

Strategic Ecology Corridor Land Adjacent to B5130, Wrexham and Land West of Maesgwyn Lane

Habitat Management Plan

Prepared For: Mauna Kea Limited

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TEP
401 Faraday Street
Birchwood Park
Warrington
WA3 6GA
Tel: 01925 844004
Email: tep@tep.uk.com
Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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Author	Imogen Graham
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Checked	Alice Kennedy
Approved	Gwynn Davies

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Contents

1.0 Introduction 3
2.0 Site Management Considerations 6
3.0 Management Intentions and Operations 12
4.0 Monitoring and Review 36

Tables

Table 1: Key Measures for Monitoring 36

Figures

Figure 1: Cross-section of an amphibian hibernaculum. 32

Appendices

Appendix A: Parcel 1-3 Overviews, Insets and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-1.1 to 1.4, 4826-Strategic Ecology Corridor-2.1 to 2.4, and 4826-Strategic Ecology Corridor-3.1 to 3.4 Rev V4), Land off Maesgwyn Lane, Site Location Plan and Existing Site Plan (Nicholsons refs: 22-3014 Rev V2 and 22-3015 Rev V1) and Red Line Boundary Plan/Site Location Plan (Nicholsons ref: 4826-Strategic Ecology Corridor-5 Rev V4)

Appendix B: Landscape Maintenance Schedules

Appendix C: Legislation Context

1.0 Introduction

Purpose of the Habitat Management Plan (HMP)

1.1 This HMP has been produced by The Environment Partnership (TEP) Limited on behalf of Mauna Kea Limited, a fully owned subsidiary of Net World Sports, to provide a framework for long-term habitat and ecological management and maintenance of the Strategic Ecology Corridor at Land Adjacent to B5130 and Land off Maesgwyn Lane, Wrexham (hereby referred to as the 'Site').

1.2 The Site forms part of a wider Strategic Ecology Corridor which provides necessary offsite ecological mitigation for various employment-led development sites that Net World Sports are pursuing within the Wrexham Industrial Estate, including the demolition of existing buildings and re-profiling for development comprising the severable and phased construction of employment floorspace with office floorspace and the provision of associated infrastructure at Utopia City, north of Bryn Lane, Wrexham LL13 9US.

Scope of the HMP

1.3 This HMP covers all the hard and soft landscaping features within the Site. The Site itself covers four parcels, all of which are former farmland. Parcel 1 is split from Parcels 2 and 3 by a section of land under different ownership; however, the plans for this land are also to create ecologically valuable habitat, thus it will provide a corridor between the three parcels in this Site.

1.4 An additional land parcel (Parcel 5) located approximately 521m east of the three other land parcels on Maesgwyn Lane has been added to the Site following discussions with Natural Resources Wales (NRW). However, it should be noted that this parcel will be continued to be used for agriculture, which will be managed in the most ecologically sensitive manner possible.

1.5 The relative locations of each parcel can be found on the Red Line Boundary Plan/Site Location Plan (Nicholsons ref: 4826-Strategic Ecology Corridor-5 Rev V4).

1.6 The HMP should be read in conjunction with:

- Parcel 1 Overview, Inset 1 and 2, and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-1.1 to 1.4 Rev V4);
- Parcel 2 Overview, Inset 1 and 2, and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-2.1 to 2.4 Rev V4);
- Parcel 3 Overview, Inset 1 and 2, and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-3.1 to 3.4 Rev V4);

- Land off Maesgwyn Lane, Site Location Plan and Existing Site Plan (Nicholsons refs: 22-3014 Rev V2 and 22-3015 Rev V1);
- Ecological Desk Study (TEP ref: 10944.001); and
- Preliminary Ecological Assessment (TEP ref: 10944.002).

Structure of the HMP

1.7 Chapter 2.0 provides a summary of the factors influencing management and a site analysis. Chapter 3.0 outlines the long-term aims and objectives for management and Chapter 4.0 sets out how the success of the HMP will be monitored, reviewed and updated over time.

1.8 Appendix A includes the Parcel 1-3 Overviews, Insets and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-1.1 to 1.4, 4826-Strategic Ecology Corridor-2.1 to 2.4, and 4826-Strategic Ecology Corridor-3.1 to 3.4 Rev V4), Land off Maesgwyn Lane, Site Location Plan and Existing Site Plan (Nicholsons refs: 22-3014 Rev V2 and 22-3015 Rev V1) and Red Line Boundary Plan/Site Location Plan (Nicholsons ref: 4826-Strategic Ecology Corridor-5 Rev V4), Appendix B provides a table of maintenance operations and Appendix C summarises relevant legislation.

Site Location

1.9 The Site lies approximately 6.4km east of Wrexham city centre at central grid reference SJ 39609 50563. The Site is bound by farmland to the north, Holt Road (B5130) to the east, and farmland to the south and west.

1.10 The additional land parcel lies approximately 6.5km east of Wrexham city centre at central grid reference SJ 40138 50443. The Site is bound by farmland to the north, south and west with Maesgwyn Lane located to the east.

Planning and Development Context

1.11 A hybrid planning application (planning application ref: P/2023/0497) was submitted to Wrexham County Borough Council (WCBC) in July 2023, for Utopia City which includes:

- Full application for the demolition of existing buildings and re-profiling of a site for development comprising the severable and phased construction of employment floorspace, office floorspace and the provision of associated infrastructure; and

- Outline planning permission for the severable and phase construction of employment floorspace, office floorspace, retail and drive-thru facilities, a hotel, petrol filling station and associated infrastructure (all matters reserved for future determination).

1.12 This Site is one of two mitigation sites that form part of the wider Strategic Ecology Corridor and will provide ecological mitigation for the protection of great crested newts (GCN) in relation to the hybrid application, as well as various other employment-led development sites that Net World Sports are pursuing within the Wrexham Industrial Estate.

1.13 The other mitigation site is located on Land North of Francis Lane (central grid reference: SJ 38070 51347). A separate HMP has been produced for this Site (TEP ref: 10934.003).

1.14 This HMP has been written to provide a mechanism to ensure that the necessary ecological mitigation, enhancement and/or compensation is delivered on the Site.

2.0 Site Management Considerations

Responsibility for Site Management

2.1 During the defects liability period, landscape maintenance and replacement of failed planting will be completed by the landscape contractor who has implemented the scheme.

2.2 Following the defects liability period, Net World Sports will employ a managing organisation who will be responsible for operational management and maintenance of the landscape within the Site for at least 25 years.

2.3 The managing organisation will require the necessary experience and certificates of competence to undertake landscape management operations on site. Where practical, contractors with experience in biodiversity management will be sought. The managing organisation will ensure that management complies with the guidelines set out in this HMP.

Health and Safety

2.4 Net World Sports will retain ultimate responsibility for the health and safety of the Site until such time as the open space and landscaping associated is transferred to a managing organisation. The Site will be subject to informal inspections and a formal annual inspection. Whenever the Site is visited, any deficiencies in safety provision will be noted and acted upon.

2.5 The managing organisation will be responsible for complying with the provisions of the Health and Safety at Work Act 1974. All machinery and apparatus brought onto the Site shall be safe and maintained to a standard that will not breach provisions within the Health and Safety at Work Act 1974 or any other statutory obligations.

2.6 The managing organisation shall be adequately trained and sufficiently competent to carry out maintenance operations without causing a Health and Safety risk to themselves or other users of the Site.

2.7 All works shall be undertaken in accordance with the relevant codes of practice. Appropriate machinery shall be used inclusive of adequate personal protective equipment to avoid harm to themselves or any other persons.

Biosecurity

2.8 The managing organisation should have a sufficient awareness of new and ongoing biosecurity threats, and the necessary precautions to avoid their spread should be undertaken on sites where they are known or suspected.

2.9 New findings of suspected non-indigenous plant pests and diseases should be reported to the Plant Heath and Seeds Inspectorate or Forestry Commission - Forest Research Tree Health Diagnostic and Advisory Service or both.

Management Objectives

2.10 The long-term management objectives of this HMP are:

- To ensure new planting establishes to create a high-quality landscaping scheme;
- To ensure that retained and newly created habitats are maintained to enhance their biodiversity and connectivity as foraging and commuting habitat for high value wildlife including amphibians;
- To safeguard and enhance the biological and physical integrity of the Site; and
- To comply with legal obligations and constraints.

Ecological Factors

Designations

2.11 There is one Statutory Wildlife Site of international significance within 5km of the Site: Afon Dyfrdwy a Llyn Tegid (Wales) Special Area for Conservation (SAC) / River Dee and Bala Lake (England) SAC which is located 2.5km east of the Site.

2.12 There is one Statutory Wildlife Site of national significance within 2km of the Site: Afon Dyfrdwy Site of Special Scientific Interest (SSSI) / River Dee SSSI which is located 1.7km east of the Site.

2.13 There is one Non-Statutory Wildlife Site within 1km of the Site: Wrexham Industrial Estate Wildlife Site for Wrexham (WSW) which is located 0.7km southwest of the Site.

Habitats and Species of Principal Importance in Wales

2.14 The Environment Act (Wales) 2016 requires a list of habitats and species of principal importance in England to be drawn up.

2.15 Local Biodiversity Action Plans (BAP) provide an indication of the relative value given to existing habitats and species. The Local BAP has been used when assessing the value of the habitats and species present within the Site.

2.16 The following priority species and habitats listed in the WCBC BAP will be sustained around or within the Site:

- Ponds;

- Hedgerows;
- GCN; and
- Butterflies.

Ecological Surveys

2.17 Below is a list of the ecological surveys carried out at the Site:

- Ecological Desk Study (TEP, 2025);
- Extended Phase 1 habitat survey (TEP, 2025);
- Badger survey (TEP, 2025); and
- Preliminary Ecological Assessment (TEP, 2025).

Chemical Use

2.18 The use of herbicide during landscape maintenance works will be minimised wherever possible. Hand weeding will be utilised when feasible and the use of mulch around new planting will assist with suppressing weeds.

Habitats

2.19 The following habitats are present or will be created within the Site:

- Trees;
- Hedgerows;
- Scrub; and
- Ponds.

Trees

2.20 All existing trees on the Site will be retained. Additional native tree planting will be undertaken within areas of thicket/scrub planting. Existing and proposed trees will provide foraging opportunities for birds and bats and provide nesting opportunities for common birds.

Hedgerows

2.21 Existing hedgerows making up field boundaries will be retained. They will provide suitable foraging, commuting and sheltering habitat for birds, bats, small mammals and amphibians.

