibians

A European Protected Species Licence (EPSL) has been obtained and implemented at the Site in order to safely remove any GCNs from the Site to a designated receptor area beyond the eastern Site boundary (see Section 2.2). Perimeter semi-permanent amphibian fencing has been installed around the Site boundary and along the north-eastern and eastern aspect of the off-Site receptor area in order to prevent GCNs returning to the Site. This fencing is to be maintained for the duration of the construction phase. Contractors will be made aware of the purpose of the fencing during initial tool box talks and the importance of it to remain intact. The fence will be inspected daily by the Site manager, and any damage repaired immediately.

4.4 Orchids

In order to retain as many of the common spotted orchids as possible that are currently growing on-Site, a translocation project will be implemented. Translocation ensures that native species of local provenance are used as far as is possible rather than imported plants. The final location of the orchids will be on a bund to the west of the proposed wildlife pond at the southern extent of the Site (see Appendix III, L2 for location). The bund which will be seeded with a range of floral species and sensitively managed for wildlife. However, since this area will be disturbed during construction activities and is likely to form part of the Site compound, a temporary receptor area is required in order to hold the orchids during the construction phase of the development. In order to ensure that there is continuity in soil type and composition the orchids will be temporarily translocated on-Site within the proximity of the trees at the eastern Site boundary. Since this area is to be within the tree Root Protection Area (RPA), the orchids will be protected from construction activities, however, it is considered to be too heavily shaded for the long-term success of the plants, and they will be translocated to their final position at the earliest opportunity following completion of the development.

Autumn is considered the best time of year for habitat translocation as the soils are still relatively warm and there is the greatest chance of the roots beginning to grow before winter.

Since it is difficult to find orchids once the vegetation begins to die back in autumn, the locations of orchids across the Site were marked out with canes in June-July 2016 by Delta Simons and ELM such that as many of the orchids could be identified as possible. The plants are to be dug out before the end of October and adequate soils taken from around them. It is recommended that turves within a minimum 30 cm radius, and depth of each orchid are excavated using a spade. The proposed temporary position of the orchids (i.e. in the southeast corner of the site) pending their movement to the bund area around the pond when constructed, will need to be clearly marked and defined for the duration of the construction activities.

5.0 OPERATIONAL PHASE MITIGATION MEASURES

5.1 Breeding Birds

Any future management works to be undertaken to the hedgerows, trees or scrub at the Site following the development will be performed either before 1st March or after 31st August, in order to avoid the main bird nesting season. If, however, works are deemed necessary during the nesting period an experienced ecologist will check the habitats immediately prior to works commencing to confirm that no nesting birds will be affected by the proposed works. If any active bird nests are found, the works will be delayed. An appropriate exclusion zone will be clearly marked out around the nest, and this area will be left undisturbed until after a suitably qualified ecologist has confirmed that the chicks have fledged and the nest is no longer in use.

5.2 Amphibians

Sustainable drainage systems are to be incorporated into the proposed development to restrict the development discharge rates to greenfield runoff rates (for details refer to Capita's surface water drainage proposals). French drains or a central channel drain will be utilised as opposed to gully pots or raised kerb stones within areas accessible to amphibians. Should hard standing be built next to compensation habitats it will incorporate sections of dropped kerb to ensure continuity of access for amphibians, and no gully pots will be located within proximity to compensation habitats.

At this stage however, the access strip around the perimeter of the hard standing/building area in the centre of the Site is proposed as compacted gravel.

Following completion of the proposed development, and prior to the removal of the external Temporary Amphibian Fencing (TAF), permanent amphibian fencing will be installed around the development buildings and hard standing area in order to prevent access to amphibians. At the western extent of the Site this will follow the Site access road down to the point where an amphibian tunnel will be installed to enable connectivity north-south on this aspect of the development area, and then continue down to Bryn Lane, with returns at the end so that any newt dispersing along it is encouraged not to go onto the road. The diameter of the amphibian tunnels will be dictated by its required length, and will follow the following guidance (Baker et al. 2011):

Table 7.3 - Minimum size requirements for different construction types depending on the length of the tunnel, *i.e.* the width of the road.

construction type	minimum clear sizes for tunnel lengths from			
	<20 m	20-30 m	30-40 m	40-50 m
rectangular tunnel (clear width; clear height)	1.0 m; 0.75 m	1.5 m; 1.0 m	1.75 m; 1.25 m	2.0 m; 1.5 m
pipe (diameter)	1.0 m	1.4 m	1.6 m	2.0 m
dome-shaped (half circle) (clear width; clear height)	1.0 m; 0.7 m	1.4 m; 0.7 m,	1.6 m; 1.1 m	-

The location of the permanent amphibian fencing and amphibian tunnel is shown in in Appendix III, L2).

6.0 BIODIVERSITY ENHANCEMENTS AND LANDSCAPE MANAGEMENT

There will be a permanent loss of approximately 50% of grassland and scrub habitat providing hibernacula, shelter and foraging habitat for GCNs, and the temporary loss of 50% of the terrestrial habitats as a result of the proposals. Loss of structural vegetation will also result in a reduction in available habitat for nesting birds. However, the development proposals include significant landscaping on all aspects of the development such that connectivity will be retained both north-south, and east-west for amphibians. A pond will be built with suitable habitat to support breeding GCNs whilst grassland species will be sown, and the grassland managed to create tussocky, rough grassland habitat. Its location will be at approximately OS grid reference SJ 390 501. New tree planting and hedgerow will be incorporated at the Site, and, mounds will be built to incorporate hibernacula within them. The enhancement measures are in accordance with those proposed as part of the EPSL.

The Site management plan will cover the Site in perpetuity, however, it is a working document with the flexibility to ensure that biodiversity objectives can be met. If the monitoring works indicate that a certain approach would be beneficial to GCNs, or other species of notable flora or fauna, without having a detrimental effect to GCNs at the Site, then it can be reviewed and adjusted as appropriate.

An Annual Management and Monitoring Programme has been prepared as Appendix IV.

6.1 Hedgerows

6.1.1 Objectives

The objective for the hedgerow habitat at the Site post-development is to increase the extent and density of hedgerow vegetation, and to enhance connectivity around the Site through appropriate management. Additional hedgerow habitat will also increase nesting habitat for birds and provide foraging opportunities for birds and bats through an increase in invertebrate diversity on-Site.

6.1.2 Implementation

Native species-rich hedgerow planting will be undertaken at the Site to create new habitat and to increase connectivity by creating intact linear corridors. The lengths of proposed planting are shown in the landscape plan in Appendix III. The hedgerow to the south of the proposed access (western boundary) will be replaced but positioned

further back into the Site to avoid potential impact on the visibility from the junction in the future. Hedgerow planting along the eastern Site boundary is designed to connect existing off-Site vegetation and to create an intact wildlife corridor. Native hedgerow species are to be incorporated, which will enhance the ecological value of the Site and provide increased foraging opportunities and connectivity for invertebrates, birds and mammals.

New hedgerow planting will comprise the following species, further details of the number of species proposed is provided on L1 in Appendix III:

- △ Common hawthorn *Crataegus monogyna*;
- △ Alder *Alnus glutinosa*;
- △ Crab Apple *Malus sylvestris*;
- △ Ash *Fraxinus excelsior*;
- △ Beech *Fagus sylvatica*;
- △ Holly *Ilex aquifolium*;
- △ Wild Privet *Ligustrum vulgare*;
- △ Rowan *Sorbus aucuparia*; and
- △ Wild Pear *Pyrus pyraeaster*.

6.1.3 Planting

Prior to planting, the ground will be prepared such that the plants can grow successfully. The soil should have a good tilth (particle size, moisture content, degree of aeration, rate of water infiltration, and drainage) so that the roots can establish. Planting will not be undertaken if the ground is suffering from hard frost or is heavily water logged, however, planting should be undertaken during the late autumn and winter months when the whips are dormant, in the next available planting season following completion of the development.

Newly planted stock will be protected from grazing mammals, such as rabbits. Individual plants will be protected by plastic shelter guards or mesh guards. Protective or supporting structures will be removed as soon as possible to avoid dependence on support. Hedgerows are to be planted in double staggered rows creating wide corridors and providing more shelter and habitat. Further details of the proposed planting scheme are provided on the Landscape Plans shown in Appendix III.

6.1.4 Management

The new planting will be maintained weed free by chemical means for the first three years in order to discourage competition for resources and ensure strong growth. After this time ground flora will be left to recolonise to create additional habitat at the base of the hedgerow.

Light, regular, trimming of the hedgerow in its early years will encourage dense, bushy growth, therefore, newly planted hedgerow plants will be cut back once a year for the first five years at which time the hedgerow is anticipated to reach its desired height of approximately 3 m. The hedgerow along Bryn Lane will receive bi-annual trimming on the side of the hedge affronting the road in order to maintain the visibility splay. The Site facing side of the hedge, will be allowed to grow more freely to encourage its value as a wildlife corridor and as such will receive trimming every two-three years.

Established hedgerows will receive less frequent management, being cut only once every two to three years, or when growth requires, and on rotation such that not all the hedgerows at the Site are cut in the same year. This allows continuous provision of ideal nesting habitat as well as supporting the production of nuts and berries for foraging fauna. Once the hedgerows have reached the desired height of 3 m, they will be topped in order to maintain their structure. The 'A-shaped' structure with its wide base is of benefit to wildlife, providing greater shelter and commuting corridors.

Brash resulting from hedgerow management will be placed in piles at the base of the hedgerow in order to create further invertebrate habitat.

6.1.5 Monitoring and Remediation

Monitoring will be undertaken as part of general Site maintenance. Any plants that die in the first five years following planting will be replaced with the same species in the next available planting season to prevent gaps developing. Habitat piles will be maintained following hedgerow management activities as appropriate.

6.2 Rough Grassland

6.2.1 Objectives

Rough grassland is to be created and maintained within the southern extent of the Site. The grassland is to be managed to promote species diversity and to provide opportunities for a range of faunal species. The grassland aims to provide suitable

tussocky terrestrial habitat for GCNs and is to include caterpillar host species for grizzled skipper *Pyrgus malvae* and dingy skipper *Erynnis tages* butterflies, which are listed as 'Species of principal importance for the conservation of biological diversity in Wales' under Section 42 of the Natural Environment and Rural Communities Act 2006 (NERC Act 2006).

6.2.2 Implementation

Following completion of the construction phase of works, a seed mix will be sown within the designated wildlife area at the southern extent of the Site. The species composition is listed on the landscape plan in Appendix III, and includes species such as common birds-foot trefoil *Lotus corniculatus*, agrimony *Agrimonia eupatoria* and creeping cinquefoil *Potentilla reptans*, which are host plant species for the caterpillar of grizzled skipper and Dingy skipper butterflies.

6.2.3 Planting

Ground preparation should follow the supplier's instructions with the removal of weeds, rubbish and stones of over 20 mm diameter. The seed will be sown during times of sufficient warmth and moisture, ideally in late spring or early autumn.

6.2.4 Management

During the first year, annual weeds would be managed by topping or mowing. In subsequent years the grassland will be managed using traditional meadow management based upon a main summer hay cut and additional autumn and spring mowing, if required. Following flowering (July) the grassland will be cut back to a minimum of 150 mm, in order to avoid any harm to amphibians, and the cuttings left in-situ for 1-7 days, such that they dry and shed seed, before being raked and removed.

6.2.5 Monitoring and Remediation

Monitoring will be undertaken as part of general Site maintenance. If germination of individual wildflower or grassland species is poor, this will be reviewed and re-seeded as appropriate. Scrub invasion will be monitored and intervention applied as deemed necessary to retain open grassland habitat.

6.3 Tree Planting

6.3.1 Objectives

Native tree planting is to be undertaken at the Site in order to compensate for the loss of habitat as a result of the development, to further enhance the structural diversity of

the Site, and to provide increased foraging opportunities for local birds and bats, by increasing the invertebrate diversity on-Site. The tree planting aims to provide connectivity throughout the Site and linkage to the surrounding landscape. Hedgerows on the southern boundary will be interspersed with trees to provide a valuable landscape and ecological belt that connects around the Site and also to the landscaping at the distribution facility located to the east of the Site.

6.3.2 Implementation

The proposed tree planting and the age/specification of trees proposed is provided on the landscape plan L2 in Appendix III. The planting will include a mix of native species including field maple, common alder, silver birch, common hawthorn and common whitebeam.

6.3.3 Management

Any trees around the pond will be managed annually over winter to ensure that they do not cast shade on the water or drop significant amounts of leaf litter into the pond. This will either be achieved by either coppicing them, or by felling them followed by stump treatment to prevent regeneration.

The retained ash trees at the front of the Site along Bryn Lane will require annual inspection to check for disease and dieback as the building will be in the fall zone. This inspection may then recommend that pruning works or crown reduction is undertaken.