Scrub

2.22 Native thicket/scrub planting is proposed on bunds and in pockets across the Site. The scrub habitat will provide suitable foraging, commuting and sheltering habitat for birds, bats, small mammals and amphibians.

Ponds

2.23 Four existing ponds on the Site will be retained and numerous ponds are to be created across the Site. Ponds are designed, and will be managed, to maximise benefits for a range of wildlife, with a specific focus on GCN.

Species

Amphibians

2.24 The ecological desk study returned seventeen records of GCN and four records of common toad within 2km of the Site.

2.25 There are three ponds onsite, one of which tested positive for GCN in environmental DNA (eDNA) testing undertaken in spring 2024. There are thirty-five ponds within 500m of the Site which have good terrestrial connectivity with the Site.

2.26 Existing hedgerow and grassland on the Site provide suitable commuting, foraging, sheltering and hibernating habitat for amphibians. These habitats will be retained in the development, and proposed ponds, thicket/scrub, meadow and wetland grass, marginal planting will provide suitable breeding, foraging, commuting and sheltering habitat for amphibians, including GCN. Proposed amphibian hibernacula will provide additional sheltering habitat for amphibians on the Site.

2.27 GCN are protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended and the Conservation of Habitats and Species Regulations 2017 (as amended). Under this legislation it an offence to intentionally kill, injure or capture GCN. It is also an offence to intentionally or recklessly damage, destroy or obstruct access to places used by GCN for shelter or protection or to disturb them whilst they are occupying these habitats.

2.28 Common toads are listed as a species of principal importance under Section 7 of the Environment (Wales) Act (2016) alongside other native amphibian species.

Birds

2.29 The ecological desk study returned records of eight Schedule 1 bird species within 2km of the Site; however, no records were returned within the Site itself.

2.30 Existing grassland, marginal vegetation, hedgerow and trees provide suitable nesting and foraging habitat for birds. These habitats will be retained in the development, and proposed native scrub/thicket, tree planting, meadow/wet grassland, and marginal planting will provide further suitable habitat for birds.

2.31 All UK wild birds are protected while at the nest under the Wildlife and Countryside Act (1981). Effectively, this means that if removal of habitats (which can include buildings, trees, hedges, scrub and grassland) cannot be timed to avoid the bird breeding season (March to August inclusive), then a survey by a suitably experienced ecologist will be required to ensure no nesting birds will be affected. There is generally no process to gain a licence to disturb nesting birds; therefore, if active nests are present works will need to avoid the area of the nest until the young have fledged.

Bats

2.32 The ecological desk study returned numerous records of bat species within 2km of the Site; however, no records were returned within the Site itself.

2.33 The Site is bordered by hedgerows and trees on all sides which provide suitable foraging and commuting habitat for bats allowing for connectivity to the wider landscape to the north, east and south were further fields lie. In addition, three ponds present on the Site provide suitable foraging habitat for bats. These habitats will be retained in the development, and proposed tree planting, native scrub/thicket, meadow/wet grassland and marginal planting will provide further suitable habitat for foraging and commuting bats.

2.34 Bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended and the Conservation of Habitats and Species Regulations 2017 (as amended).

Badgers

2.35 [redacted]

2.36 Mammal paths were sighted during the extended habitat walkover, but no evidence of badger was recorded. Existing grassland and hedgerows provide suitable foraging, ranging and sett building habitat for badgers. These habitats will be retained in the development, and proposed native thicket/scrub and meadow grassland will provide further suitable habitat for badgers.

2.37 Badgers and their setts are safeguarded under the Protection of Badgers Act (1991). Under this legislation it is illegal to interfere, damage or destroy a sett, obstruct access to a sett, or disturb a badger whilst it is occupying a sett.

Invertebrates

2.38 Existing habitats on the Site have limited suitability for invertebrates. However, proposed ponds, marginal vegetation, wildflower and wet grassland and bee and butterfly banks and scrapes will provide suitable habitat for a range of invertebrates including pollinators and butterflies.

Social Factors

Accessibility

2.39 There is a Public Right of Way (PRoW) running along the western and northern boundaries of Parcel 2 of the Site.

2.40 The Site is accessible for maintenance works via field gates located off Holt Road (B5130).

Site Users and Community Groups

2.41 Awareness of the potential user groups, and their impact on the Site is an important aspect of implementing this HMP. Net World Sports and managing organisation is responsible for considering the local community groups and their influence on the current use and future requirements of this landscape.

2.42 Possible key community groups or potential stakeholders within 1km of the Site have been identified as:

- Isycoed Village Hall (100m east);
- St Paul's VA Primary School, Isycoed (200m east); and
- The Parish Church of St. Paul - Isycoed (600m east).

Legal Factors

2.43 Management of the Site must be in line with all legislation relating to health and safety and the environment. A review of the relevant legislation affecting site management is in Appendix C.

3.0 Management Intentions and Operations

Landscape Elements

3.1 The Site will comprise the following landscape elements as shown on the Parcel 1-3 Overviews, Insets and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-1.1 to 1.4, 4826-Strategic Ecology Corridor-2.1 to 2.4, and 4826-Strategic Ecology Corridor-3.1 to 3.4 Rev V4) and Land off Maesgwyn Lane, Site Location Plan and Existing Site Plan (Nicholsons refs: 22-3014 Rev V2 and 22-3015 Rev V1):

- Existing Retained Trees;
- Proposed Trees;
- Existing Boundary Hedgerows;
- Retained Scrub;
- Proposed Native Scrub/Thicket;
- Retained Wild/Meadow Grass;
- Proposed Wild/Meadow Grass;
- Proposed Wet Grassland;
- Existing Water (Ponds);
- Proposed Wildlife Pools and Aquatic Marginal Planting;
- Bee and Butterfly Banks and Scrapes;
- Proposed Rock Piles;
- Proposed Log Piles;
- Proposed Hibernacula;
- Path (PRoW);
- Existing Fence; and
- Existing Agricultural Fields (Parcel 5, Land off Maesgwyn Lane).

Site Wide

Management Intention

3.2 The Site will be kept free from litter through regular cleansing. Regular inspections will ensure any health and safety hazards are identified and made safe.

Chemical Use

3.3 It should be recognised that plants considered as weeds can provide suitable habitat for invertebrates.

3.4 Weed control where feasible should be undertaken by hand pulling. However, in certain instances, herbicide may be the most effective measure to remove unwanted species during the planting establishment period. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species using spray shields. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

3.5 Consideration would need to be given to the fact that chemicals can prevent growth of grasses and woody species in landscape schemes.

3.6 Where herbicides are to be used within 10m of waterbodies care must be taken to only use formulations of Glyphosate which are approved for use close to water. NRW guidance should be sought when using herbicide within 5m of a waterbody as an agreement may be needed.

3.7 Fertiliser is not to be applied to any of the meadow areas in order to conserve the development of a diverse sward.

Maintenance Operations

Site Cleansing

3.8 A litter pick of the Site will be carried out monthly (and will include the ponds). All litter will be removed and disposed of in an authorised manner.

3.9 When removing material from within or near to the ponds, care must be taken to check for amphibians, which may be hiding in or under items. Any amphibians, except GCN, found will be returned to suitable cover. It is an offence to handle GCN without a specific licence from NRW.

3.10 Any fly tipping or graffiti will be removed as soon as possible.

Site Inspections

3.11 Site inspections will be undertaken monthly to identify any health and safety hazards and arrange for them to be made safe as far as is practicable.

3.12 Results from the monthly site inspections will be compiled and presented within the annual report which will be used in the review of the HMP as detailed in Chapter 4.0.

Ecological Inspections

3.13 The Site will be monitored annually by a suitably qualified ecologist, to ensure that management strategies implemented on the Site are creating habitats which are favourable for the persistence of GCN.

Existing Retained Trees

Management Intentions

3.14 All existing trees within the Site and existing field boundaries will be retained in the development. The trees will provide valuable foraging habitat for bats, and nesting and foraging habitat for birds.

3.15 An arboriculturist must be consulted prior to undertaking any major tree works.

Maintenance Operations

Tree Survey

3.16 A trained arboriculturist will carry out an inspection of mature trees within or adjacent to areas of public access to check for damage and disease and to maintain appropriate height clearances for safe pedestrian access. The survey will be carried out every three years or following a storm.

Tree Maintenance

3.17 Maintenance to mature trees will be informed by the tree survey.

3.18 Wood under 250 mm diameter collected from thinning, pruning, brashing and vegetation clearance will, wherever possible, be chipped and used sustainably on site for mulching.

3.19 Wood greater than 250 mm diameter will be logged and used to create log piles.

3.20 Disturbance to GCN hibernacula should be avoided by cordoning off areas known to contain the species during works.

Proposed Trees

Management Intentions

3.21 Tree planting is proposed in a scattered pattern (as specified in the native thicket planting layout grid in Parcel 1 Inset 1 drawing (Nicholsons ref: 4826-Utopia Offsite Bunds-1.2 Rev V4)) within native scrub/thicket bunds and in boundary native scrub/thicket planting, to provide visual screening for the Site and ground

stabilisation. Trees will comprise a mix of native deciduous species, and will provide foraging opportunities for bats, and suitable nesting and foraging habitat for common bird species.

Maintenance Operation

Weed Control

3.22 To reduce excessive competition, a weed free area will be retained around any trees less than 3m in height and will be maintained to a diameter of 0.5m around the base of the trees. Mulch will be replenished annually to a depth of 75mm.

3.23 Once trees have established, after year 5, the maintenance of a weed free base can be discontinued.

Re-firming

3.24 Newly planted trees will require re-firming as required.

Stakes and Ties

3.25 Where trees are staked, the stakes and ties will be checked quarterly, and it is anticipated that they will need adjusting at least twice annually. Any broken or damaged stakes will be replaced and ties re-fixed at a slightly lower position, allowing for growth since planting.

3.26 Remove stakes as necessary, when the tree is suitably established, approximately in Year 5.

Formative Pruning

3.27 Young trees will require formative pruning to maintain a desirable shape as well as to maintain health and vigour. Pruning and thinning of trees will be in accordance with BS 7370-4:1993 Recommendations for Maintenance of Soft Landscape (Other Than Amenity Turf).

3.28 After trees have established, crown pruning is desirable, and any dead or severely damaged trees will be felled and replaced accordingly.

Replacement of Failed Planting

3.29 Failed planting will be removed and replaced with the same specification as the approved planting schedule for the Site between November and March.

3.30 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternative appropriate species will be planted instead.