6.3.4 Monitoring and Remediation

An annual inspection will be undertaken of trees to be retained at the Site to check for disease or dieback. Monitoring of new trees will be undertaken as part of general Site maintenance for the first five years after planting, following this they will be subject to an annual inspection. Any saplings/ trees that die in the first five years following planting will be replaced with the same species in the next available planting season to prevent gaps developing.

6.4 GCN Pond

6.4.1 Objectives

The objective for the new pond on-Site is to create and manage aquatic habitat suitable to support breeding GCNs and other amphibian species.

6.4.2 Implementation

An irregular shaped pond is to be created within the south-eastern corner of the Site to measure approximately 200 m². The pond will support varied depths with shallow margins less than 200 mm deep. Lining will ensure the retention of water, and once the conditions within the pond have settled native plant species will be introduced to create a biodiverse pond with shelter and opportunities for breeding amphibians. Marginal plant species are to include ragged robin *Lychnis flos-cuculi*, soft rush *Juncus effusus*, marsh marigold *Caltha palustris* and yellow flag iris *Iris pseudacorus*, with emergent vegetation including water plantain *Alisma plantago-aquatica*, brooklime *Veronica beccabunga*, water mint *Mentha aquatic* and common water starwort *Callitriche stagnalis*. A full species list and further details of the pond are provided on the landscape plan L1 in Appendix III. Plants will be sourced from a reputable supplier using only UK stock.

It is also proposed to create a south facing bund close to the pond to increase the catchment of the pond.

6.4.3 Management

Any litter will be removed as part of general Site maintenance. Encroachment of marginal vegetation e.g. the natural introduction of common reed *Phragmites australis* and reedmace *Typha latifolia* will be monitored and managed in order to ensure the pond remains florally diverse and supports areas of open water for displaying amphibians. Surrounding scrub and tree vegetation will be managed to avoid encroachment and over-shading of the pond (see Section 6.3.3 for Tree Management). Whilst the pond will be dug in an appropriate catchment area, there will be water butts on Site to collect runoff from the building roofs and, as such during dry periods there will be the option to top up the pond.

6.4.4 Monitoring and Remediation

Monitoring will be undertaken as part of general Site maintenance. Any aquatic flora which fails to establish within the first three years will be reviewed and replaced as deemed necessary. The pond will be monitored for the presence of fish, and appropriate removal measures implemented in order to retain the value of the pond to GCNs. In addition, bi-annual checks will be completed for the presence of invasive aquatic floral and faunal species listed on Schedule 9 of the Wildlife and Countryside (1981, as amended). Should any invasive plant or faunal species be recorded within or around the waterbody, an appropriate treatment plan will be prepared and

eradication works will commence with immediate effect, assuming that it is the correct season for the works. Biosecurity measures will be put in place by the management team in order to prevent the spread of the invasive plant to off-Site waterbodies.

6.5 Hibernacula

6.5.1 Objectives

The objective of the hibernacula is to create suitable habitat for hibernating amphibians, including GCNs.

6.5.2 Implementation

Three hibernacula mounds are to be created within the rough grassland habitat within the eastern and southern extents of the Site and also near the pond. The design of the hibernacula is to follow the details given in the GCN Conservation Handbook (Langton *et al.*, 2001), such that they are placed within a shallow excavation and comprise a mixture of logs and stone to create varied size crevices and micro-climates. The hibernacula are to measure approximately 1 x 2 m and reach a height of 2 m. They will be covered in earth and allowed to colonise with grassland and ruderal species.

6.5.3 Monitoring and Remediation

Hibernacula are to be checked annually in June and where necessary, new stones/ logs will be added/ replacements made to ensure that they retain their size and structure (and function).

6.6 Log Piles

6.6.1 Objectives

Woodpiles recreate natural dead wood from fallen branches and trees. They provide valuable habitat for mosses, lichens and fungi, as well as many insects. Adding a pile of leaf litter can also attract hibernating toads, frogs, newts or hedgehogs.

6.6.2 Implementation

Logs will be stacked in an area of suitable surrounding habitat, i.e. within the rough grassland habitat within the southern and eastern extents of the Site adjacent to hedgerow vegetation. The piles will be exposed to intermediate sunshine, as full sun can dry and heat the wood making it less suitable, however, dense shade can also be too cold for many insects.

The wood will be a variety of sizes to create niches for a range of wildlife species. Logs at least 100 mm thick with the bark still attached provide ideal opportunities. Wood already on Site from the removal of the trees will be used to create log piles around the Site.

6.6.3 Monitoring and Remediation

Woodpiles will be created using material from initial felling/ management works at the Site, and will be maintained when additional material becomes available through routine management works.

6.7 Invertebrate Bank

6.7.1 Objectives

The objective of the invertebrate bank is to create valuable habitat for invertebrates and increase connectivity along the northern Site boundary. This has been recommended as the drainage strategy requires a bund to be created along this boundary to manage surface water run-off from the adjacent development plot, which also limits other options available within this area.

At this stage, the detailed level design around the northern boundary of the building and its association with the adjacent plot, access requirements as well as the bund design has yet to be finalised. To manage such an invertebrate bank an extent of approximately 1.5m of flat ground is required either side to get access for the mower. As such the viability for and extent/ design of the invertebrate bank will be subject to on-going review as the design progresses.

6.7.2 Implementation

The intention is to create a bund along the northern Site boundary in order to minimise surface water run-off from the adjacent land (see landscape plan in Appendix III for full details). The grassland along the bund will be allowed to develop to create a rough tussocky sward suitable for invertebrates as well as providing shelter and connectivity for birds, small mammals and amphibians. Once established the grass strip will only be cut when there is a need to get the dead tussocks to regenerate (typically no more than once every three years).

6.7.3 Monitoring and Remediation

Monitoring will be undertaken as part of general Site maintenance. The structure and floral diversity of the bank will be reviewed annually and management increased/

decreased as deemed necessary to retain the ecological value of the invertebrate bank.

6.8 Bird Boxes

6.8.1 Objectives

In order to further enhance the ecological value of the Site, and to provide additional nesting opportunities for birds, a variety of bird boxes are to be placed at suitable locations around the Site.

6.8.2 Implementation

Seven bird boxes will be installed on suitable retained trees within close proximity to vegetation cover, at a minimum height of 3 m such that they are not disturbed by predators or humans and avoiding a southerly aspect. Selection of the bird boxes will aim to accommodate a range of species known to occur in the local area and particularly those most likely to be attracted to the Site by the proposed habitat types there. Bird boxes therefore, will include five suitable for small hole nesting birds such as blue tits and great tits, and two open fronted box suitable for robins and wrens. Bird boxes are to be installed in a usable form immediately prior to the occupation of the buildings at the Site.

6.8.3 Monitoring and Remediation

Bird boxes should be cleaned out annually in the autumn, once the birds have stopped using the nests (September-January). Any nests should be removed and disposed of appropriately. If possible, the boxes should be washed out with hot water and allowed to dry to kill any parasites remaining. Insecticides and flea powders must not be used. Any damaged boxes which are no longer functional will be replaced ready for the subsequent nesting season.

6.9 Orchids

6.9.1 Objectives

It is aimed to retain the species of orchid existing at the Site pre-development and to encourage further colonisation following translocation.

6.9.2 Implementation

The existing orchids at the Site are to be translocated following the methods detailed in Section 4.4.

6.9.3 Monitoring and Remediation

Management of the surrounding grassland habitat is to be undertaken following the details set out in Section 5.2 which is sensitive to the maintenance of GCNs, grassland sward and the presence of orchids.

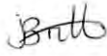
7.0 GCN MONITORING

Population monitoring will be completed by the management company for the Site by licenced GCN surveyors. Annual monitoring surveys will be undertaken of the on-Site pond in accordance with the survey guidance set out in the GCN Mitigation Guidelines (English Nature, 2001), starting from one year after the pond has been created in order to give it time to establish. The survey results will be submitted annually in July, following completion of the monitoring works, to Cofnod (the North Wales Environmental Information Service) through the new online system. In addition, they will be reviewed annually by the management company as part of the long-term management plan and, where necessary, appropriate measures put in place to ensure the waterbody remains suitable to support breeding GCNs.

8.0 MANAGEMENT AND MONITORING FUNDING

In order to ensure effective Site management and associated wardening and monitoring, the Developer is committed to leasing the mitigation area associated with the EPSL, to a management body, which we understand at this stage will be Holding Habitats, to secure and manage the Site in the long-term, through funding provided by the Developer. The practical day to day management of the Site will be carried out by ELM. The Developer has already entered into a S106 Agreement with the Council to ensure the long-term management, maintenance and monitoring of the mitigation area can be implemented.

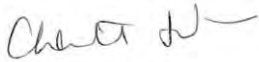
This Report was prepared by:



Jennifer Britt
Senior Ecologist

Date 3rd August 2016

This Report was reviewed and authorised by:



Charlotte Sanderson
Associate and Ecology Team Leader

Date 3rd August 2016

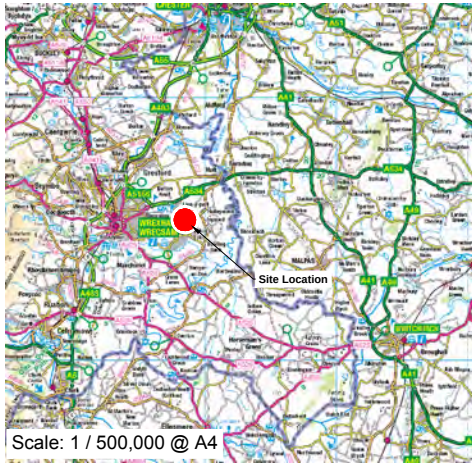
This Report was authorised by:



Alison Yarrow
Unit Director, Environmental Planning

Date 3rd August 2016





LEGEND

 Site Boundary



Scale: 1 / 10,000 @ A4

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	TITLE: Site Location Map Wrexham Biomass Power Facility Bryn Lane, Wrexham	DRAWN BY: DP	SCALE: To Scale@A4	PROJECT NO: 15-0050.05	
		CHECKED BY: CB	REVISION: 1		
		DATE: 01 August 2016			FIGURE NO: 1





HABITAT ASSESSMENT AND BAT ROOST POTENTIAL SURVEY
WREXHAM BIOMASS POWER FACILITY, BRYN LANE, WREXHAM
DELTA-SIMONS PROJECT NUMBER: 15-0050.01
DATED: 25th September 2015

1.0 Introduction

Delta-Simons was instructed by Green Plan Energy ('the Client') to undertake an ecological assessment of land at the proposed Wrexham Biomass Power Facility off Bryn Lane, Wrexham ('the Site'). The Site location is shown in Figure 1. This Report details the results of the Extended Phase 1 Habitat Survey undertaken at the Site, a review of the ecological records obtained from North Wales Environmental Information Service (NWEIS) and any identified ecological constraints with regards to the proposed development.

2.0 Methodology

Data Search

A data search was undertaken by NWEIS to identify statutory and non-statutory sites and protected and notable species within a 2 km radius of the centre of the Site. In addition, a search for designated sites for nature conservation on, or within 2 km of, the Site was performed using the Multi-Agency Geographic Information for the Countryside (MAGIC).

Extended Phase 1 Habitat Survey

The habitats on the Site and on adjoining land were surveyed on 13th August 2015 by two Delta-Simons ecologists using the standardised JNCC Phase 1 habitat classification and mapping methodology (JNCC, 2010 – See References, Appendix I). Dominant plant species were recorded in each different habitat. The plant species nomenclature followed that of Stace (2010). The Site was also assessed for its potential to support protected and notable species. A Bat Roost Potential (BRP) Survey was undertaken of the trees at the Site guided by the Bat Conservation Trust (BCT) Bat Survey: Good Practice Guidelines (BSGPG) (Hundt, 2012). All terrestrial and aquatic habitats on the Site were assessed for their potential to support amphibian species and a GCN Habitat Suitability Index (HSI) assessment was carried out to evaluate the suitability of the waterbodies on-Site, and within 500 m of the Site, for GCNs (Oldham et al., 2000). The habitats at the Site were assessed for their suitability to support grizzled skipper *Pyrgus malvae* and dingy skipper *Erynnis tages*.

3.0 Results

Data Search

The results of the desk search indicated there are no statutory designated sites within a 2 km radius of the Site centre.

Two non-statutory designated Wildlife Sites are situated within 2 km of the centre of the Site. Wrexham Industrial Estate supports a series of sites including unmanaged grassland and ancient broadleaved woodland. The closest of these habitats is situated to the west of Bryn Lane approximately 15 m from the western Site boundary.

NWEIS identified two recent records of Eurasian badger *Meles meles*, the closest of these being 820 m from the Site boundary. A single European Hedgehog *Erinaceus europaeus* was recorded approximately 1.9 km south-west of the Site in 2012, whilst the only record of brown hare *Lepus europaeus* is from 875 m east of the Site in 2005. Two records of bats *Chiroptera* were identified, the closest 875 m east of the Site in 2005, and a single recent record of pipistrelle *Pipistrellus* sp. was recorded 1.9 km south-east of the Site in 2005.

Three records each of adder *Vipera berus* and slow-worm *Anguis fragilis* were identified, the only recent one from 1.4 km south-west in 2009. A total of 127 great crested newt *Triturus cristatus* records were identified from between 1991 and 2012, the closest of these 70 m west in 2007. Smooth newt *Lissotriton vulgaris*, common toad *Bufo bufo* and common frog *Rana temporaria* have also been recorded within 2 km of the Site.

Three bird species listed on Schedule 1 of the Wildlife and Countryside Act (1989), as amended) have been identified with 2 km of the Site, including fieldfare *Turdus pilaris*, barn owl *Tyto alba* and redwing *Turdus iliacus*. In addition, numerous England Biodiversity Priority species were also noted within 2 km of the Site.

A number of significant butterfly and moth species have been recorded within the search area. The most frequently recorded are grizzled skipper *Pyrgus malvae*, which has been recorded 100 m west of the Site, and dingy skipper *Erynnis tages* and small heath *Coenonympha pamphilus* which have both been recorded 875 m to the south of the Site in 2010.

Extended Phase 1 Habitat Survey

The Site is situated to the east of Bryn Lane, within the eastern extent of Wrexham Industrial Estate. The Site covers an area of approximately 1 hectare, and comprises an area of land formerly supporting recreational grounds associated with the adjacent industrial land. At the time of the survey the Site was unmanaged with overgrown grassland, scattered patches of ruderals, and colonising scrub. A dense hedgerow and broadleaved trees defined the western Site boundary whilst scattered broadleaved trees bordered a predominantly off-Site pond at the eastern Site boundary. An area of hard standing within the southern extent of the Site featured encroaching scrub vegetation. The Extended Phase 1 Habitat Survey is shown in Figure 2 and Site photographs are included as Appendix II.

The majority of the Site comprised poor semi-improved grassland and scrub vegetation, dominated by perennial ryegrass *Lolium perenne*, cock's foot *Dactylis glomerata* and bramble *Rubus fruticosus* agg., with frequent hogweed *Heracleum sphondylium*, common ragwort *Senecio jacobaea*, rosebay willowherb *Chamerion angustifolium*, common vetch *Vicia sativa*, spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense*, ribwort plantain *Plantago lanceolata*, common fleabane *Pulicaria dysenterica*, common knapweed *Centaurea nigra* and marsh thistle *Cirsium palustre* (Photograph 1). Common spotted orchid *Dactylorhiza fuchsia* were also identified, however, it is anticipated that due to the long sward height and encroaching scrub, any remaining orchids will soon be completely over-shaded and out-competed by more vigorous species. Scattered hawthorn *Crataegus monogyna* and goat willow *Salix caprea* saplings were also recorded throughout the Site. An area of hard standing within the southern extent of the Site supported encroaching scrub that had colonised cracks and around the edges (Photograph 2).

A dense hawthorn and blackthorn *Prunus spinosa* hedgerow defined the western Site boundary with semi-mature goat willow and ash *Fraxinus excelsior* trees within the north-western corner of the Site (Photograph 3). Further scattered trees defined the eastern Site boundary including semi-mature and immature goat willow, silver birch *Betula pendula*, white willow *Salix alba*, black poplar *Populus nigra*,

trees at the Site lacked features such as storm damage, rot holes and lifted bark suitable to support roosting bats and were, therefore, assessed as having negligible BRP. Whilst the scrub, hedgerow and trees provide suitable habitat for nesting birds, the long grassland sward was not considered suitable to support ground nesting species.

A small section of a much larger pond is included on-Site within the north-eastern corner of the Site, and extends to the north, beyond the Site boundary (Pond C). Overall the pond measured approximately 1300 m², with an irregular shape and varied depths (Photograph 5). Anecdotal evidence and the turbidity of the water indicated the significant presence of fish. A Habitat Suitability Index (HSI) calculation (Oldham et al. 2000) assessment of 0.5 suggested a 'Below Average' likelihood of the pond supporting GCNs, however, previous surveys undertaken by Whitcher Wildlife in 2010 revealed a peak count of 8 GCNs to be present. A total of 16 additional ponds were identified within 500 m of the Site and which had connectivity to it. Nine of the ponds were either not assessed at the time of the survey due to access restrictions, or were identified to be dry, making them unlikely to support GCNs. Of the remaining seven, five were assessed as having a HSI score indicating a 'Poor' likelihood of supporting GCNs, one as 'Below Average' and one 'Good'. Whilst the majority of the ponds within 500 m of the Site are known to support fish and may, therefore, be in an unfavourable condition to support GCNs, previous surveys undertaken in 1992, 2005 and 2010 as part of development and monitoring of the Wrexham Industrial Estate indicated the presence of this species in 12 of the ponds.

The overgrown nature of the Site was not considered ideal to support either grizzled skipper or dingy skipper butterflies. Furthermore, a lack of host plant species is considered to further reduce the Site's value to these species.

No evidence of other protected species or habitats that could support them was identified on-Site.

4.0 Conclusions

The trees, scrub and hedgerow at the Site provide suitable habitat for nesting birds which, without appropriate mitigation, may be at risk of disturbance during Site clearance works if required during March-August (inclusive). It is understood all vegetation clearance works to facilitate the proposed development will be completed during autumn and winter 2015.

The terrestrial habitat at the Site was considered suitable to support GCNs and other amphibians. Whilst the pond which extends onto Site was considered to be not in a favourable condition to support breeding GCNs, this species were recorded to be present in 2010, as well as populations identified within numerous ponds within 500 m of the Site. There is, therefore, the potential for GCNs to be present at the Site and the proposed development has the potential to kill or injure individual newts as well as destroying suitable terrestrial habitat. Appropriate mitigation is, therefore, required in order to allow the proposed development to be undertaken lawfully. A GCN licence application has been submitted to Natural Resources Wales to facilitate the proposed development.

Whilst none of the trees at the Site were assessed to be suitable to support roosting bats, the Site and surrounding landscape may provide suitable habitat for foraging and commuting bats that occur in the local area.

5.0 Recommendations

Nesting Birds

If any vegetation clearance or felling works are to be undertaken on areas of hedgerow, scrub and scattered trees featured on the Site, these should be performed either before early March or after late July in order to avoid the main bird nesting season. If, however, Site clearance works are deemed

necessary during the nesting period an experienced ecologist will be required to check the Site habitats immediately prior to works commencing to confirm that no nesting birds will be affected by the proposed works.

GCNs

Due to the risk that GCNs could be killed or injured as a result of undertaking the proposed development works, a European Protected Species Licence is currently being sought from Natural Resources Wales. The licence will allow for mitigation measures to be instated lawfully at the Site to ensure the newts are protected, including the creation of a suitable temporary receptor site, the installation of temporary and permanent amphibian fencing and a programme of trapping and translocation.

Bats

It is recommended that a sensitive lighting plan is developed for the Site such that lighting is directional, and that light spill onto vegetated areas is minimised, retaining dark corridors suitable for commuting and foraging bats.

Ecological Enhancements

In order to enhance the biodiversity value of the Site it is recommended that soft landscaping incorporated a range of native species, or those of known value to wildlife. Ecological enhancement measures should be in accordance with any agreed mitigation with regards to GCNs, and the future management should aim to retain the ecological value of those habitats created.

6.0 Contact Details

We trust that this Report is sufficient for your current needs, however, if you require any further support on this project then please do not hesitate to contact either of the team below.

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Ali Yarrow	Unit Director	-	07792 525343	ali.yarrow@deltasimons.com

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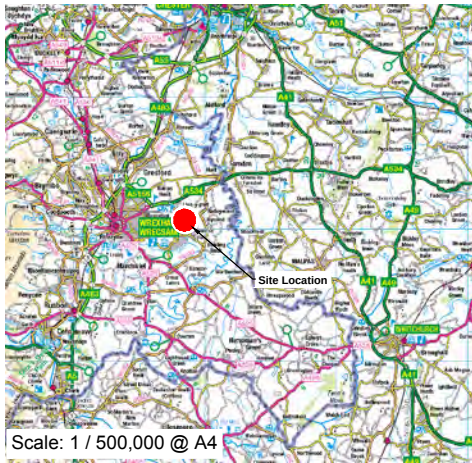
Figure 1 – Site Location Plan

Figure 2 – Extended Phase 1 Habitat Survey

Appendix I – References

Appendix II - Photographs





LEGEND

 Site Boundary



Scale: 1 / 10,000 @ A4

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TITLE:
Site Location Map
Wrexham Biomass Power Facility
Bryn Lane, Wrexham

DRAWN BY:
DP
CHECKED BY:
JB
DATE:
17 August 2015

SCALE:
To Scale@A4
REVISION:
1

PROJECT NO:
15-0050.01
FIGURE NO:
1



LEGEND



Site Boundary



Dense Scrub (A2.1)



Broadleaved Scattered Trees (A3.1)

SI

Poor Semi-Improved Grassland (B6)



Tall Ruderals (C3.1)



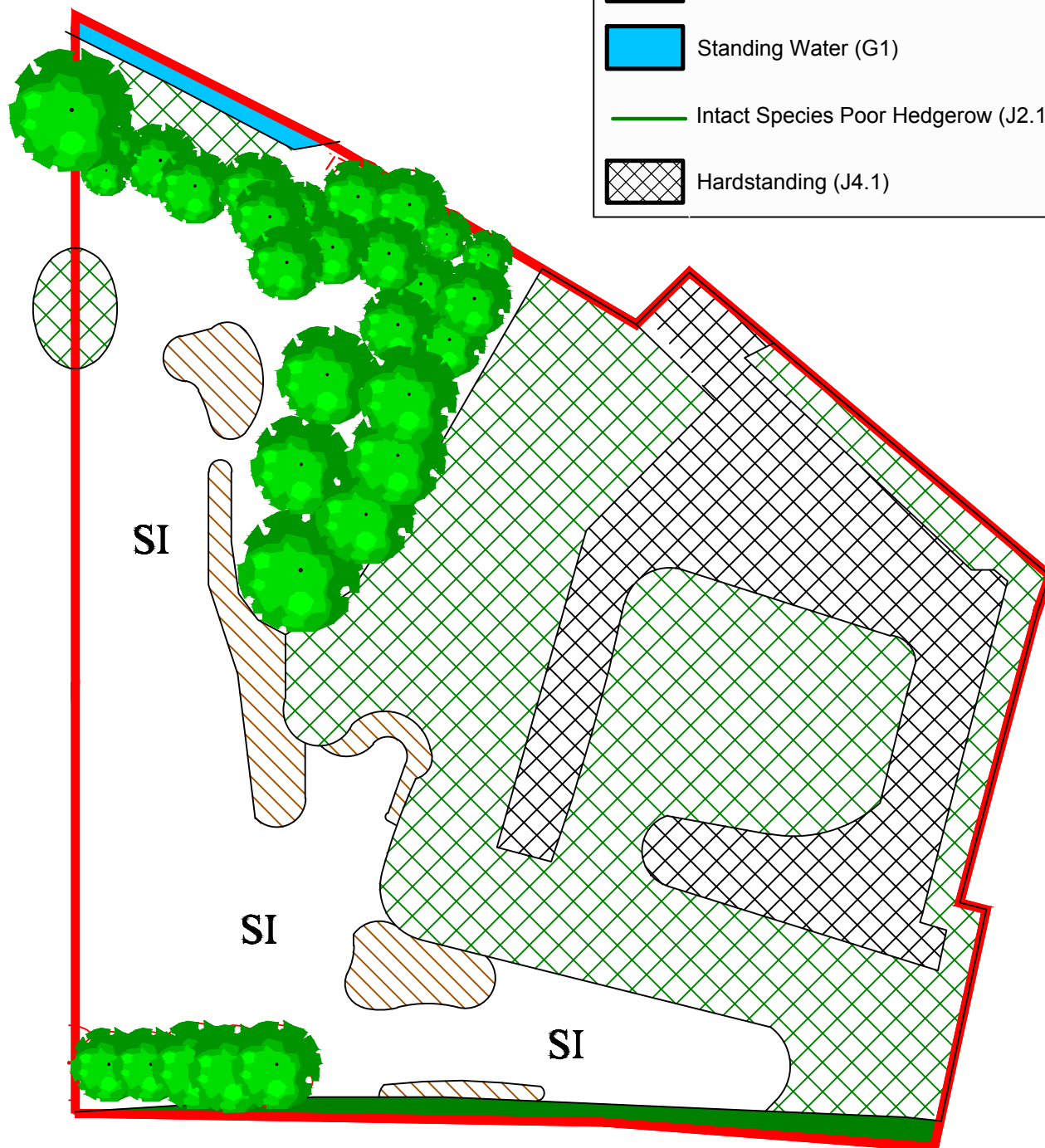
Standing Water (G1)



Intact Species Poor Hedgerow (J2.1.2)



Hardstanding (J4.1)



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References

Hundt, L. (2012) Bat surveys: Good practice guidelines, 2nd edition. Bat Conservation Trust.