Watering

3.31 Watering may be required during periods of drought in the first couple of years following planting. Water should be applied to the base of the tree and should not be in excess of 20 litres every other day, as required, between April and September.

Fertiliser

3.32 Apply slow-release multi-purpose plant food and soil improver in Autumn during the first 5 years after planting.

3.33 Any bark or other weed suppressant should be carefully removed and fertiliser applied direct to the top layer of soil at the manufacturers recommended rate.

Post Establishment Maintenance

3.34 See Existing Retained Trees.

Existing Boundary Hedgerows

Management Intentions

3.35 Existing hedgerows which form field boundaries will be retained. The hedgerow will provide screening for the Site and will be maintained to maximise benefits for a variety of wildlife species. Hedgerow will provide suitable habitat for foraging and commuting hedgehogs, birds, bats, badgers and amphibians.

Maintenance Operations

Hedgerow Cutting

3.36 Hedgerows will be cut in an 'A' shape to maintain a wide base for bird nesting and roosting. Hedgerow cutting will be undertaken on a rotational basis with one third cut every three years to retain foraging and sheltering opportunities. If possible, a 1m grass strip of species rich tussock grass will be left uncut next to the hedgerow to increase habitat potential, suitability for amphibians and connectivity. The grass strip is to be cut simultaneously with the hedge cutting regime. Arisings will be collected and removed from Site.

3.37 Additional hedgerow cutting may be required from a health and safety perspective should there be a good growing season.

3.38 Materials collected from hedge cuts will be used to replenish amphibian hibernacula, as required.

Retained Scrub

Management Intentions

3.39 Existing scrub present on field boundaries will be retained. The scrub habitat provides suitable habitat for foraging and commuting birds, bats, hedgehogs, badgers and amphibians.

Maintenance Operations

Assessment of Scrub Encroachment

3.40 Scrub provides an array of habitat opportunities and as such it may be appropriate to allow weed species to develop within the scrub. Weeds provide a vital source of food for pollinators and in turn, foraging opportunities for birds, amphibians and mammals.

3.41 An annual visual inspection in September will determine whether weeds are becoming too dominant, or scrub is encroaching onto neighbouring grassland.

Reduction of Scrub

3.42 Where reduction of coverage is required, scrub growth will be controlled along its advancing face using brush cutters, arisings will be chipped and used sustainably on site for mulching. If required dominant weed species will be hand pulled.

3.43 Scrub cutting will be scheduled at a time when there is no risk of disturbing breeding or nesting birds, mammals or amphibians and to enable berry-bearing scrub species to fruit for the benefit of foraging wildlife (e.g. between December and early February).

3.44 In the long-term, consideration will be given to active management, e.g. cyclical cutting of 5% annually to create greater structural diversity.

Proposed Native Scrub/Thicket

Management Intentions

3.45 Native scrub/thicket planting is proposed across the Site. Plants will be arranged in groups of 5-9 of the same species to create a natural random form. Scrub with fescue and bent grass underplanting will form the primary vegetation coverage on bunds in the east of the Site. Scrub will also be planted in areas close to the western Site boundary and along existing field boundaries (retaining a 3-5m buffer between scrub and hedgerow to allow for hedgerow maintenance). The scrub will

provide suitable habitat for foraging birds, bats, hedgehogs, badgers and amphibians.

Maintenance Operations

Re-firming

3.46 Re-firming of new plants will be undertaken as required.

Replacement of Failed Planting

3.47 Failed planting will be removed and replaced with the same specification as the approved planting schedule for the Site between November and March for deciduous species, and between September and April for evergreen species.

3.48 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternative appropriate species will be planted instead.

Assessment of Scrub Encroachment

3.49 Scrub provides an array of habitat opportunities and as such it may be appropriate to allow weed species to develop within the scrub. Weeds provide a vital source of food for pollinators and in turn foraging opportunities for birds, amphibians and mammals.

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3.52 Scrub cutting will be scheduled at a time when there is no risk of disturbing breeding or nesting birds, amphibians or mammals and to enable berry-bearing scrub species to fruit for the benefit of foraging wildlife (e.g. between December and early February).

3.53 In the long-term, consideration will be given to active management, e.g. cyclical cutting of 5% annually to create greater structural diversity.

Retained Wild/Meadow Grass

Management Intentions

3.54 Existing grassland across the Site will be retained as much as possible during earthworks and thereafter managed to encourage locally established and appropriate vegetation to re-colonise the fields. The wild/meadow grassland habitat will provide suitable commuting habitat for amphibians, hedgehogs and badgers.

3.55 It is expected that the seedbank contained within the soil should allow the regeneration of the desired wild/meadow habitat. Ongoing maintenance will focus on reinforcing the regenerative approach.

3.56 If successful regeneration has not been achieved after two growing seasons, a grass mix should be sown to establish sward, as detailed in the Capital Works section below.

Regeneration Period

3.57 The regeneration period will comprise the first two years following completion of earthworks on the Site. Following this period, if the desired habitats are not developing, capital works will be required to establish sward.

Weed Control

3.58 Weed control will be undertaken as required where noxious weeds are spreading across the Site. It will be carried out between April and September and where feasible should be undertaken by hand pulling and should remove noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

Grass Cutting

3.59 The grass will be topped to a height of 150mm twice annually during the regeneration period, to increase grass tillering and sward establishment. To minimise disturbance to terrestrial habitat, it is recommended that areas are cut in sections (e.g. one third of the grassland area) on a weekly rotation to ensure areas of uncut vegetation are retained as refuge for amphibians and small mammals. The first cut will be undertaken in February, before GCN emerge from hibernation. The second cut will be once seed heads have dropped and GCN have returned to hibernation in October.

3.60 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

3.61 Arisings will be left in situ for 24 hours to allow seed to disperse. The arisings will then be raked and used sustainably elsewhere on the Site to prevent soil nutrient enrichment and to retain the desired species composition.

Capital Works (If Required)

3.62 If the desired grassland habitats do not develop during the regeneration period, capital works will be required to successfully establish sward.

3.63 Capital works will be undertaken in October after GCN have returned to hibernation. Works will be undertaken on a three-week rotation, with works occurring on one third of the grass area every week to ensure that there is sufficient area for amphibian refuge.

3.64 A hay cut will be undertaken (150mm) with arisings collected and removed from the Site. Following the cut and collect, the grassland area will be harrowed and scarified to break up the thatch and create areas of bare soil, providing the opportunity for herbs and forbs to develop within the perennial grasses.

3.65 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

Overseeding

3.66 After harrowing, the area will be overseeded with a species-rich wildflower mix immediately (RE1 (MG5 Grassland) supplied by Germinal Seeds or similar). The wildflower mix will comprise a 20:80 grass to wildflower composition and will include yellow rattle at just over 1% of the total percentage.

Maintenance Operations

3.67 Following the regeneration period or completion of capital works, management of retained wild/meadow grass areas should be as detailed below.

Grass Cutting

3.68 The grass will be cut annually once seed heads have dropped and GCN have returned to hibernation in October.

3.69 Grass cuts will be undertaken with flail cutters/mowers set to retain vegetation at a minimum height of 150mm in order to prevent any risk to amphibians that may be present within the grasslands.

3.70 Two thirds of the grass will be cut in a semi-random rotational pattern (working outwards or from one side to the other). To minimise disturbance to terrestrial habitat, it is recommended that areas are cut in sections (e.g. one third of the

grassland area) on a weekly rotation to ensure areas of uncut vegetation are retained as refuge for amphibians and small mammals.

3.71 Within the cutting area, the cut height will vary in random patches/swathes between 300mm and a minimum 150mm. This will maintain sufficient sward height for amphibian refuge.

3.72 Arisings will be left in situ for 24 hours to allow flower seed to disperse. The arisings will then be raked and used sustainably elsewhere on the Site to prevent soil nutrient enrichment and to retain the desired species composition.

3.73 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

3.74 Grass cutting will be avoided between mid-March and August (inclusive) to prevent risk of disturbance and destruction to nesting birds. Should any works be required within the bird nesting season an assessment will be undertaken by a suitably qualified ecologist before any works commence.

3.75 Great care will be taken to avoid disturbance to amphibians or damaging refugia hidden in the grass.

Cultivating and Re-seeding

3.76 Any bare ground will be cultivated and re-seeded as required to successfully establish sward (using RE1 (MG5 Grassland) supplied by Germinal Seeds). This will be carried out in October.

Weed Control

3.77 Weed control will be undertaken as required where noxious weeds are spreading across the Site. It will be carried out between April and September and where feasible should be undertaken by hand pulling and should remove noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

3.78 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

Fertiliser Use

3.79 Fertiliser is not to be applied to any of the wild/meadow areas in order to conserve the development of a diverse sward.

Proposed Wild/Meadow Grass

Management Intentions

3.80 Wild/meadow grass seeding is proposed on the western slopes of bunds. The wild/meadow grassland habitat will provide suitable commuting habitat for amphibians, hedgehogs and badgers.

Capital Works

3.81 Capital works will be required to assist in developing the proposed wild/meadow grass areas.

3.82 The earth on the bunds will be harrowed and scarified to prepare for seeding.

Overseeding

3.83 After harrowing, the area will be overseeded with a species-rich wildflower mix immediately (RE1 (MG5 Grassland) supplied by Germinal Seeds or similar). The wildflower mix will comprise a 20:80 grass to wildflower composition and will include yellow rattle at just over 1% of the total percentage.

Maintenance Operations

Grass Cutting

3.84 The grass will be cut annually once seed heads have dropped and GCN have returned to hibernation in October.

3.85 Grass cuts will be undertaken with flail cutters/mowers set to retain vegetation at a minimum height of 150mm in order to prevent any risk to amphibians that may be present within the grasslands.

3.86 The necessary health and safety precautions must be undertaken when cutting grass on slopes (e.g. bunds).

3.87 Two thirds of the grass will be cut in a semi-random rotational pattern (working outwards or from one side to the other). To minimise disturbance to terrestrial habitat, it is recommended that areas are cut in sections (e.g. one third of the grassland area) on a weekly rotation to ensure areas of uncut vegetation are retained as refuge for amphibians and small mammals.

3.88 Within the cutting area, the cut height will vary in random patches/swathes between 300mm and a minimum 150mm. This will maintain sufficient sward height for amphibian refuge.

3.89 Arisings will be left in situ for 24 hours to allow flower seed to disperse. The arisings will then be raked and used sustainably elsewhere on the Site to prevent soil nutrient enrichment and to retain the desired species composition.

3.90 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

3.91 Grass cutting will be avoided between mid-March and August (inclusive) to prevent risk of disturbance and destruction to nesting birds. Should any works be required within the bird nesting season an assessment will be undertaken by a suitably qualified ecologist before any works commence.

3.92 Great care will be taken to avoid disturbance to amphibians or damaging refugia hidden in the grass.

Cultivating and Re-seeding

3.93 Any bare ground (that is not bee and butterfly banks/scrapes) will be cultivated and re-seeded as required to successfully establish sward (using RE1 (MG5 Grassland) supplied by Germinal Seeds or similar). This will be carried out in October.

Weed Control

3.94 Weed control will be undertaken as required where noxious weeds are spreading across the Site. It will be carried out between April and September and where feasible should be undertaken by hand pulling and should remove noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

3.95 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

Fertiliser Use

3.96 Fertiliser is not to be applied to any of the meadow areas in order to conserve the development of a diverse sward.

Proposed Wet Grassland

Management Intentions

3.97 Existing grassland across the Site will be retained as much as possible during earthworks and thereafter managed to encourage locally established and

appropriate vegetation to re-colonise the margins surrounding ponds. The wet grassland habitat will provide suitable habitat for amphibians and a range of other invertebrates and will provide foraging opportunities for birds and bats.

3.98 It is expected that the seedbank contained within the soil should allow the regeneration of the desired wet grassland habitat. Ongoing maintenance will focus on reinforcing the regenerative approach.

3.99 If successful regeneration has not been achieved after two growing seasons, a grass mix should be sown to establish sward, as detailed in the Capital Works section below.

Regeneration Period

3.100 The regeneration period will comprise the first two years following completion of earthworks on the Site. Following this period, if the desired habitats are not developing, capital works will be required to establish sward.

Weed Control

3.101 Weed control will be undertaken across all proposed wet grass areas between April and September of the first year and will consist of hand pulling to remove all noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

Grass Cutting

3.102 The grass will be topped to a height of 150mm twice annually during the regeneration period, to increase grass tillering and sward establishment. To minimise disturbance to terrestrial habitat, it is recommended that areas are cut in sections (e.g. one third of the grassland area) on a weekly rotation to ensure areas of uncut vegetation are retained as refuge for amphibians and small mammals. The first cut will be undertaken in February, before GCN emerge from hibernation. The second cut will be once seed heads have dropped and GCN have returned to hibernation in October.

3.103 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

3.104 Arisings will be left in situ for 24 hours to allow seed to disperse. The arisings will then be raked and used sustainably elsewhere on the Site to prevent soil nutrient enrichment and to retain the desired species composition.

Capital Works (If Required)

3.105 If the desired grassland habitats do not develop during the regeneration period, capital works will be required to successfully establish sward.

3.106 Capital works will be undertaken in October after GCN have returned to hibernation. Works will be undertaken on a three-week rotation, with works occurring on one third of the grass area every week to ensure that there is sufficient area for amphibian refuge.

3.107 A hay cut will be undertaken (150mm) with arisings collected and removed from the Site. Following the cut and collect, the grassland area will be harrowed and scarified to break up the thatch and create areas of bare soil, providing the opportunity for herbs and forbs to develop within the perennial grasses.

3.108 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

Overseeding

3.109 After harrowing, the area will be overseeded with a wet meadow mix immediately (RE3 (MG8 Grassland) supplied by Germinal Seeds or similar). The wet meadow mix will comprise an 80:20 grass to wildflower composition.

Maintenance Operations

3.110 Following the regeneration period or completion of capital works, management of proposed wet grassland areas should be as detailed below.

Grass Cutting

3.111 The grass will be cut annually once seed heads have dropped and GCN have returned to hibernation in October.

3.112 Grass cuts will be undertaken with flail cutters/mowers set to retain vegetation at a minimum height of 150mm in order to prevent any risk to amphibians that may be present within the grasslands.

3.113 Two thirds of the grass will be cut in a semi-random rotational pattern (working outwards or from one side to the other). To minimise disturbance to terrestrial habitat, it is recommended that areas are cut in sections (e.g. one third of the grassland area) on a weekly rotation to ensure areas of uncut vegetation are retained as refuge for amphibians and small mammals.

3.114 Within the cutting area, the cut height will vary in random patches/swathes between 300mm and a minimum 150mm. This will maintain sufficient sward height for amphibian refuge.

3.115 Arisings will be left in situ for 24 hours to allow flower seed to disperse. The arisings will then be raked and used sustainably elsewhere on the Site to prevent soil nutrient enrichment and to retain the desired species composition.

3.116 If required, prior to any grass cutting, the grass will be checked by a suitably qualified ecologist to ensure that no GCN are present.

3.117 Grass cutting will be avoided between mid-March and August (inclusive) to prevent risk of disturbance and destruction to nesting birds. Should any works be required within the bird nesting season an assessment will be undertaken by a suitably qualified ecologist before any works commence.

3.118 Great care will be taken to avoid disturbance to amphibians or damaging refugia hidden in the grass.

Cultivating and Re-seeding

3.119 Any bare ground will be cultivated and re-seeded (using RE3 (MG8 Grassland) supplied by Germinal Seeds or similar), as required to successfully establish sward. This will be carried out in October.

Weed Control

3.120 Weed control will be undertaken as required where noxious weeds are spreading across the Site. It will be carried out between April and September and where feasible should be undertaken by hand pulling and should remove noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

3.121 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

Fertiliser Use

3.122 Fertiliser is not to be applied to the wet grassland in order to conserve the development of a diverse sward.

Existing Water (Ponds)

Management Intention

3.123 Four existing ponds will be retained in the development. Throughout the ponds, the maintenance of open water and provision of dense stands of emergents, tall herbs and wet grasslands are important to support a diverse and healthy population of small mammals, amphibians, insects and waterfowl. Management will focus on maximising the nature conservation potential of these component features.

3.124 The ponds will be managed to retain at least 35-60% of the surface area as open water through the cutting back of marginal and emergent vegetation.

Maintenance Operations

Inspections and Remedial Measures

3.125 A visual inspection will be carried out as part of the monthly site inspection. This will include an inspection of the water quality for any signs of pollutants (e.g. scum, excessive algal growth and discolouration), extent of vegetation zones and open water, presence of invasive non-native species (INNS) (including fish) and presence of rubbish and debris.

3.126 If pollutants are detected, options for remedial action will be discussed with the appointed managing organisation and appropriate authorities.

3.127 In the event INNS or harmful species are identified, a treatment plan will be drawn up; spot treatment or pulling by hand will be the preferred method. Any other remedial actions will be implemented accordingly.

3.128 In the event monitoring identifies the presence of fish as a concern to the viability of the pond (specifically its suitability for maintaining the GCN population), fish removal will be implemented in accordance with current best practice. At the time writing, guidance set out by Amphibian and Reptile Conservation is the most relevant (Fish Control Methods for Great Crested Newt Conservation, September 2010). The first option for fish removal will include draining down ponds in winter and leaving them to dry to remove fish. This may be combined with trapping or electrofishing, during the dormant period during late autumn or early spring.

3.129 It should be noted that NRW no longer issue consents for Rotenone application for this type of activity.

Removal of Debris and Rubbish

3.130 Any debris and rubbish identified during the monthly visual inspections will be removed.

3.131 Any soft pliable debris noted within the pond during April to, and including, August will be left in situ as they may support GCN eggs. A full cleanse after mid-September will be implemented once eggs are hatched and most larvae have developed.

Aquatic and Emergent Vegetation Removal

3.132 Maintenance of open water and provision of dense stands of emergent vegetation, tall herbs and wet grasslands are important for maximising biodiversity.

3.133 Regular and gentle removal of aquatic and emergent vegetation to maintain 35% to 60% open water will be carried out annually between late October and mid-November. Cutting or pulling by hand is the preferred method to minimise disturbance to amphibians. The works will be carried out on a three-year rotation (i.e. a 1/3 each year) or as required according to pond condition.

3.134 Vegetation will be removed according to a wedge rotation and laid on terram (or similar matting) at the pond's edge for a minimum 24hrs, to allow amphibians and invertebrates to disperse. The vegetation and terram will then be removed from the Site.

3.135 Vegetation removal will, wherever possible, avoid the amphibian breeding and bird nesting season.

Marginal Vegetation Management

3.136 The marginal vegetation around the pond will be cut to no less than 150mm on a rotation basis. The works will be carried out on a three-year rotation (i.e. a 1/3 each year) or as required according to pond condition. The inner fringe of vegetation immediately by the water's edge will be retained throughout the year to serve as a buffer and to maintain food and cover sources for amphibians.

3.137 Arisings will be removed and disposed of appropriately.

Scrub Control

3.138 Encroachment of scrub, grassland and other vegetation will be monitored and reduced so that no more than 25% of the banks of the ponds will be covered by scrub.

3.139 Scrub to be cut back on a rotational basis, with one third cut every three years between October and mid-November. All arisings will be chipped and used sustainably on the Site. Larger brash will be utilised to create log piles.

Fertiliser and Herbicide Use

3.140 No fertilisers, pesticides or herbicides will be used on or around the ponds.

De-silting

3.141 Should the water levels within the deepest area of the pond fall below half a metre in two consecutive years, de-silting will be required. De-silting will be carried out approximately every five years depending on the condition of the pond and will be undertaken between November and January.

3.142 Desilting will be undertaken by a long-armed excavator and entry and access to the pond will be limited to one point or section of bank. Ground protection will be utilised to reduce damage to marginal habitats.

3.143 The top third of a metre of silt will be temporarily placed around the margins of the excavated pond, onto protective membrane, to allow amphibians and invertebrates to return to the pond and to be used on completion of works to repopulate the invertebrate assemblage within the ponds.

3.144 All other materials generated will be placed on protective membrane around the pond for a minimum 48hrs to allow amphibians and invertebrates to return to the pond. After a period of 48hrs, the silt and the protective membrane will be removed from site.

Proposed Wildlife Pools and Aquatic Marginal Planting

Management Intention

3.145 Twenty-six new wildlife pools are proposed across the Site. Wildlife pools will be of varying size and will be multi-level in depth structure. Marginal planting will be carried out on the shallowest shelf of each pool and where possible, will comprise of cuttings from marginal vegetation present in existing ponds. Regenerative retained wild/meadow grass will be encouraged to develop around the new wildlife pools.

3.146 As for retained ponds, the maintenance of open water and provision of dense stands of emergent, tall herbs and wet grasslands are important to support a diverse and healthy population of small mammals, amphibians, insects and waterfowl. Management will focus on maximising the nature conservation potential of these component features.