Joint Nature Conservation Committee (2010). Phase 1 habitat classification and mapping methodology. JNCC, UK.

Multi-Agency Geographic Information for the Countryside (MAGIC) [online]. Available at: www.magic.gov.uk

Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155.

Stace, C. (2010). *New Flora of the British Isles 3rd edition*. University Press, Cambridge.

Wildlife and Countryside Act 1981 (as amended), HMSO.



WREXHAM BIOMASS POWER FACILITY, BRYN LANE, WREXHAM
Delta-Simons Project No. 15-0050.01



Photograph 1 – Poor semi-improved grassland at the Site



Photograph 2 – Hard standing within the south-eastern extent of the Site

WREXHAM BIOMASS POWER FACILITY, BRYN LANE, WREXHAM
Delta-Simons Project No. 15-0050.01



Photograph 3 – Hedgerow and trees along the western Site boundary



Photograph 4 – Scattered broadleaved trees within the eastern extent of the Site

WREXHAM BIOMASS POWER FACILITY, BRYN LANE, WREXHAM
Delta-Simons Project No. 15-0050.01



Photograph 5 – Pond C on-Site and extending to the north





GREAT CRESTED NEWT TRANSLOCATION REPORT
Wrexham Biomass Power Facility, Bryn Lane, Wrexham
Delta-Simons Project Number: 15-0050.06
Dated: 19th November 2015

1.0 Context and Purpose

Delta-Simons was instructed by Green Plan Energy (the 'Client') to undertake a Great Crested Newt (GCN) translocation at the proposed Wrexham Biomass Power Facility, Bryn Lane, Wrexham (the 'Site'). The Site location is shown in Figure 1. The requirement for the translocation arose following the outcome of a GCN survey undertaken by Whitcher Wildlife in 2010, where GCNs were found to be present in low numbers in waterbodies bounding the Site, furthermore, varying numbers of GCNs were identified within numerous ponds within 500 m of the Site that have connectivity to it. Following a survey of the habitats at the Site, Delta-Simons recommended that appropriate mitigation measures would be required for GCNs in order to facilitate the proposed development, and a GCN Licence application was submitted to, and approved by, Natural Resources Wales (NRW) (Licence No 67880:OTH:EPS:2015). The NRW report form is included as Appendix I and has been submitted to NRW following completion of the trapping exercise as per conditions 15 and 211 of the licence.

2.0 Legislation

All Amphibians

All amphibians are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended), with some species also protected under the European Habitats and Species Directive (92/43/EC), enacted in the UK through Annex IV of the Habitats and Species Regulations 2010 (as amended). All amphibians are protected from keeping, transporting, selling or exchanging. This means that in practice reasonable measures must be taken to avoid their incidental mortality.

Great Crested Newts

All amphibians are protected under the WCA 1981 (as amended), with some species also protected under the European Habitats Directive (92/43/EC), transposed in England and Wales through the Conservation of Habitats and Species Regulations 2010 (as amended). All amphibians are protected from keeping, transporting, selling or exchanging. This means that in practice reasonable measures must be taken to avoid their incidental mortality.

The Great Crested Newt (GCN) is protected under the Conservation of Habitats and Species Regulations 2010 and Schedule 5 / 9(4)(b) and (c) of the WCA 1981 (as amended). It is an offence to deliberately kill, injure, capture GCN or to deliberately disturb this species, or to intentionally or recklessly obstruct access to their places of shelter or protection, to damage or destroy their breeding sites or resting places, or to intentionally or recklessly disturb a GCN whilst in a place of shelter or protection. The legislation applies to all stages of the life cycle including eggs, larvae and juveniles. It should be noted that GCNs spend the majority of their lives on land, venturing up to 500 m (but more usually 250 m) from their breeding ponds and as such any ground works within 500 m of a breeding pond could potentially have an adverse effect on GCNs. (See references Appendix II).

Tool Box Talk

As stated in Condition 9 of the NRW licence, prior to the start of any works on site, all site workers will be inducted by the amphibian specialist for the Site. A copy of the induction form is included as Appendix III, in accordance with Condition 9). To date the only works undertaken on Site have been the setting up of the Site for the GCN trapping out process, and the destructive search and removal of the pitfall traps and drift fencing. These works were completed by Pearce Environmental Ltd. contractors that hold NRW GCN licences, and, therefore, it was not necessary for the Delta-Simons amphibian specialist to induct the team. A toolbox talk will be given to the contractors before vegetation clearance works commence on-Site so they are aware of the legal status of amphibians, GCN identification, the method of working, and the action to be taken if amphibians are encountered.

3.0 Methodology

The GCN population at the Site was estimated to be small, therefore, the trapping was completed for 30 consecutive nights subject to appropriate weather conditions no extreme rainfall causing flooding, minimum dusk temperature of 5 °C and did not cease until five consecutive nights with no GCN captures was completed. A tiny-tag data logger was left on-Site to provide an ongoing temperature record. In addition to this, ground temperatures were also recorded from 27th October 2015, following a discussion with Matt Ellis (Senior Species Officer, NRW) to ensure temperatures remained suitable for trapping.

Photographs of the mitigation works, in accordance with condition 15 of the licence, are included as Appendix IV). Perimeter semi-permanent amphibian fencing was installed around the Site boundary, and along the north-eastern and eastern aspect of the off-Site receptor area that run adjacent to the Site at its south-western extent. Pitfall traps were installed along the interior of the fence line at 5 m intervals and in all corners (Photograph 1). Drift fencing (TAF) divided the Site into four distinct sections with pitfall traps installed at 5 m intervals on both sides (Photograph 2). A plan of the trapping areas and fence line can be found in Figure 2. In addition, a carpet tile was placed alternatively between the pitfall traps to provide an additional means to capture GCNs, and any other amphibians. The rims of the pitfall traps were flush with ground level and abutted the newt fencing. Each bucket contained a mammal ladder and a piece of carpet/ material to provide damp shelter for captured animals.

Pitfall traps were inspected daily before 10 am throughout the trapping period. The fencing of the development Site and receptor area was inspected daily and any damage was repaired. A documented record was kept through-out the trapping. All survey works were undertaken by the accredited agents on the licence which included Charlotte Sanderson, Alex Clark, Catherine Bywood, Jennifer Britt, Pete Morrell and Jon Spencer and their assistant Sam Gregory. Trapping commenced on 16th October 2015 and ceased on the 14th November 2015. A daily log was kept, which included a record of weather and a breakdown of amphibians translocated (Appendix V).

Any captured animals were placed in a suitable container, with grass for cover, and transported to the receptor site (adjacent to the Site) within 30 minutes of capture, where they were released in suitable habitat, within proximity to refugia/ hibernacula. Depending on the captures for that day, the different species of amphibians, and different age group of newts, were transported to the receptor site in different buckets.

Prior to the trapping works commencing on Site the licensee (Mr Philip Thompson) sent an email correspondence to NRW in order to inform them of the planned start of works, as per condition 2 of the licence (Appendix VI).

Increased Trapping Effort

To increase the survey effort, 60 extra carpet tiles were spread among the four compartment on 28th and 29th October 2015. This included 20 in Compartment D, 16 in Compartment C, 16 in Compartment A and 8 in Compartment B. They were placed in any gaps between the buckets and existing carpet tiles (Photograph 3 and 4).

Destructive Search and Vegetation Clearance Works

Between the 3rd and 7th November 2015 Pearce Environmental undertook vegetation removal at the Site in order to assist with the destructive search and to try and encourage any remaining amphibians to move towards the fence line. The vegetation in all the compartments was cut down and removed, the grass cuttings were baled and placed in the receptor site (Photograph 5).

At the same time, a suitability qualified ecologist undertook a destructive search of any areas within the compartments which could be utilised as refugia. In Compartment A the scrub, moss and rubbish on the hard standing was thoroughly checked through. There were also three log piles discovered in Section A near the A/D boundary that were hidden beneath scrub. These were dismantled by hand (Photograph 6). The fly-tipped rubbish and logs were piled up in the middle of this compartment, however, they were raised up off the ground to prevent any new refuges being created. The majority of this wood was rotten and disintegrated after it had been checked, any that could be salvaged was taken over to the receptor site. A brash and rubbish pile was found beneath scrub, and checked

through by hand, the rubbish was removed from the compartment and the brash pile was pulled apart. While the brash pile was being checked a further wood pile, which was grassed over, was discovered. This could not be fully searched by hand, therefore, a mini-digger was used to break it apart. In Compartment B six small brick and log piles were dismantled using a mini-digger. These works were all supervised by the ecologist. A log pile was discovered in Section D, some of the logs were removed while the rotten ones were broken up and scattered in order to avoid creating refugia.

4.0 Results and Conclusions

Five GCNs were translocated over the duration of the trapping period. Single GCNs were translocated from Compartment A on 21st October and 2nd November 2015, Compartment B on 22nd October and 5th November 2015 and Compartment D on 21st October 2015. There were also 196 toads, 20 frogs and 50 smooth newts translocated from the four compartments during the trapping period. In addition to the amphibians translocated during the bucket checks, 27 toads, 7 frogs and 8 smooth newts were found and translocated into the receptor area during the destructive search. No GCNs were found during the destructive search. No evidence of any protected species apart from GCN, were found on the Site during the translocation.

Following the vegetation clearance and destructive search a number of small mammals including mice, shrews and voles, were found deceased in the pitfall traps. All the mammal sticks were in place and checked daily throughout the 30 day trapping period.

5.0 Recommendations

Recommendation 1

As stated in the NRW GCN licence, a Management Plan for the GCN mitigation area shall be prepared and submitted to NRW for approval by 31st December 2016. Management of the mitigation areas shall be implemented in accordance with this plan.

Recommendation 2

As stated in the GCN licence application, and as a condition of the licence, annual monitoring of GCN should be undertaken by the Local Wildlife Trust and an annual monitoring report should be submitted to NRW. Discussions have commenced and the aim is to have this set up within the next 6-8 weeks.

Recommendation 3

In winter 2015/ 2016 Pond C to the north-east of the Site, within the temporary Receptor Area, will be drained down under the supervision of the licenced ecologist during a dry and frosty period, with overnight temperatures for a period of 3-4 days at or around freezing, and no rainfall. All fish will be removed. By undertaking the drain down in mid-winter no GCNs will be harmed, and all fish eggs present will be killed. The pond will be left to naturally refill and it is anticipated that it will again provide suitable GCN breeding conditions, and given its location it will provide a possible breeding habitat for any newts translocated into the receptor area.

6.0 Contact Details

We trust that this Report is sufficient for your current needs, however, if you require any further support on this project then please do not hesitate to contact either of the team below.

Name	Position	Telephone	Mobile	Email
Charlotte Sanderson	Ecology Unit Manager	01522 882555	07884 498315	charlotte.sanderson@deltasimons.com
Alexandrea Clark	Ecologist	01522 823332	07791 691636	alex.clark@deltasimons.com

Encl:

Figure 1 Site Location

Figure 2 Amphibian Mitigation Strategy Exclusion, Trapping and Translocation

Appendix I Report by Licence Holder of Action Taken Under Licence

Appendix II References

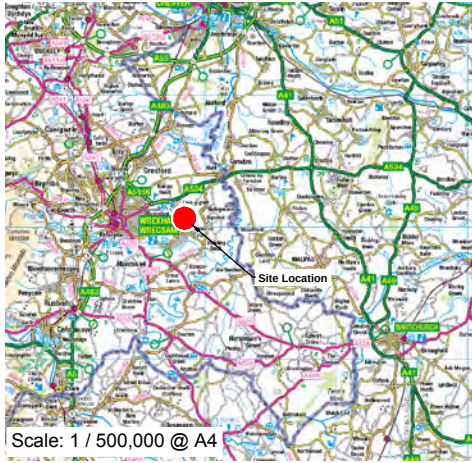
Appendix III Induction Form

Appendix IV Photographs

Appendix V Daily Trapping Data

Appendix VI Email Correspondence





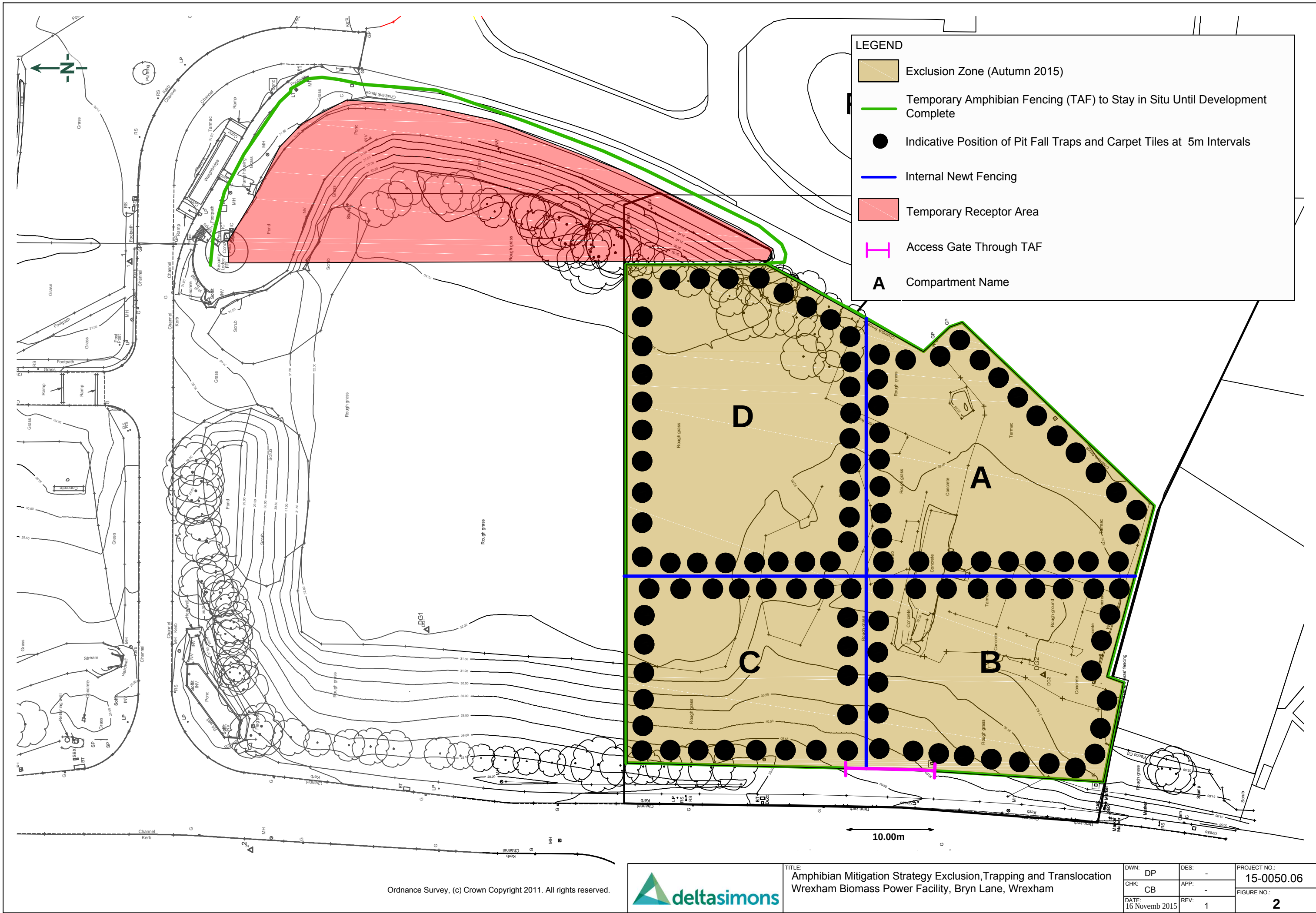
LEGEND

 Site Boundary



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	TITLE: Site Location Map Wrexham Biomass Power Facility Bryn Lane, Wrexham		DRAWN BY: DP		SCALE: To Scale@A4	PROJECT NO: 15-0050.06
			CHECKED BY: AC		REVISION: 1	FIGURE NO: 1
			DATE: 16 November 2015			



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TITLE:
Amphibian Mitigation Strategy Exclusion, Trapping and Translocation
Wrexham Biomass Power Facility, Bryn Lane, Wrexham

DWN: DP	DES: -	PROJECT NO.: 15-0050.06
CHK: CB	APP: -	FIGURE NO.: 2
DATE: 16 Novemb 2015	REV: 1	



	REPORT BY THE LICENCE HOLDER OF ACTION TAKEN UNDER LICENCE European Protected Species		Species Protection Team, National Permitting Service, Natural Resources Wales, Maes-y-Ffynnon, Penrhosgarnedd, Bangor, Gwynedd, LL57 2DW specieslicence@naturalresourceswales.gov.uk Tel. 03000 653000	 Noddir gan Lywodraeth Cymru Sponsored by Welsh Government
	Name of licensee:	Mr Philip Thompson		
	Address of site:	Land at Bryn Lane, Wrexham Industrial Estate, Wrexham		
	Email Address:	phil@greenplanenergy.co.uk		

GUIDANCE NOTES *Please read the following notes carefully before completing the table overleaf in BLOCK CAPITALS or type. This form may be downloaded from our website and emailed to us.*

1. It is a condition of your licence that you provide Natural Resources Wales with a report detailing action taken under the licence. This report must be completed, even if no action is taken, and must be returned to Natural Resources Wales (details above) within **4 weeks** of the licence expiry date.
2. Failure to complete and submit this form is a breach of your licence and may result in any future applications being refused. It is an offence under Regulation 58(1) to breach a licence condition.
3. The report is used to provide summary information to the Department for Environment, Food and Rural Affairs (Defra) and the European Commission regarding the number and type of licences issued and the actual work carried out under the licence. The data collected from licence reports might also be used for scientific monitoring purposes and be shared with the Local Planning Authority. If you have concerns about the use of the information you are providing please contact us using the details shown at the top of this form.
4. The personal information on this licence report may be kept and used by Natural Resources Body for Wales otherwise known as Natural Resources Wales (NRW) in accordance with the Data Protection Act (1998) and in line with the provisions of the licence under which the collection of these biodiversity records was authorised.

Natural Resources Wales licence reference number	67880:OTH:EPS:2015	Period of licence From:	15/10/2015	To:	30/11/2015
Name of ecological consultant	Dr Charlotte Sanderson	Company	Delta-Simons Environmental Consultants		

Declaration: To the best of my knowledge, the data is reliable and was collected with any necessary permissions.

NRW have my permission to store, copy, use, release and publish the biodiversity records I have supplied, including my name as part of the record, in line with the provisions of the licence under which the collection of these biodiversity records was authorised.

Signed:

	Name:	
<i>For electronic returns please insert an electronic signature above or place an x in the box opposite to confirm agreement with the declarations above.</i>		

Date:

20/11/2015
☐

Report form contents

- Section 1 Purpose for which the licence was issued*
- Section 2 Summary of action taken*
 - Section 2.1 All animals except bats*
 - Section 2.2 Bat species*
 - Section 2.3 All plants*
 - Section 2.4 Incidental capture or killing – all animals*
- Section 3.1 Licences issued for ‘science and education’ or ‘ringing and marking or examining any ring or mark’*
- Section 3.2 Bats ringed or bat rings examined*
- Section 4 Licences issued for conserving wild animals*
- Section 5 Licences issued for ‘other reasons of over-riding public interest’*
- Section 6 Licences issued for preventing the spread of disease or serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries*

Section 1 – Purpose for which the licence was issued

Please state the primary purpose for which the licence was issued then go to relevant sections as indicated.

Tick one box only. The purpose for which the licence was issued is given on the front page your licence.

<i>Science or education</i>	☐	Complete <u>section 2</u> and <u>section 3</u>
<i>Ringling and marking, or examining any ring or mark</i>	☐	Complete <u>section 2</u> and <u>section 3</u>
<i>Photography</i>	☐	Complete <u>section 2</u> only
<i>Conserving wild animals/plants</i>	☐	Complete <u>section 2</u> and <u>section 4</u>
<i>Preserving public health or public safety</i>	☐	Complete <u>section 2</u> and <u>section 5</u>
<i>¹Other imperative reasons of overriding public interest</i>	☒	Final report ² : complete <u>section 2</u> and <u>section 5</u>
	☐	Interim report: complete <u>section 5</u> only
<i>Preventing the spread of disease</i>	☐	Complete <u>section 2</u> and <u>section 6</u>
<i>Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries</i>	☐	Complete <u>section 2</u> and <u>section 6</u>

¹ including those of a social or economic nature and beneficial consequences of primary importance for the environment

² NB For compliance audit purposes section 5 of the form may be submitted as an interim report as well as a final report. If this form is being used as an interim compliance audit report, complete only the front page and section 5.

Section 2 – Summary of action taken

2.1 All animals except bats

A) Species	B) Date/s when action taken		C) Action taken				D) If captured/taken:		E) If marked:	
Choose from: Dormouse Great crested newt (GCN) Natterjack toad Otter Sand lizard	From ¹ dd/mm/yy	To ¹ dd/mm/yy	Choose from: Captured/taken Damaged/ destroyed breeding site or resting place Disturbed Killed/injured	For each action state ² : EITHER <u>number</u> of animals affected; OR <u>number</u> / <u>area</u> of breeding sites/resting places affected		Location where action taken Give precise grid reference, at least 6 or 8 figures	Method used Choose from: Appropriate trap, Bottle trap, Carpet/tin tiles, Egg survey, Hand, Nest box, Nest tube, Netting, Noose, Pit-fall trap, Torch survey	Where released (if applicable) Give 6 or 8 figure grid reference	Method used Choose from: Fur clip PIT tag Radio tag Ring	Number marked
				Number/ Area ³	Unit Choose from: Ha of habitat, No. of sites, No. of ponds, Adults, Juveniles, Individuals, Eggs					
Examples: Dormouse	01/12/12	13/12/12	Damage/destr oy BS or RP	10	Hectare	SH345678	Select from list		Select from list	
GCN	01/05/12	10/05/12	Captured/ taken	25	Adults	SH12345678	Bottle trap	SH124556 99	Select from list	
GCN	21/10/15	21/10/15	Captured/taken	2	Adults	SJ390501	Pit-fall trap	SJ39150 1	Select from list	
GCN	22/10/15	22/10/15	Captured/taken	1	Adults	SJ390501	Pit-fall trap	SJ39150 1	Select from list	
GCN	02/11/15	02/11/15	Captured/taken	1	Adults	SJ390501	Pit-fall trap	SJ39150 1	Select from list	
GCN	04/11/15	04/11/15	Captured/taken	1	Adults	SJ390501	Pit-fall trap	SJ39150 1	Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	

¹ Wherever possible give an exact date for the action taken rather than a range of dates.

² Report only once for each action, eg if individuals are 'captured' it is not necessary to also report that they were 'disturbed'.

³ If exact number not known indicate approximate number with 'c.'

2.2 Bat species

A) Species	B) Date/s when action taken		C) Action taken			D) If captured/taken:		E) If marked:		
Choose from list:	From ¹ dd/mm/yy	To ¹ dd/mm/yy	Choose from: Captured/taken Damaged/ destroyed breeding site or resting place Disturbed Killed/injured	For each action state ² : EITHER <u>number</u> of animals affected; OR <u>number</u> / <u>area</u> of breeding sites/resting places affected	Unit Choose from: Adults, Juveniles, Individuals Number of sites	Location where action taken Give precise grid reference, at least 6 or 8 figures	Method used Choose from: Hand/handheld net Harp trap Harp trap with lure Mist net Mist net with lure	Where released (if applicable) Give 6 or 8 figure grid reference	Method used Choose from: Fur clip PIT tag Radiotag Ring ⁴	No. marked
Examples: <i>Barbastelle bat</i>	09/09/12		Captured/taken	2	Adults	SH123456 78	Harp trap	SH12345678	Radiotag	2
Select from list	01/11/12	11/11/12	Select from list	1	Sites	SH123456	Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	
Select from list			Select from list		Select from list		Select from list		Select from list	

¹ Wherever possible give an exact date for the action taken rather than a range of dates.

² Report only once for each action, eg if individuals are 'captured' it is not necessary to also report that they were 'disturbed'.

³ If exact number not known, indicate approximate number with 'c.'

⁴ NB if rings fitted or examined section 3.2 below must also be completed.

2.3 All plants

A) Species	B) Date/s when action taken		C) Action taken			D) State how plant was used:	E) State how each plant was disposed of:	
Choose from: Early gentian Fen orchid Floating-leaved water plantain Killarney fern Shore dock	From¹ dd/mm/yy	To¹ dd/mm/yy	Choose from: Collect Collect seed Cut Destroy Pick Uproot	For each action state <u>number of plants</u> affected ²	Location where action taken Give precise grid reference, at least 6 or 8 figures	Describe how used:	Describe how disposed of:	Where replanted (if applicable) Give 6 or 8 figure grid reference
Examples: Shore dock	01/09/12		Collect seed	20	SH12345678	Add to seed bank		
Float-leaved water plantain	01/09/12	10/09/12	Uproot	30	SH12345678		Translocated to new site	SH12455699
Select from list			Select from list					
Select from list			Select from list					
Select from list			Select from list					
Select from list			Select from list					
Select from list			Select from list					
Select from list			Select from list					

¹ Wherever possible give an exact date for the action taken rather than a range of dates.

² If exact number not known, indicate approximate number with 'c.'

2.4 Incidental capture or killing – all animals

NRW is required under the Habitats Directive to compile information on incidental capture or killing of animals listed on Annex IVa* i.e. capture or killing not covered under a licence. The information is for reporting purposes only and will be submitted to the European Commission in summary format.

A) Species	B) Date when incident took place	C) Nature of incident	D) Location of incident	E) Animals affected			F) Other information
<i>Choose from list:</i>	<i>dd/mm/yy</i>	<i>Choose from: Captured Killed</i>	<i>Give precise grid reference, at least 6 or 8 figures</i>	Number	Unit <i>Choose from: Adults, Juveniles, Individuals</i>	Sex (if known)	
Examples: <i>Natterjack toad</i>	01/06/12	Killed	SH12345678	2	Adult	Male	Found dead in pitfall trap
GCN	01/09/12	Killed	SJ12345678	5	Adult	Male	Found killed on road
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	
<i>Select from list</i>		<i>Select from list</i>			<i>Select from list</i>	<i>Select from list</i>	

* Article 12 of the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora of 21 May 1992

Section 3.1 Licences issued for 'Science and education', or 'Ringing and marking, or examining any ring or mark'

Use this section to report on activities completed under licences for species surveys and research projects.

Give details of any variation from the methods described in your licence application.

Please describe the activities completed under this licence. Examples include survey work, fitting rings or radio-tags (please also complete section 3.2 to give details of bats ringed or rings examined)	
Activity	Details of activities undertaken
Reports	Provide full details of any reports, scientific papers etc that have been or will be produced as a result of the activities completed under this licence.

3.2 Bats ringed or bat rings examined

Use this section to provide further details of bats ringed or rings examined.

[illegible]

Section 4 - Licences issued for conserving wild animals/plants

Use this section to report on activities completed under licences for conserving wild animals or plants.

Please provide details of works undertaken affecting breeding sites and resting places and any associated disturbance, capture etc. Examples include improvements to bat roosts, management of woodlands for dormice or management of ponds for great crested newts. Report on the actions as described in your licence application and note any changes that were necessary to the proposed methods. Append photographs wherever possible.	
Activity	Details of activities undertaken
Reports	Provide full details of any reports that have been produced as a result of the activities completed under this licence.

Section 5 – Licences issued for ‘Other Reasons of Over-riding Public Interest’

Use this section to report on activities completed under licences for ‘*Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment*’ including developments

Note that for compliance audit purposes this section of the form may be submitted as an interim report as well as a final report.
Please state which below:

Interim report:	☐	Final report:	☒
-----------------	--------------------------	---------------	-------------------------------------

For interim reports complete only the front page of this form and section 5.

Please provide details of works undertaken affecting breeding sites and resting places damaged or destroyed.

Examples include bat roosts, bat flight lines, dormouse habitat, otter holts, great crested newt hibernacula.

Report on actions as proposed in your method statement submitted with the licence application (see ‘*Delivery Information Mitigation, compensation and monitoring*’ section E2).

Append photographs wherever possible and submit copies of GIS layers detailing compensation or mitigation sites.

Activity	Details of works undertaken
In situ retention (Method Statement Delivery Information section E.2.1)	n/a
Modification of existing (Method Statement Delivery Information section E.2.2)	Material cleared off-Site during the destructive search, including bailed grass cuttings and logs were placed into the receptor site to create hibernacula and refugia, and to enhance it for GCNs. In winter 2015 Pond C to the north-east of the Site within the temporary Receptor Area, and under the same current ownership as the Site, will be drained down under the supervision of the licenced ecologist during a dry and frosty period, with overnight temperatures for a period of 3-4 days at or around freezing, and no rainfall. All fish will be removed. By undertaking the drain down in mid-winter no GCNs will be harmed, and all fish eggs present will be killed. The pond will be left to naturally refill and it is anticipated that it will again provide suitable GCN breeding conditions, and given its location it will provide a possible breeding habitat for any newts translocated into the receptor area.

Creation of new as compensation, please detail compensation sites as appropriate (Method Statement Delivery Information section E.2.3)	As part of the proposed development, habitat compensation and enhancement measures will be incorporated into the development. These works will be completed in conjunction with the development works to ensure that the final development offers both suitable terrestrial and aquatic habitats for GCNs. Corridors of rough grassland/ hedgerow/ trees will be present along the northern, southern and western aspects of the development to provide sheltered dispersal corridors. Rough grassland habitat will provide foraging opportunities for GCNs, whilst hibernacula will be constructed within the western area of the Site. A new pond will be constructed to provide GCN breeding habitat. Whilst dual purpose ponds are not normally considered ideal, as attenuation ponds dry out frequently, the water level of this pond will be regulated through the drainage scheme for the Site to ensure that it supports a minimum level of 30 cm year-round. The pond will be a minimum size of 100 m², and will be dug with profiled banks to ensure a range of microhabitats for GCNs and their larvae, whilst it will be planted up with marginal and aquatic plants suitable to support egg-laying newts. Care will be taken to ensure that shading is avoided on the southern aspect of the pond.
Licence specific reporting Report here against the implementation of conditions as indicated in your licence	All details of the works undertaken are detailed in the Great Crested Newt Translocation Report (Delta-Slmons, November 2015), attached and includes information on the following: Condition 2 - The Licensee sent an email communication to northandmid.species@cyfoethnaturiolcymru.gov.uk on 15/10/2015 to inform that licensed works would commence the following day Condition 9- Toolbox talk not given to Pearce Environmental Contractors as they hold their own NRW GCN licences. A toolbox talk will be given to the contractors prior to the commencement of site clearance works as outlined in the Report. Condition 15 - Photographs of mitigation measures are included as Appendix III of the GCN Translocation Report Condition 52 - Pitfall traps were only used in suitable conditions and were emptied by 10 am each morning

	Condition 53 - Pitfall traps were emptied daily and contained mammal ladders and material to provide shelter. Condition 55 - A daily log of all newts caught was kept Condition 56 - A daily inspection of the Temporary Amphibian Fencing was undertaken and a log kept. Condition 57 - newts of different species and age bands were transported to the receptor site separately
Post-development site safeguard Describe works to manage/maintain the population post-development	
Following completion of the proposed development, and prior to the removal of the external TAF, permanent amphibian fencing will be installed around the development buildings and hard standing area. At the western extent of the Site this will follow the Site access road down to the point where an amphibian tunnel will be installed to enable connectivity north-south on this aspect of the development area, and then continue down to Bryn Lane. The diameter of the amphibian tunnels will be dictated by its required length and will follow Baker et al. 2011 guidance outlined in Table 2 of Common toads and roads, guidance for planners and highways engineers in England. In addition, the developer is committed to securing and managing the mitigation area (area of 0.23 ha) for conservation purposes in the long term. This will be done through an existing S106 Agreement with the Council that requires the setting up of a management body before commencement on Site. It is proposed to lease the Mitigation Area in the long-term to a Local Wildlife Trust, and to provide funding for management and monitoring. The agreement will be set up in the coming weeks as required under the S106. A Site management plan is to be produced by the developer in consultation with WCBC and NRW. Habitat management and maintenance will be in accordance with an agreed site management plan, which shall be reviewed and revised appropriately every five years. The management organisation will implement the management plan to the benefit of wildlife, in particular for, but not exclusive to, GCNs. 100 % sustainable drainage will be used in any subsequent development, utilising French drains or a central channel drain on accesses, and avoiding gully pots or raised kerb stones within areas accessible to amphibians.	

Details of monitoring (include methods, timing, weather conditions, personnel, result, constraint and interpretation). To include monitoring carried out to date and monitoring planned. Append report as applicable. Population monitoring will be completed by the management company for the Site, which will comprise annual monitoring surveys of the on-Site pond. The situation will be reviewed annually as part of the long-term management plan based on the previous year's monitoring results. Annual monitoring will taken place until the year 2035.

Compliance audit Please tick to indicate mechanism used to demonstrate compliance with the licence and method statement	
☒	NRW licence report form (this form) used to demonstrate completion of works in accordance with the licence
☐	Compliance audit completed by developer (give details below)
☐	Compliance audit completed by external auditor (give details below)
List and append compliance audit reports:	

Comments and further information Following completion of the works, Delta-Simons produced a Great Crested Newt Translocation Report (Report reference 15-0050.06) to describe the activities undertaken and to illustrate compliance with the licence conditions.
--

Section 6 - Licences issued for 'Preventing the spread of disease' OR**'Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries'**

Use this section to report on activities completed under licences for these purposes.

Provide details of works undertaken affecting breeding sites and resting places and any associated disturbance, capture etc.

Report on the actions as described in your licence application and note any changes that were necessary to the proposed methods.

Append photographs wherever possible.

Activity	Details of activities undertaken
Reports	Provide full details of any reports that have been produced as a result of the activities completed under this licence.





References

The Conservation of Habitats and Species Regulations 2010 (as amended) HMSO

Wildlife and Countryside Act 1981 (as amended), HMSO.



This appendix has been removed due to the file size
being too big.



**Wrexham Industrial Estate, Land at Bryn Lane, Wrexham
Delta-Simons Project No. 15-0050.06**



Photograph 1 – Perimeter Amphibian Fencing



Photograph 2 – Drift TAF

**Wrexham Industrial Estate, Land at Bryn Lane, Wrexham
Delta-Simons Project No. 15-0050.06**



Photograph 3 – Extra carpet tiles placed in between the buckets and existing mats
(light coloured carpet tiles)



Photograph 4 – Extra carpet tiles placed in between the buckets and existing mats
(light coloured carpet tiles)

**Wrexham Industrial Estate, Land at Bryn Lane, Wrexham
Delta-Simons Project No. 15-0050.06**



Photograph 5 – Grass bales placed in the receptor site



Photograph 6 – Large mound of logs in Compartment A which was dismantled during the destructive search





Appendix III – Trapping Data

Capture Day	1	2	3	4	5	6	7	8	9	10
Date	16/10/15	17/10/15	18/10/15	19/10/15	20/10/15	21/10/15	22/10/2015	23/10/2015	24/10/2015	25/10/2015
Temperature at Dusk	11	9.7	8	11	12	11	14	11.6	10	5.6
Ground Temperature	-	-	-	-	-	-	-	-	-	-
Weather	Dry	light rain overnight	light rain previous day	dry	overcast, dry	Overnight rain	Dry, overcast	Overcast, dull	Bright, dry	Overcast, damp
Compartment A	0	0	0	0	0	1	0	0	0	0
B	0	0	0	0	0	0	1	0	0	0
C	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	1	0	0	0	0
Sub-Total Trapping	0	0	0	0	0	2	1	0	0	0
Frog	0	0	0	0	1	1	3	1	1	0
Toad	2	2	1	0	1	60	14	3	0	0
Smooth Newt	2	8	2	2	1	1	13	7	0	0
Smooth Newt Breakdown (M=male, F=female, J=juvenile)	2F	3M, 4F, 1 J	2J	1M, 1F	1J	1F	3M, 3F, 7J	1M, 2F, 4J	0	0

Capture Day	11	12	13	14	15	16	17	18	19	20
Date	26/10/2015	27/10/2015	28/10/2015	29/10/2015	30/10/2015	31/10/2015	01/11/2015	02/11/2015	03/11/2015	04/11/2015
Temperature at Dusk	8	9.1	12.6	8	8.6	14.1	9	12.4	9.8	10
Ground Temperature	-	-	10.4	10	9.3	11.4	10.3	10.9	9.4	10.7
Weather	Overcast, dry	overcast, damp	Damp and wet	Damp and raining	light rain/overca st	Overcast	Overcast, damp	Heavy Fog	Some mist, damp	Misty, previous rain
Compartment A	0	0	0	0	0	0	0	1	0	0
B	0	0	0	0	0	0	0	0	0	1
C	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0
Sub-Total Trapping	0	0	0	0	0	0	0	1	0	1
Frog	0	1	1	0	0	0		0	0	0
Toad	1	0	10	1	4	3	2	3	2	6
Smooth Newt	0	1	0	0	0	0	1	2	0	0
Smooth Newt Breakdown (M=male, F=female, J=juvenile)	0	1	0	0	0	0	1F	1M, 1J	0	0

Capture Day	21	22	23	24	25	26	27	28	29	30
Date	05/11/2015	06/11/2015	07/11/2015	08/11/2015	09/11/2015	10/11/2015	11/11/2015	12/11/2015	13/11/2015	14/11/2015
Temperature at Dusk	11.9	12.7	16.2	12.4	13.6	13.1	13.8	12.6	12.5	4.6
Ground Temperature	11.6	11.7	11	10	10.3	12.3	11.1	9.8	8	7
Weather	Damp, cool breeze	Overcast	Rain	Heavy rain	Overcast	Overcast/rain	Bright and dry	Bright and dry	Rain and overcast	Dry/Damp on the ground/windy
Compartment A	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0
Sub-Total Trapping	0	0	0	0	0	0	0	0	0	0
Frog	1	0	1	4	4	0	0	0	0	1
Toad	20	21	14	0	0	9	3	1	5	8
Smooth Newt	2	1	0	0	0	3	4	0	0	0
Smooth Newt Breakdown (M=male, F=female, J=juvenile)	1F, 1J	1F	0	0	0	0	2f, 2m	0	0	0
Destructive Search	8 toads	7 frogs, 9 toads, 2 smooth newts	10 toads and 6 smooth newt	-						

Subtotals GCNs

Compartment A	2
Compartment B	2
Compartment C	0
Compartment D	1
Total GCNs	5

Subtotals Other Amphibians	
Frog	27
Toad	223
Smooth Newt	58



Laura Wilson

From: Phil Thompson <phil@greenplanenergy.co.uk>
Sent: 15 October 2015 16:34
To: northandmid.species@cyfoethnaturiolcymru.gov.uk
Cc: Charlotte Sanderson; Phil Higham
Subject: Licence No: 67880:OTH:EPS:2015

Ref: Notification of start of works

To whom it may concern,

In accordance with clause 2 of the above licence please take this email as confirmation licensed works will commence tomorrow morning.