3.147 The pools will be managed to retain at least 35-60% of the surface area as open water through the cutting back of marginal and emergent vegetation.

Maintenance Operations

3.148 Maintenance operations for proposed wildlife pools should be as prescribed for retained ponds.

Marginal Vegetation - Replacement of Failed Planting

3.149 Failed marginal vegetation planting will be removed and replaced between November and March. Where possible, marginal vegetation cuttings will be harvested from existing ponds on the Site to repopulate the new wildlife pools. Alternatively, marginal planting will comprise of species specified in the planting schedule.

3.150 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted instead.

Bee and Butterfly Banks and Scrapes

Management Intention

3.151 Banks and scrapes will be created within wild/meadow grass areas on the western side of the bunds. These will provide a mosaic of sparsely vegetated patches that provide breeding, nectar and warm basking areas for butterflies, bees, moths and other insects.

3.152 The banks and scrapes will be maintained so that 30-50% of their surface is covered by early successional vegetation, with the rest of the area maintained as bare earth.

Maintenance Operations

Vegetation Management

3.153 Vegetation cutting within banks and scrapes will be undertaken as prescribed for surrounding wild/meadow grass.

Inspections and Remedial Measures

3.154 Bee and butterfly banks/scrapes will be monitored during monthly site inspections to ensure they are not subject to excessive encroachment from surrounding grassland vegetation, and to ensure nutrient-rich topsoil has not infilled the depressions.

3.155 If a bank/scrape has over 50% vegetation coverage and/or has infilled with topsoil, the area should be re-scraped to remove all vegetation and reestablish the nutrient-poor bare ground environment. Any young scrub will be cut and pulled.

Proposed Rock Piles

Management Intention

3.156 Rock piles are proposed within wild/meadow grass areas on the western side of bunds. The rock piles will be maintained in viable condition to provide shelter and winter refuge for wildlife.

Maintenance Operations

Replenishment

3.157 Rock piles will be replenished as required in August or September to ensure there is enough cover for the hibernation period.

Proposed Log Piles

Management Intention

3.158 Log piles are proposed within the Site to provide habitat for invertebrates and sheltering wildlife. The log piles will be maintained in viable condition to provide shelter and winter refuge for a range of species using site won material.

Maintenance Operations

Replenishment

3.159 Log piles will be replenished annually in August or September using wood collected during maintenance works, this will ensure there is enough cover for the hibernation period.

Proposed Hibernacula

Management Intention

3.160 Amphibian refuge features (hibernacula) are proposed throughout the Site. The hibernacula will be maintained in a viable condition to provide shelter and winter refuge to amphibians. The refuge features will be distributed within retained and proposed wild/meadow grassland areas. The grassland will provide sheltered connectivity between the refuge features and other suitable habitats.

Maintenance Operations

Inspections and Remedial Measures

3.161 Amphibian refuge features will be inspected during the monthly site inspections to ensure they are in a viable condition. Figure 1 illustrates the components of an amphibian hibernaculum. The hibernacula should be monitored to ensure that they fulfil the following key measures:

- Hibernacula should not be waterlogged;
- Hibernacula should have frequent voids/gaps for amphibian access close to ground level;

- Hibernacula should have sufficient coverage of bricks/logs, topsoil and grass.

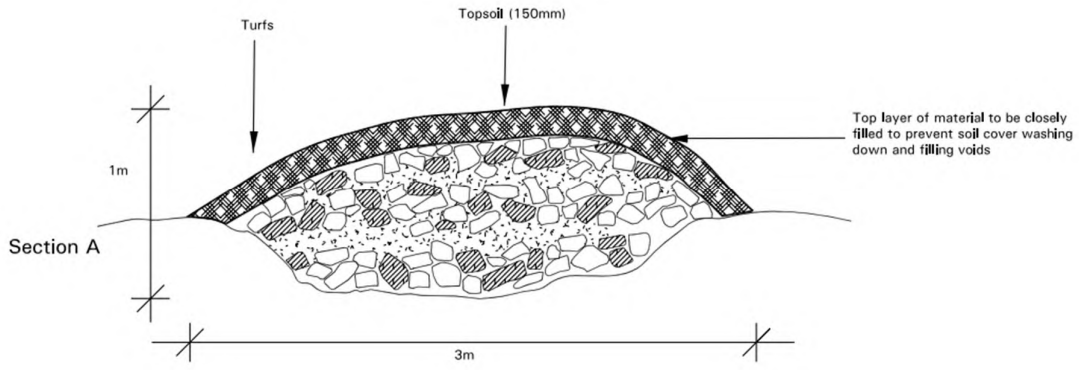


Figure 1: Cross-section of an amphibian hibernaculum.

3.162 Maintenance should be carried out as required, to improve drainage, create and maintain amphibian access, and replenish materials to maintain the hibernacula in viable condition.

3.163 In the event the condition of the refuge feature deteriorates to a point that maintenance cannot ensure its viability, a new refuge feature will be recreated nearby. The existing refuge feature will be maintained in situ in its existing condition; if this is not desirable, an ecologist licensed to handle GCN will be appointed to supervise the dismantling of the non-functioning refuge feature.

3.164 Grass or shrub atop the refuge features and within 0.5m of the refuge features will be left uncut to avoid disturbance to the refuge feature.

Footpath (PRoW)

Management Intention

3.165 A PRoW runs along the western and northern boundaries of Parcel 2. The pathway (2m minimum) width will be maintained to be safe and useable. Maintenance will focus on clearing any obstacles to the use of the footpath and ensuring it is free of slip and trip hazards.

Maintenance Operations

Inspections and Remedial Measures

3.166 The footpath will be inspected during the monthly site inspection and will be kept safe and usable and cleared of overhanging vegetation and broken branches. Any item considered unsafe must be removed or made safe and replaced as soon as possible.

3.167 Repairs will be carried out as required.

Encroaching Vegetation

3.168 Encroaching vegetation will be managed manually using an appropriate edging tool.

Existing Fence

Management Intention

3.169 Existing fencing along site boundaries will be maintained for their functionality. Routine inspections will ensure that any damaged fencing is repaired or replaced as quickly as possible.

Maintenance Operations

Inspections and Remedial Measures

3.170 Fencing will be inspected during the monthly site inspection.

3.171 Any fencing considered unsafe will be removed or made safe and/or replaced as soon as possible. The use of materials for repairs and replacements will conform to the original design specification for external works.

3.172 Graffiti removal will be carried out as required.

Existing Agricultural Fields (Parcel 5, Land off Maesgwyn Lane)

Management Intention

3.173 Parcel 5 (Maesgwyn Lane) will continue to be utilised for agriculture. All agricultural activities will be undertaken sensitively to ensure that GCN and any other wildlife utilising the Site will not be detrimentally affected.

Theexisting pond located within hedgerow in the north of the agricultural field is only partially within the red line boundary. The area of the pond within the red line boundary will be managed as outlined below, to ensure it remains suitable for GCN. Maintenance Operations

Grazing

3.174 Grazing of the Site will be low intensity to ensure that sufficient vegetation coverage is preserved, to provide commuting and sheltering opportunities for amphibians including GCN.

Existing Pond Management

Inspections and Remedial Measures

3.175 A visual inspection will be carried out as part of the monthly site inspection. This will include an inspection of the water quality for any signs of pollutants (e.g. scum, excessive algal growth and discolouration), extent of vegetation zones and open water, presence of invasive non-native species (INNS) (including fish) and presence of rubbish and debris.

3.176 If pollutants are detected, options for remedial action will be discussed with the appointed managing organisation and appropriate authorities.

3.177 In the event INNS or harmful species are identified, a treatment plan will be drawn up; spot treatment or pulling by hand will be the preferred method. Any other remedial actions will be implemented accordingly.

3.178 In the event monitoring identifies the presence of fish as a concern to the viability of the pond (specifically its suitability for maintaining the GCN population), fish removal will be implemented in accordance with current best practice. At the time writing, guidance set out by Amphibian and Reptile Conservation is the most relevant (Fish Control Methods for Great Crested Newt Conservation, September 2010). The first option for fish removal will include draining down ponds in winter and leaving them to dry to remove fish. This may be combined with trapping or electrofishing, during the dormant period during late autumn or early spring.

3.179 It should be noted that NRW no longer issue consents for Rotenone application for this type of activity.

Removal of Debris and Rubbish

3.180 Any debris and rubbish identified during the monthly visual inspections will be removed.

3.181 Any soft pliable debris noted within the pond during April to, and including, August will be left in situ as they may support GCN eggs. A full cleanse after mid-September will be implemented once eggs are hatched and most larvae have developed.

Aquatic and Emergent Vegetation Removal

3.182 Maintenance of open water and provision of dense stands of emergent vegetation, tall herbs and wet grasslands are important for maximising biodiversity.

3.183 Regular and gentle removal of aquatic and emergent vegetation to maintain 35% to 60% open water will be carried out annually between late October and mid-

November. Cutting or pulling by hand is the preferred method to minimise disturbance to amphibians. The works will be carried out on a three-year rotation (i.e. a 1/3 each year) or as required according to pond condition.

3.184 Vegetation will be removed according to a wedge rotation and laid on terram (or similar matting) at the pond's edge for a minimum 24hrs, to allow amphibians and invertebrates to disperse. The vegetation and terram will then be removed from the Site.

3.185 Vegetation removal will, wherever possible, avoid the amphibian breeding and bird nesting season.

Marginal Vegetation Management

3.186 The marginal vegetation around the pond will be cut to no less than 150mm on a rotation basis. The works will be carried out on a three-year rotation (i.e. a 1/3 each year) or as required according to pond condition. The inner fringe of vegetation immediately by the water's edge will be retained throughout the year to serve as a buffer and to maintain food and cover sources for amphibians.

3.187 Arisings will be removed and disposed of appropriately.

Scrub Control

3.188 Encroachment of scrub, grassland and other vegetation will be monitored and reduced so that no more than 25% of the banks of the ponds will be covered by scrub.

3.189 Scrub to be cut back on a rotational basis, with one third cut every three years between October and mid-November. All arisings will be chipped and used sustainably on the Site. Larger brash will be utilised to create log piles.

Fertiliser and Herbicide Use

3.190 No fertilisers, pesticides or herbicides will be used on or around the ponds.

4.0 Monitoring and Review

Site Monitoring

4.1 The key measures described in the table below will enable Net World Sports and/or the managing organisation to measure the appropriateness of landscape maintenance operations and whether management of the Site is meeting the long-term management objectives.