Kind regards,

Phil



Philip Thompson
Projects Director
Green Plan Energy Ltd

E : phil@greenplanenergy.co.uk
M : 07730 065 274
W: greenplanenergy.co.uk

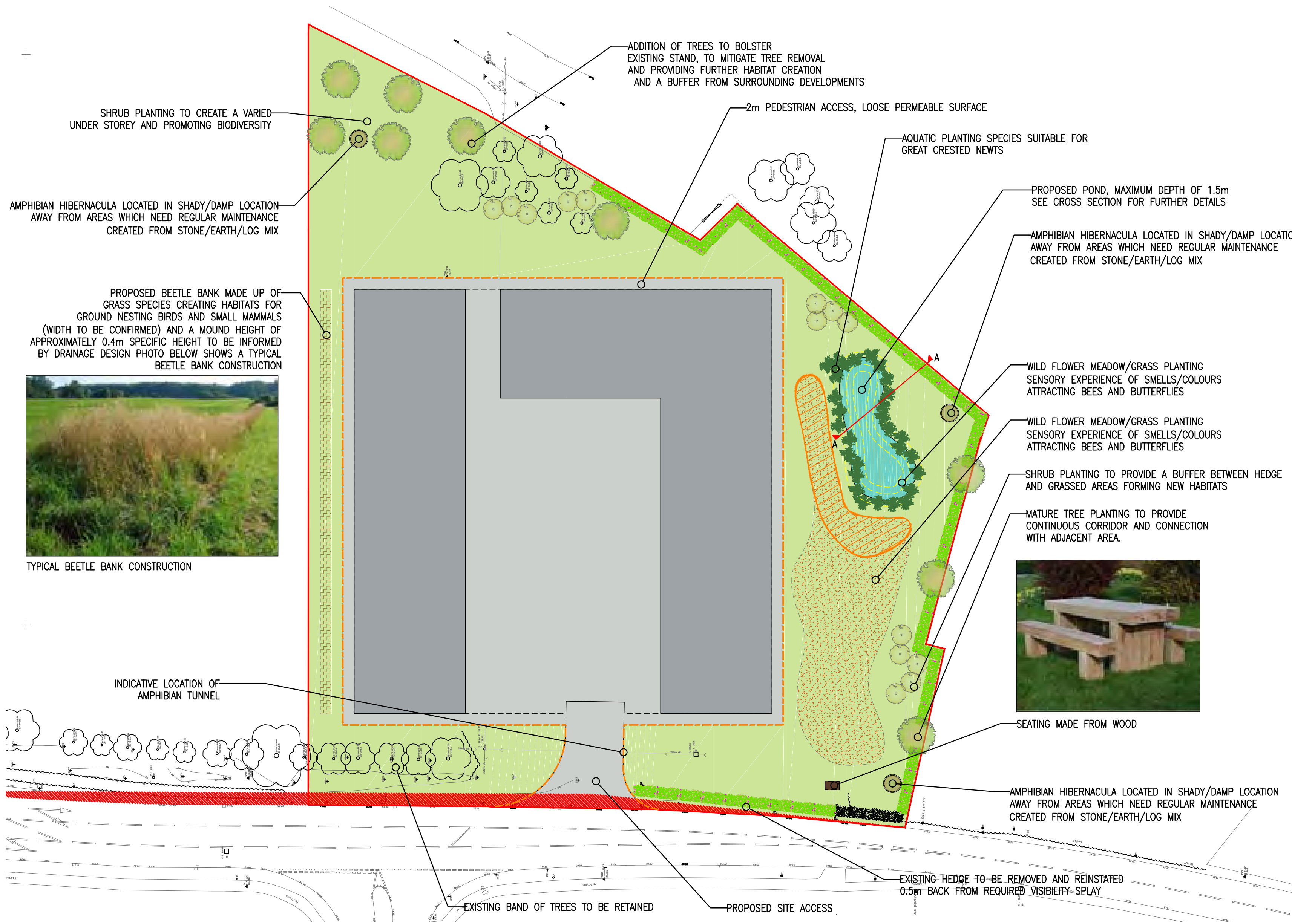
Skype - green_plan_energy

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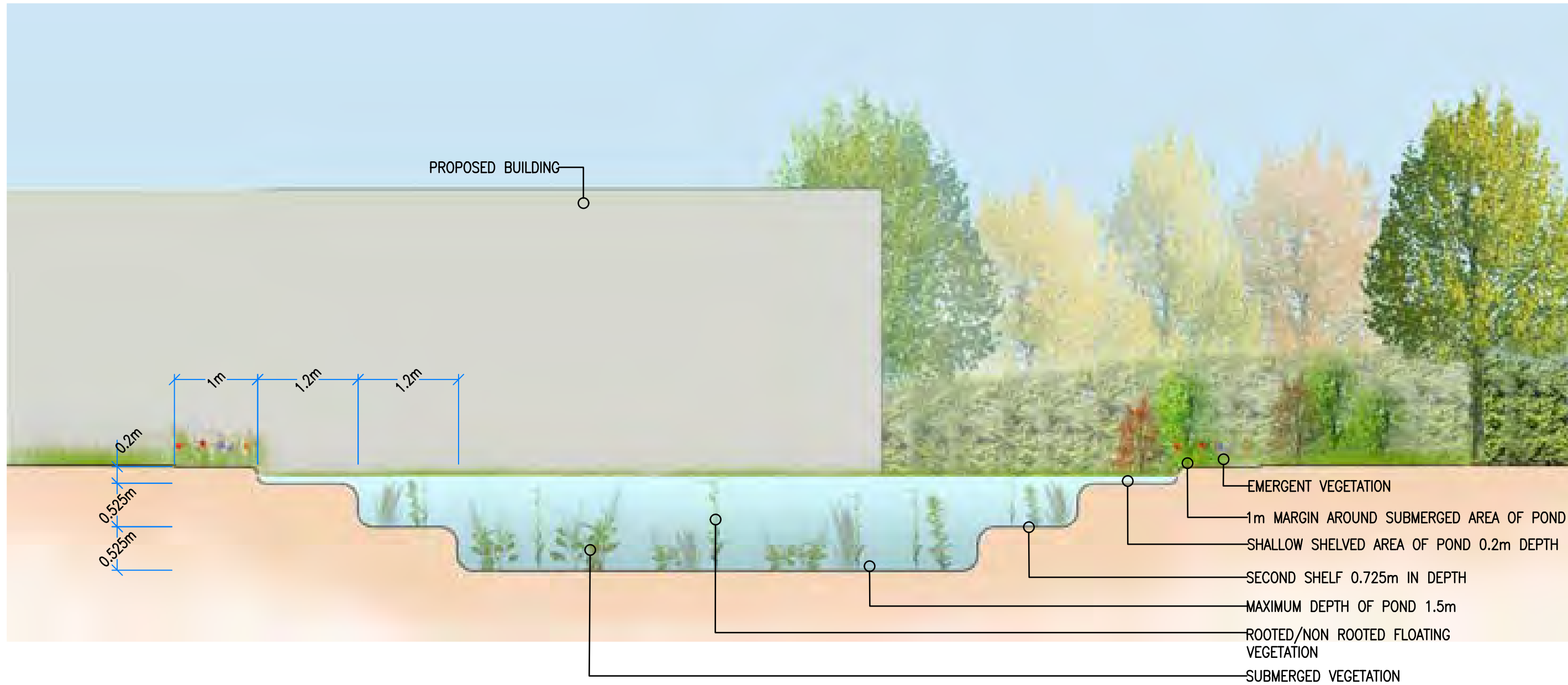
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SECTION A-A POND DETAIL: SCALE 1:50



THIS DRAWING SHOWS THE PRELIMINARY DESIGN ONLY AND IS SUBJECT TO DETAILED DESIGN, TOPOGRAPHICAL SURVEY INFORMATION AND LOCAL AUTHORITY APPROVAL

- KEY
- EXISTING TREES (TO BE RETAINED)
 - EXISTING HEDGE (TO BE RETAINED)
 - PROPOSED HEDGE (SEE TABLE)
 - PROPOSED TREES (SEE TABLE)
 - PROPOSED SHRUB PLANTING (SEE TABLE)
 - PROPOSED GRASSED AREA
 - PROPOSED BUND / AREA FOR TRANSLOCATION OF ORCHID
 - PROPOSED WILD FLOWER MEADOW (SEE WILD FLOWER TABLE)
 - PROPOSED BEETLE BANK (SEE GRASS PLANTING TABLE)
 - PROPOSED AQUATIC PLANTING (SEE TABLE)
 - AMPHIBIAN HIBERNACULA
 - PERMANENT NEWT FENCE
 - PROPOSED HARD SURFACING
 - PROPOSED BUILDING
 - PROPOSED SEATING AREA
 - PROPOSED POND (202m²)
 - REQUIRED VISIBILITY SPLAY

PROPOSED HEDGE LENGTHS

EASTERN BOUNDARY – 81.6m

SOUTHERN BOUNDARY – 62.8m

WESTERN BOUNDARY – 47m

SHRUB PLANTING	
SPECIES	LATIN NAME
Dog rose	Rosa canina
Dogwood	Cornus sanguinea
Field rose	Rosa arvensis
Bramble	Rubus fruticosus
Butterfly bush	Buddleia
Lavender	Lavandula
Alder buckthorn	Rhamnus frangula

GRASS PLANTING			
Latin name	Common name	% of mix	sown @ 3g/m2
Dactylis glomerata	Cocks foot	30.00%	SEED
Festuca rubra	Creeping red fescue	20.00%	SEED
Phleum pratense	Timothy	10.00%	SEED
Festuca arundinacea	Tall fescue	10.00%	SEED
Festuca pratensis	Meadow fescue	25.00%	SEED
Potentilla reptans	Creeping cinquefoil	2.50%	SEED
Agrimonia eupatoria	Agrimony	2.50%	SEED

AQUATIC PLANTING	
SPECIES	LATIN NAME
Ragged robin	Lychnis flos-cuculi
Soft rush	Juncus effusus
Meadowsweet	Filipendula ulmaria
Marsh cinquefoil	Potentilla palustris
Yellow flag iris	Iris pseudacorus
Water plantain	Alisma plantago-aquatica
Water forget-me-not	Myosotis scorpioides
Lady's smock	Cardamine pratensis
Marsh marigold	Caltha palustris
Purple loosestrife	Lythrum salicaria
Brooklime	Veronica beccabunga
Water mint	Mentha aquatica
Duckweed	Lemna minor
Arrowhead	Sagittaria latifolia
Amphibious bistort	Polygonum amphibium
Water crowfoot	Ranunculus aquatilis
Spiked water-milfoil	Myriophyllum spicatum
Common water starwort	Callitriche stagnalis
White waterlily	Nymphaea alba
Water soldier	Stratiotes aloides
Willow moss	Fontinalis antipyretica
Curled pondweed	Potamogeton crispus
Frogbit	Hydrocharis morsus-ranae

HEDGE PLANTING	
SPECIES	LATIN NAME
Alder	Alnus glutinosa
Crab apple	Malus sylvestris
Holly	Ilex aquifolium
Hawthorn	Crataegus monogyna
Wild privet	Ligustrum vulgare
Rowan	Sorbus aucuparia
Wild pear	Pyrus pyraeaster

TREE PLANTING	
SPECIES	LATIN NAME
Field Maple	Acer campestre
Common Alder	Alnus glutinosa
Silver Birch	Betula pendula
Common Hawthorn	Crataegus monogyna
Common Whitebeam	Sorbus aria