Table 1: Key Measures for Monitoring

Feature	Key Measures
Site wide	Is the landscape establishing well and attractive to residents and wildlife overall? Is the Site in a clean and tidy condition? Are there any health and safety hazards / deficiencies which require rectification? Does the Site comply with the relevant environmental and health and safety legislation (as set out in Appendix C of this HMP)? Are there any instances where planting is repeatedly failing? If so, has an arboricultural consultant or landscape architect been consulted with to specify an alternative species? Are habitats on the Site developing and being maintained in an ecologically sensitive manner, which is beneficial for GCN?
Existing retained trees	Carry out an inspection to note any deficiencies. Concerns about risks to public health and safety and tree health, should be reported and specialist input sought as necessary. Review arboriculture assessment for recommendations on thinning and tree works.
Proposed trees	Stakes and ties to be inspected and newly planted trees re-firmed and kept weed free. Any dead or dying trees should be replaced as specified in the original planting schedule. Review arboriculture assessment for recommendations on thinning and tree works.
Existing boundary hedgerows	Undertake regular cuts in a rotational basis to retain habitat for wildlife, including amphibians.

Feature	Key Measures
Retained scrub	Carry out an inspection to assess any encroachment of scrub.
Proposed native scrub/thicket	Ensure planting is establishing as expected; replace any damaged/diseased plants as required. Carry out an inspection to assess any encroachment of scrub.
Retained wild/meadow grass	Inspection of the grass to ensure botanical diversity, weeds kept to a minimum, and no scrub encroachment. Re-seed as required. Maintain sward height above 150mm to provide habitat for amphibians.
Proposed wild/meadow grass	Inspection of the grass to ensure botanical diversity, weeds kept to a minimum, and no scrub encroachment. Re-seed as required. Maintain sward height above 150mm to provide habitat for amphibians.
Proposed wet grassland	Inspection of the grass to ensure botanical diversity, weeds kept to a minimum, and no scrub encroachment. Re-seed as required. Maintain sward height above 150mm to provide habitat for amphibians.
Existing water (ponds)	Inspection to the banks and ensure any tree or shrub saplings within 5m are removed. Review assessments following inspections and carry out recommended works.
Proposed wildlife pools and aquatic marginal planting	Inspection to the banks and ensure any tree or shrub saplings within 5m are removed. Review assessments following inspections and carry out recommended works.
Bee and butterfly banks and scrapes	Carry out inspection to check condition and re-scrape as required.
Proposed hibernacula	Carry out inspection to check condition and remove blockages from access points.
Proposed rock piles	Carry out inspection to check that materials have been replenished in time for the hibernation period in September.
Proposed log piles	Carry out inspection to check that materials have been replenished in time for the hibernation period in September.

Feature	Key Measures
Footpath (PRoW)	Carry out an inspection to ensure weed free appearance and remove trip or slip hazards. Note any damage and carry out repairs as required.
Existing fence	Carry out an inspection to note any damage which poses a risk to public health and safety and carry out repairs.
Existing agricultural fields (Parcel 5, Land off Maesgwyn Lane)	Implement a low intensity grazing regime. Pond - Inspection to the banks and ensure any tree or shrub saplings within 5m are removed. Review assessments following inspections and carry out recommended works.

4.2 With respect to monitoring habitat creation, an annual habitat walkover survey will be carried out to ensure that habitats created are still viable for their intended purpose and to inform future management policies concerning potential matters such as protected species and INNS control.

Review

4.3 The HMP will be reviewed on an annual basis by Net World Sports and/or the appointed managing organisation and other key partners to ensure that the HMP is meeting the original management objectives and responding to the developing needs of the Site.

4.4 The annual review will identify the need for additional maintenance operations and inform future management decisions. This can be achieved by:

- Quarterly formal site inspections by the managing organisation to assess the appointed contractor's quality standards and deliverables in line with this HMP;
- An annual site meeting with the managing organisation and stakeholders and the appointed contractor to assess quality standards and deliverables in line with this HMP; and
- Ad hoc unannounced inspections by the managing organisation to review quality of maintenance work and any potential Health and Safety issues.

4.5 The managing organisation will produce an annual report, summarising the management of the Site over the last year. The report will include the key measures achieved, actions going forward and any updates to the maintenance operations if required, and how this information will be communicated to stakeholders.

4.6 It is also recommended the managing organisation produces a cash-flow forecast for the next 3-5 years but that can be flexible enough to respond to changing circumstances. This will ensure sufficient funds are in place to deliver long-term management of the Site.

4.7 An appropriately qualified landscape consultant will formally re-assess the HMP and annual review information on a five yearly basis to ensure the habitats and landscaping associated with the Site are maintained for 25 years.

Appendix A: Parcel 1-3 Overviews, Insets and Sections drawings (Nicholsons refs: 4826-Strategic Ecology Corridor-1.1 to 1.4, 4826-Strategic Ecology Corridor-2.1 to 2.4, and 4826-Strategic Ecology Corridor-3.1 to 3.4 Rev V4), Land off Maesgwyn Lane, Site Location Plan and Existing Site Plan (Nicholsons refs: 22-3014 Rev V2 and 22-3015 Rev V1) and Red Line Boundary Plan/Site Location Plan (Nicholsons ref: 4826-Strategic Ecology Corridor-5 Rev V4)

STRATEGIC APPROACH FOR LANDSCAPE PLANTING AND ECOLOGICAL IMPROVEMENT

The overall aim of these landscaping proposals is to provide connections between the existing established surrounding hedgerows, trees, ponds, and grasslands with the wider Strategic Ecological Network of the Wrexham Industrial Estate. The ponds and planting will increase species diversity, start to create a range of linked habitats and provide an uplift in ecological attributes such as pollinator species, breeding sites and wildlife foraging potential. The site in between Parcel 01 and 02 (ownership and work by others) has been designed with a series of ponds of varying sizes and the aim of these 3 parcels takes into account the layout and features with a response to ensure a cohesive approach for wildlife.

RE-ESTABLISHING AND ENCOURAGING EXISITING VEGETATION

The approach within these parcels is to encourage the locally established and appropriate vegetation to re-colonise the fields and ponds. The existing grassland will be retained as much as possible throughout and following earthworks, excavations and ground repair, will be prepared to allow for Natural Regeneration. The seedbank contained within the soil should allow the regeneration of grassland and wetland marginal planting. We would advocate selective vegetative propagation for the aquatic planting by taking small transplants of existing vegetation and relocating in suitable conditions within the newly created ponds to allow natural establishment. Grasslands can also be vegetatively extended by taking sprigs' or small areas of grass and transplanting to areas needing coverage. Ongoing maintenance would reinforce the regenerative approach for grasslands and aquatic planting.

If successful regeneration has not been achieved after 2 growing seasons, we would then suggest implementing the wildflower grass and aquatic marginal planting mixes specified on the following drawings. The Wildflower species rich meadow mix is suggested for the western slopes to achieve a diverse flowering mix to support the ground level grassland. These western slopes will be backfilled with 'nutrient poor' subsoils that are available on site to create the right conditions for wildflower establishment. The eastern slopes will have normal nutrient level topsoil backfilled to the given depths shown on the sections for good growth conditions of trees and thicket transplant species. We would suggest seeding the Bent and Fescue grass mix beneath the thicket planting matrix for weed control measures.

BUNDS - The bunding will be installed as per plans on a natural curve with consistent visual profile aligning with the geotechnical engineering proposals. Angles of slopes at maximum 1:3 gradient to follow the natural angle of repose for unsupported topsoil. The planting approach takes into account the aspect of the bund slopes and the required nutrient levels for the type of planting proposed on those slopes. The sequence of earthworks operations aims to reduce any seed bank that is contained within the soil. Future management practices will continue this process.

Eastern slope proposals; a native thicket (scrub) mix planted as whips/transplants (60-90cm height) with select standard trees (8-10cm girth) planted within the 1.5m grid to provide a mixed height native planting matrix. Larger canopy species will be planted at the lower parts of the bund slopes at intervals with medium and smaller canopy trees and feathered species are to be planted at higher positions within the slopes, to provide ground stabilisation and visual screening following establishment. This is to provide clumps of larger canopy trees at the base of bunds to follow the landscape character of the surrounding area with its large Oak trees and similar local species.

Western slopes proposals; 'nutrient-poor' subsoils to be used in the regraded areas to provide the required conditions for the establishment of species rich wildflower meadow. The meadow grass species mix follows the ecological recommendations for the site for the open areas and aquatic margins to the ponds. Various habitat creation elements have been included such as log piles, bare earth scrapes for butterfly and bee habitats, amphibian hibernacula and rock piles.

PONDS - The ponds follow the principles set out by TEP (The Environment Partnership) Pond and Hibernacula Details (drawing D7215.002A) for Bryn Lane, Wrexham. Ponds to be multi-level with lower ponds depths maximum 1.5m; maximum 1:3 gradient to banks (based on stability of cover material); shallow ledge with regenerative grassland (or seeding as necessary after 2 seasons); marginal planting on 1500mm shelf (regenerative marginals from site); 1:5 banks to tie in with surrounding site levels. Refer to Earthworks notes, Pond Notes and liner specification as part of specialist information across all Networld Sports sites.

EXISTING PONDS existing ponds on site to be protected during earth movement operations to ensure good conditions maintained. Any ditches or smaller linked ponds to be checked with ecologist and engineer to ensure drainage patterns are uninterrupted and condition retained. Selective vegetation can be harvested during the planting season to vegetatively repopulate new pond areas.

BOUNDARY THICKET (SCRUB) PLANTING

These native species thicket areas to be planted on a 1.5m grid layout comprising of smaller whips with Select Standard trees (8-10cm girth) as shown on plan within that grid. A gap of around 3-5m to be kept between the thicket planting and existing site hedgerow to allow maintenance of the hedge, retain the clear margin and prevent thicket growing into the hedgerow. This measure is to ensure that the hedgerow habitat remains as that and the new thicket planting becomes another layered habitat over time. It is recommended to seed Bent and Fescue species within planting matrix for weed control.

HIBERNACULA AND HABITAT CREATION

Hibernacula to be built following TEP guidelines following dimensions, materials and construction recommendations. Butterfly and bee banks and scrapes to be built according to ecologists recommendations. Log and rock piles to be sited as per plan to ecologists specification for material sizes and placement methods.