WILD FLOWER PLANTING			
WILD FLOWER MIX		% OF MIX	sown @ 1.5g/msq
achillea millefolium	yarrow	2.50%	SEED
betonica officinalis	betony	2.50%	SEED
centaurea nigra	common knapweed	12.50%	SEED
galium verum	Lady's Bedstraw	5.00%	SEED
lathyrus pratensis	Meadow Vetchling	2.50%	SEED
Lleucanthemum vulgare	Oxeye Daisy	10.00%	SEED
lotus corniculatus	Birdsfoot Trefoil	10.00%	SEED
plantago lanceolata	Ribwort Plantain	12.50%	SEED
Primula Veris	Cowslip	5.00%	SEED
Prunella Vulgaris	Selfheal	2.50%	SEED
ranunculus acris	Meadow Buttercup	11.00%	SEED
rhinanthus minor	Yellow Rattle	7.50%	SEED
rumex acetosa	Common Sorrel	7.50%	SEED
silene flosculi	Ragged Robin	2.50%	SEED
trifolium pratense	Wild Red Clover	1.50%	SEED
viccia cracca	Tufted Vetch	5.00%	SEED

THIS DRAWING SHOWS THE PRELIMINARY DESIGN ONLY AND IS SUBJECT TO DETAILED DESIGN, TOPOGRAPHICAL SURVEY INFORMATION AND LOCAL AUTHORITY APPROVAL



WREXHAM

LANDSCAPE LAYOUT

DELTASIMONS NO: 15-0050.05

SCALE: 1:500 @A1

DATE: AUG 2016

DRAWING NO: L1-001

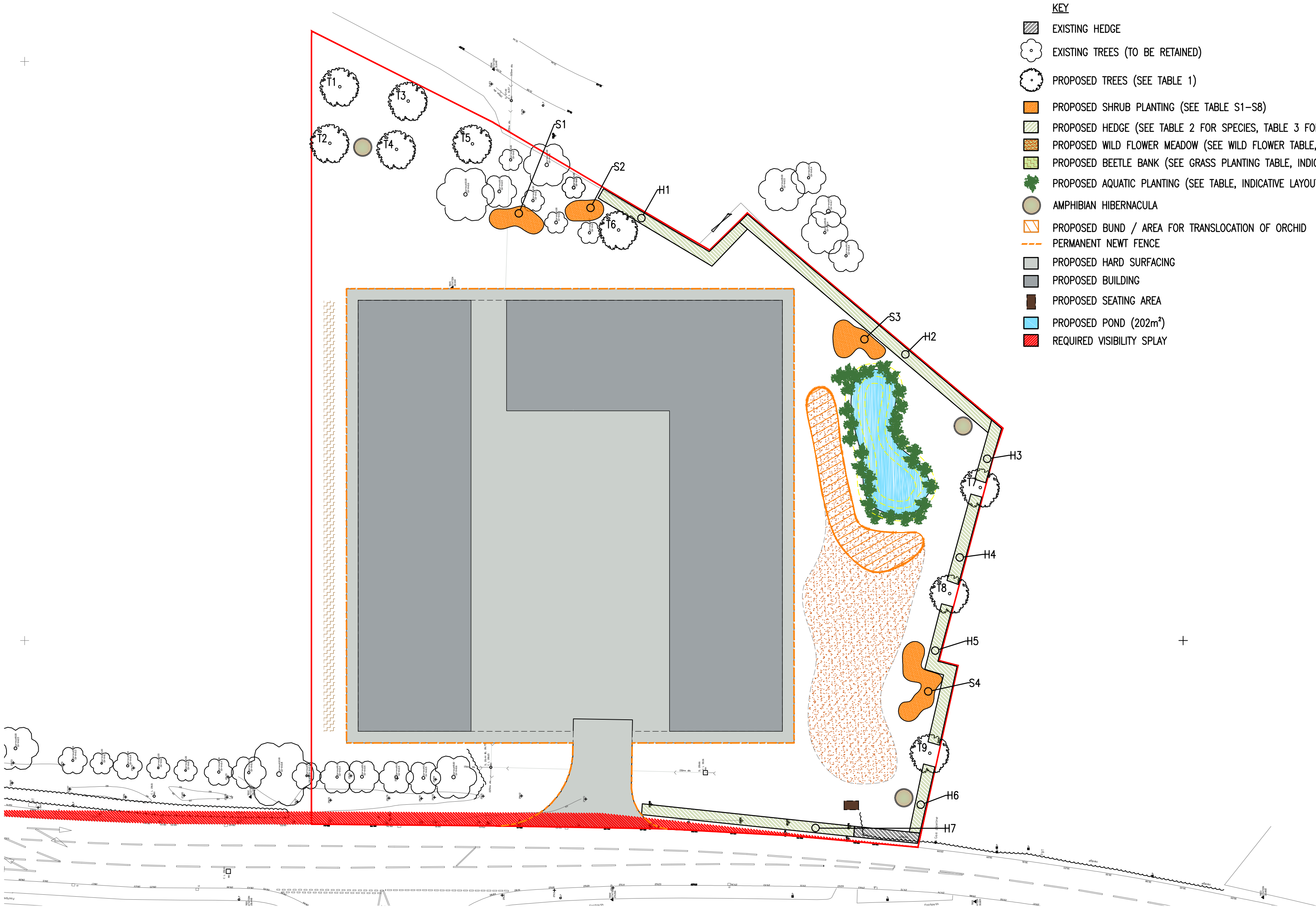
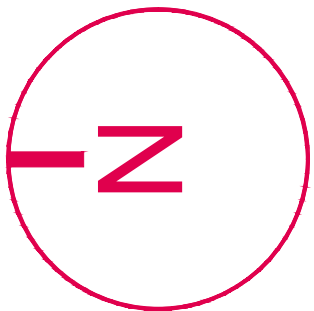


TABLE 1

TREE NUMBER	SPECIES	LATIN NAME	SIZE/SPEC cmg	FORM	HEIGHT (cm)	CONDITION
T1,T2	Field Maple	Acer campestre	10 - 12	Select Standard	300 - 350	BARE ROOT
T5, T6	Common Alder	Alnus glutinosa	10 - 12	Select Standard	300 - 350	BARE ROOT
T3,T4	Silver Birch	Betula pendula	10 - 12	Select Standard	300 - 350	BARE ROOT
T7, T9	Common Hawthorn	Crataegus monogyna	10 - 12	Select Standard	300 - 350	BARE ROOT
T8	Common Whitebeam	Sorbus aria	10 - 12	Select Standard	300 - 350	BARE ROOT

TABLE 2

SPECIES	LATIN NAME	AGE	HEIGHT (cm)	CONDITION	% MIX	DENSITY
Alder	Alnus glutinosa	1 + 1 TRANSPLANT	60 - 80	BARE ROOT	15	7/m²
Crab apple	Malus sylvestris	1 + 1 TRANSPLANT	40 - 60	BARE ROOT	12.5	7/m²
Holly	Ilex aquifolium	1 + 1 TRANSPLANT	40 - 60	BARE ROOT	15	7/m²
Common Hawthorn	Crataegus monogyna	1 + 1 TRANSPLANT	40 - 60	BARE ROOT	20	7/m²
Wild privet	Ligustrum vulgare	1 + 1 TRANSPLANT	40 - 60	BARE ROOT	15	7/m²
Rowan	Sorbus aucuparia	1 + 1 TRANSPLANT	40 - 60	BARE ROOT	12.5	7/m²
Wild pear	Pyrus pyraister	1 + 1 TRANSPLANT	40 - 60	BARE ROOT	10	7/m²

TABLE 3

HEDGE NUMBER	AREA m²	SPECIES/m²	TOTAL NUMBER OF SPECIES
1	53	7	371
2	101	7	707
3	20	7	140
4	31	7	217
5	53	7	371
6	23	7	161
7	67	7	469

TREE PLANTING SPECIFICATION

1. TREES TO BE PLANTED IN TREE PITS 600 X 600 X 600MM.
2. "ENMAG" SLOW RELEASE FERTILIZER TO BE ADDED TO PITS.
3. TREES TO BE STAKED WITH MIN 8CM DIAM. PEELED ROUND SOFTWOOD STAKE. TOP OF STAKE TO FINISH APPROX 1.7M ABOVE GROUND. STAKE TO BE DRIVEN BENEATH BASE OF PIT UNTIL STABLE.
4. TREES TO BE FASTENED WITH A SINGLE TIE AND RUBBER SPACER.
5. ADJUST TREE TIES IN YEARS 2, 3 AND 4 AND REMOVE IN YEAR 5.
6. TREES THAT FAIL OR BECOME DISEASED WITHIN 5 YEARS OF PLANTING SHALL BE REPLACED.
7. 1.0M IN DIAMETER AROUND EACH TREE TO BE KEPT FREE OF GRASS/COMPETITION AND MULCHED TO A DEPTH OF 75MM WITH COARSE FOREST BARK MULCH.
8. FINAL POSITION OF TREES SUBJECT TO CONFIRMATION OF SERVICE LOCATION AND APPROVAL OF STATUTORY UNDERTAKERS.

SHRUB PLANTING SPECIFICATION

1. ALL MATERIAL SHALL BE STURDY, WELL ROOTED NON-REFRIGERATED WITH WELL-BALANCED HEADS AND FIBROUS ROOT SYSTEMS.
2. PLANTS SHALL BE PLANTED INTO 450MM CULTIVATED AND WEED/GRASS FREE TOPSOIL IN ACCORDANCE WITH BEST HORTICULTURAL PLANTING PRACTICE.
3. "ENMAG" SLOW RELEASE FERTILIZER TO BE ADDED TO PITS.
4. FINISHED PLANTING BEDS SHALL BE LIGHTLY FORKED OVER AND DRESSED WITH 50MM COARSE FOREST BARK MULCH.
5. PLANTING BEDS SHALL BE MAINTAINED FREE OF WEEDS/GRASS FOR A PERIOD OF 5 YEARS. ANY MATERIAL THAT FAILS OR BECOMES DISEASED WITHIN THIS PERIOD SHALL BE REPLACED.

HEDGE PLANTING SPECIFICATION

1. HEDGE PLANTS TO BE PLANTED IN DOUBLE STAGGERED ROWS WITH 7 PLANTS/m²
2. PLANTS TO BE 25cm APART AND 45cm BETWEEN ROWS.
- HEDGE SPECIES TO BE 40-60cm TRANSPLANTS
3. SAME SPECIES TO BE GROUPED IN 3-5 PLANTS
4. PLANTS SHALL BE PLANTED INTO 450MM CULTIVATED AND WEED/GRASS FREE TOPSOIL IN ACCORDANCE WITH BEST HORTICULTURAL PLANTING PRACTICE.

*ALL NURSERY STOCK TO COMPLY WITH BS3936

S1 - TOTAL AREA 31m²

SPECIES	LATIN NAME	SIZE/SPEC	CONDITION	DENSITY	AREA m²	TOTAL NUMBER OF PLANTS
Dog rose	Rosa canina	60 - 80cm 3L pot	Container grown	5/m²	12.4	62
Field rose	Rosa arvensis	50 - 80cm	Bare root	5/m²	6.2	31
Bramble	Rubus fruticosus	25cm 9cm pot	Container grown	5/m²	12.4	62

S2 - TOTAL AREA 21m²

SPECIES	LATIN NAME	SIZE/SPEC	CONDITION	DENSITY	AREA m²	TOTAL NUMBER OF PLANTS
Bramble	Rubus fruticosus	25cm 9cm pot	Container grown	5/m²	10.5	53
Alder buckthorn	Rhamus frangula	60 - 80cm	Bare root	5/m²	10.5	53

S3 - TOTAL AREA 38m²

SPECIES	LATIN NAME	SIZE/SPEC	CONDITION	DENSITY	AREA m²	TOTAL NUMBER OF PLANTS
Butterfly bush	Buddleia	60 - 80cm 2L pot	Container grown	5/m²	18	90
Lavender	Lavandula	10cm 7cm pot	Container grown	5/m²	18	90

S4 - TOTAL AREA 52m²

SPECIES	LATIN NAME	SIZE/SPEC	CONDITION	DENSITY	AREA m²	TOTAL NUMBER OF PLANTS
Dog rose	Rosa canina	60 - 80cm 3L pot	Container grown	5/m²	7.8	39
Dogwood	Cornus sanguinea	60 - 80cm 3L pot	Container grown	5/m²	18.2	91
Field rose	Rosa arvensis	50 - 80cm	Bare root	5/m²	7.8	39
Bramble	Rubus fruticosus	25cm 9cm pot	Container grown	5/m²	18.2	91

THIS DRAWING SHOWS THE PRELIMINARY DESIGN ONLY AND IS SUBJECT TO DETAILED DESIGN, TOPOGRAPHICAL SURVEY INFORMATION AND LOCAL AUTHORITY APPROVAL



THE OLD COACH HOUSE, 1 CAMPBELL STREET PUDSEY LS28 6DP

tel: 0113 3453957 email: highwaymen@viasolutions.com

WREXHAM

PLANTING PLAN

DELTA SIMONS:15-0050.05

SCALE: 1:500 @A1

DATE: AUG 2016

DRAWING NO: L2-002



[illegible]

First year Management only
Bi-Annually
Annually
Annually for first 5 years, then every 2-3 years on rotation
Annually for first three years