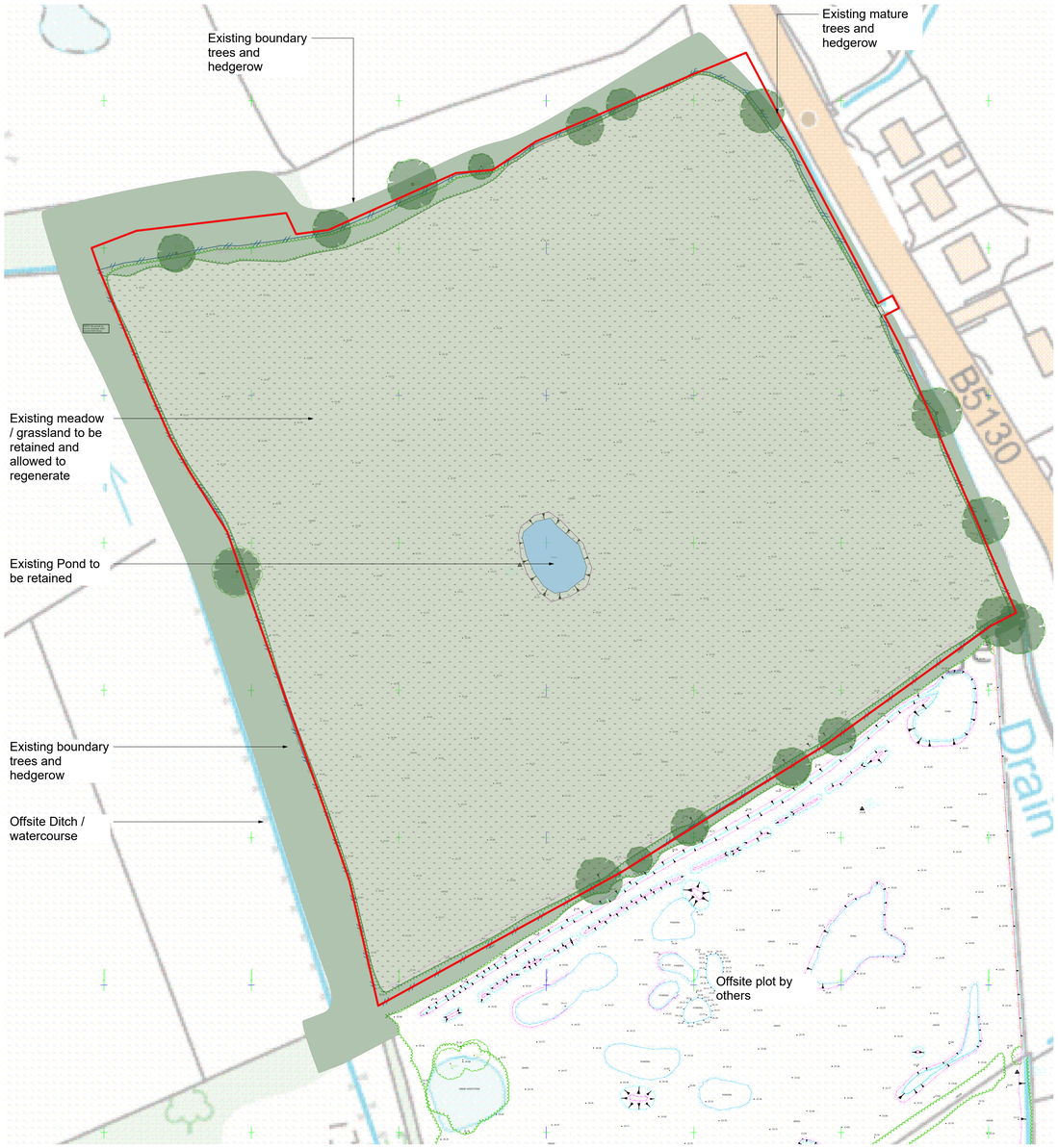
These proposals outline the bigger picture' objectives of the site planting approach and provide the strategy of how this can be achieved through earthworks modelling, creating the right soil conditions, allowing Natural Regeneration and implementing the correct species to achieve this.

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5. All work must comply with the current building regulations.
6. No materials used or methods of workmanship to be employed that do not conform to the current relevant British Standard and Code Of Practice.
7. All plants and materials are subject to availability at time of ordering.
8. Topsoils to be placed to 450mm overall depth in shrub and herbaceous areas and 600mm in tree pits and hedge trenches. Soils should be placed in 150mm layers, firming as you go, over compaction free, well draining subsoil.

Key

- Existing Fence
- Proposed Tree
- Existing Retained Tree
- Bee and butterfly banks and scrapes
- Rock piles
- Proposed Log Pile
- Proposed Hibernacula
- Retained Trees & Scrub
- Proposed Native Scrub / Thicket
- Proposed Native Scrub / Thicket with Fescue & Bent Grass underplanting
- Retained Wild/meadow Grass
- Proposed Wild/meadow Grass
- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
- Existing Water
- Proposed Slope / Bank / Gradient
- Redline Boundary



Existing Site Condition



Proposed Site Treatment

Ponds Retained	*1 (of 1)*
New Ponds Proposed	*10*
Hedgerow Lost	*0 lin.m*
Hedgerow Created	*0 lin.m*
Trees Lost	*0*
Trees Proposed	*51*

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
01/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:1000	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-1.1
Status: PLANNING
Drawing title: Parcel 1 Overview
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
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- Proposed Slope / Bank / Gradient
- Redline Boundary

PLANTING SCHEDULE

EXISTING TREES To be protected in accordance with BS5837 (2012): Trees in Relation to Design, Demolition and Construction' and based on approved Tree Protection Scheme for the site.
Refer to relevant Tree Constraints Plan and associated Arboricultural survey data sheets for detailed information on trees.

PROPOSED SELECT STANDARD TREES

8-10cm girth; 2.0 2.5m height; 1.0 1.5m clear stem. BARE ROOT.
To be planted within all landscape external and bund mounding areas as shown on plan, within the 1.5m grid at minimum 5.0m intervals interspersed within the whip (transplant) grid.

AC	Acer campestre	Field Maple
AG	Alnus glutinosa	Alder
CM	Crataegus monogyna	Hawthorn
MS	Malus sylvestris	Crab Apple
PA	Prunus avium	Wild Cherry
QR	Quercus Robur	English Oak
SC	Salix caprea	Goat Willow
SA	Sorbus aucuparia	Rowan

PROPOSED NATIVE THICKET (SCRUB) MIX

Planted on a 1.5m grid, with transplants in groups of 5-9 of the same species to create a natural random form. Planting grid to be set at 45 degrees to the linear planting line (north-south) to create an offset matrix pattern to avoid a grid at right angles.

Cornus sanguinea	Dogwood	10%
Corylus avellana	Hazel	15%
Crataegus monogyna	Hawthorn	15%
Euonymus europaeus	Spindle	10%
Rhamnus cathartica	Buckthorn	15%
Ilex aquifolium	Holly	5%
Rosa canina	Dog Rose	10%
Salix caprea	Goat Willow	10%
Viburnum lantana	Wayfaring Tree	10%

WILDFLOWER GRASS AREAS SPECIES RICH MEADOW MIX (RE1 TRADITIONAL HAY MEADOW) MG5

Species Rich Wildflower Meadow mix 20:80 mix (17 Wildflower species; 7 grass species).
RE1 (MG5 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Yarrow	(Achillea millefolium)	1.1%
Common Sorrel	(Rumex acetosa)	1.0%
Lady's Bedstraw	(Gallium verum)	0.1%
Oxeye Daisy	(Leucanthemum vulgare)	1.4%
Ribwort Plantain	(Plantago lanceolata)	3.1%
Agrimony	(Agrimonia eupatorium)	0.8%
Self Heal	(Prunella vulgaris)	1.0%
Meadow Sweet	(Filipendula ulmaria)	0.2%
Salad Burnet	(Sanguisorba minor)	2.0%
Birdsfoot Trefoil	(Lotus corniculatus)	1.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.5%
Burnett Saxifrage	(Pimpinella saxifraga)	0.2%
Greater Knapweed	(Centaurea scabiosa)	0.3%
Dandelion	(Taraxacum officinale)	0.3%
Common Knapweed	(Centaurea nigra)	0.3%
Grasses:		
Strong Creeping Red Fescue	(Festuca rubra rubra)	30.0%
Crested Dogstail	(Cynosurus cristatus)	25.0%
Golden Oat Grass	(Trisetum flavescens)	5.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Sheeps Fescue	(Festuca ovina)	6.5%
Browntop Bent	(Agrostis capillaris)	3.5%
Quaking Grass	(Briza media)	5.0%

AQUATIC MARGINAL GRASS AREAS WET MEADOW MIX (RE3 RIVER FLOODPLAIN / WATER MEADOW) MG8 (ONLY AFTER 2 SEASONS IF NATURAL REGENERATION DOES NOT ESTABLISH).

A mixture of grasses and aquatic wildflowers that are tolerant of wet conditions and suitable for sowing at the edges and wet margin of ponds, streams, lakes and ditches. Contains:Wildflowers 20% (14 species) Grasses 80% (9 species)
RE3 (MG8 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Meadow Sweet	(Filipendula ulmaria)	0.5%
Dandelion	(Taraxacum officinale)	1.0%
Oxeye Daisy	(Leucanthemum vulgare)	3.6%
Ragged Robin	(Lychnis flos cuculi)	0.1%
Ribwort Plantain	(Plantago lanceolata)	4.0%
Self Heal	(Prunella vulgaris)	2.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.8%
Water Avens	(Geum rivale)	0.1%
Greater Stitchwort	(Stellaria holostea)	0.1%
Soft-Rush	(Juncus effusus)	0.6%
Meadow Buttercup	(Ranunculus acris)	1.9%
Salad Burnet	(Sanguisorba minor)	1.3%
Grasses:		
Slender Creeping Red Fescue	(Festuca rubra rubra)	25.0%
Crested Dogstail	(Cynosurus cristatus)	20.0%
Smooth Stalked Meadow Grass	(Poa Pratensis)	15.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Creeping Bent	(Agrostis stolonifera)	2.5%
Lolium perenne	(Lolium perenne)	5.0%
Yorkshire Fog	(Holcus lanatus)	2.5%
Browntop Bent	(Agrostis capillaris)	2.5%
Timothy (Small eared)	(Phleum bertolonii)	2.5%

AQUATIC AND MARGINAL PLANTING

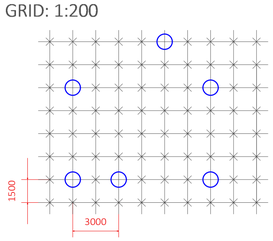
Planting at 0.5m spacing (4/m2); 1L container grown plants planted in accordance with suppliers specifications with reference to TEP planting proposals (D7215.001A Landscape Proposals).

Caltha palustris	Marsh Marigold	17.5%
Juncus effusus	Common Rush	10%
Juncus inflexus	Hard Rush	15%
Lythrum salicaria	Purple Loosestrife	12.5%
Mentha aquatica	Water Mint	5%
Myosotis scorpioides	Water Forget Me Not	10%
Ranunculus flammula	Lesser Spearwort	10%
Sparganium erectum	Branched Bur-reed	15%
Veronica beccagunga	Brooklime	10%

SOILS INFORMATION AND EARTHWORKS NOTES

It is important to understand the underlying soil conditions during the design and implementation process to evaluate slope gradients and ensure conditions are achieved to allow successful establishment of the various types of planting being advocated woodland trees, ticket mix, species rich grasslands and aquatic planting.
Soil Type: Soilscape 18 (as classified on LandIS viewer)
Character: Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils; **Texture:** Loamy and clayey; **Drainage:** Impeded drainage
Fertility: Moderate; **Landcover:** Grassland and arable some woodland
Habitats: Seasonally wet pastures and woodlands; **Carbon:** Low
Water protection: Main risks are associated with overland flow from compacted or poached fields. Organic slurry, dirty water, fertiliser, pathogens and fine sediment can all move in suspension or solution with overland flow or drain water
General cropping: Mostly suited to grass production for dairying or beef; some cereal production often for feed. Timeliness of stocking and fieldwork is important, and wet ground conditions should be avoided at the beginning and end of the growing season to avoid damage to soil structure. Land is tile drained and periodic moling or subsoiling will assist drainage.

NATIVE THICKET PLANTING LAYOUT
GRID: 1:200



Key

- Native thicket mix transplants
- Proposed Select Standard trees

Rev	Date	Description
4	19/05/2025	Layout changes to parcels 2 & 4
3	02/05/2025	Additional Plot added to Site Location and Phasing Plans
2	20/03/2025	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:500	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-1.2
Status: PLANNING
Drawing title: Parcel 1, Inset 1
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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Agrimony	(Agrimonia eupatorium)	0.8%
Self Heal	(Prunella vulgaris)	1.0%
Meadow Sweet	(Filipendula ulmaria)	0.2%
Salad Burnet	(Sanguisorba minor)	2.0%
Birdsfoot Trefoil	(Lotus corniculatus)	1.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.5%
Burnett Saxifrage	(Pimpinella saxifraga)	0.2%
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Dandelion	(Taraxacum officinale)	0.3%
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AQUATIC AND MARGINAL PLANTING

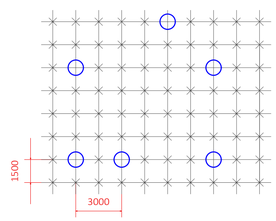
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Veronica beccagunga	Brooklime	10%

SOILS INFORMATION AND EARTHWORKS NOTES

It is important to understand the underlying soil conditions during the design and implementation process to evaluate slope gradients and ensure conditions are achieved to allow successful establishment of the various types of planting being advocated woodland trees, ticket mix, species rich grasslands and aquatic planting.
Soil Type: Soilscape 18 (as classified on LandIS viewer)
Character: Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils; **Texture:** Loamy and clayey; **Drainage:** Impeded drainage
Fertility: Moderate; **Landcover:** Grassland and arable some woodland
Habitats: Seasonally wet pastures and woodlands; **Carbon:** Low
Water protection: Main risks are associated with overland flow from compacted or poached fields. Organic slurry, dirty water, fertiliser, pathogens and fine sediment can all move in suspension or solution with overland flow or drain water
General cropping: Mostly suited to grass production for dairying or beef; some cereal production often for feed. Timeliness of stocking and fieldwork is important, and wet ground conditions should be avoided at the beginning and end of the growing season to avoid damage to soil structure. Land is tile drained and periodic moling or subsoiling will assist drainage.

NATIVE THICKET PLANTING LAYOUT
GRID: 1:200



Key

- Native thicket mix transplants
- Proposed Select Standard trees

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
30/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:500	CB	JK	V4

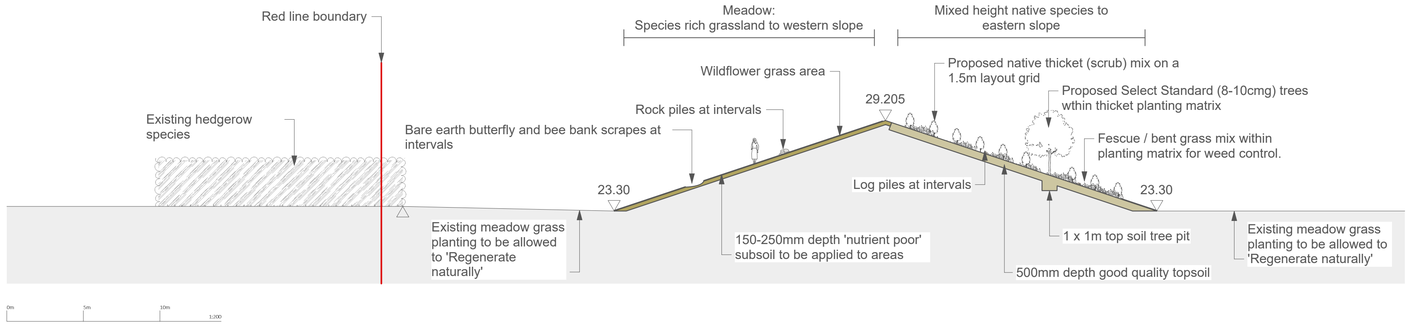
Drawing no: 4826-Strategic Ecology Corridor-1.3
Status: PLANNING
Drawing Title: Parcel 1, Inset 2
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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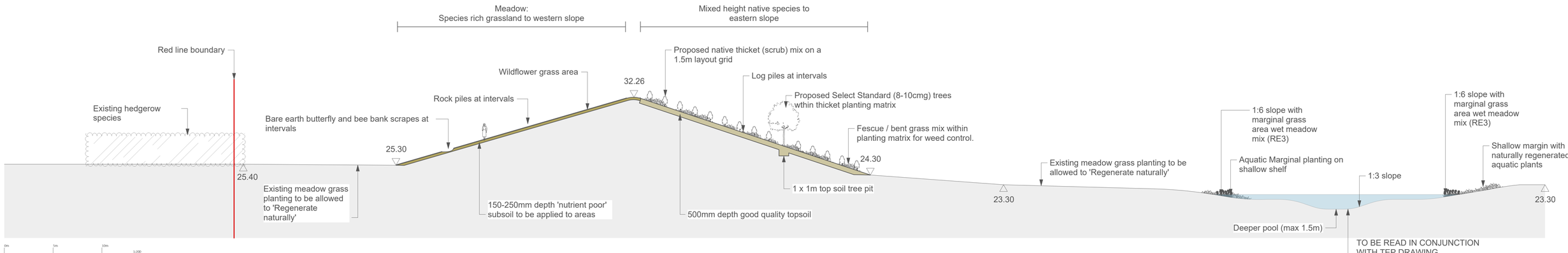
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7. All plants and materials are subject to availability at time of ordering.
8. Topsoils to be placed to 450mm overall depth in shrub and herbaceous areas and 600mm in tree pits and hedge trenches. Soils should be placed in 150mm layers, firming as you go, over compaction free, well draining subsoil.



SECTION 1



SECTION 2



Site Plan (NTS)

Recommended topsoil placement operations

It is noted that the topsoil on site is clayey and loamy with high fertility rates. If the following sequence of operations is not carried out, there is the potential to create a stagnant layer of organic matter between existing bund topsoil and the new blinding/profile layer which needs to be avoided.

-Strim whole bund area existing vegetation layer to about 6" (150mm) height and remove arisings. Apply a suitable glyphosate (systemic herbicide) to the remaining vegetation layer and allow 2-3 weeks, based on weather conditions, to allow vegetation to be killed off. Removed arisings from the sprayed area.

-Eastern thicket slopes Import soil material to profiles in line with approved gradients (1:3 maximum); tip and lightly consolidate new or re-graded topsoil with a flat excavator bucket to avoid compaction; in March/April, seed the slopes with a fescue and bent mix grass mix to act as a weed control cover. Plant thicket transplants (whips) and tree species according to relevant British Standards outlined in the Specification page. Mulch trees and transplants to prevent competition from grass mix and prevent weeds.

-Western wildflower grass slopes Import reduced fertility subsoil that is available on site, to ensure that the soils blend' to avoid a smooth surface on clay soils that may result in new subsoil slippage. Tip and lightly consolidate site-won subsoil using a flat excavator bucket rather to avoid compaction rather than a bulldozer with tool attachment. Specified wildflower seed to be spread on the surface which has been raked to a fine tilth to provide a suitable seed bed; timing, in Spring in line with suppliers recommended instructions and rates/m2.

TOPSOIL AND PROFILING NOTES

– Slope gradients to be determined by geotechnical properties of the soils; information available from the geotechnical engineer on soils composition and suitability to be checked and verified.
– At this stage, the suggested maximum gradient is 1:3 (recommended maximum natural angle of repose for soils).
– Soil Management, handling and placement to be in accordance with BS3882 and Defra guidance document 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites'.
– No excavation works to be undertaken within root protection areas all relevant Arboricultural information produced for the site to be followed (TCP; AIA; Arboricultural Method Statement) as appropriate.
– Eastern slopes of bund re-profiling of topsoil to follow approved engineering proposals to achieve a consistent and stable profile with a topsoil depth of 0.5m for native thicket planting areas and 1.0m depth topsoil for tree pits. Soil on the western slopes to be capped with a 0.15-0.25m depth layer of low nutrient' subsoil available on site. Depths based on existing topsoil conditions, with the aim to reduce fertility to provide suitable conditions for wildflower grass mix establishment.

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
20/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:200	CB	JK	V4

Drawing no
4826-Strategic Ecology Corridor-1.4

Status
PLANNING

Drawing Title
Parcel 1 Sections

Location
Utopia City Strategic Ecology Corridor, Wrexham

Client name
Net World Sport

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STRATEGIC APPROACH FOR LANDSCAPE PLANTING AND ECOLOGICAL IMPROVEMENT

The overall aim of these landscaping proposals is to provide connections between the existing established surrounding hedgerows, trees, ponds, and grasslands with the wider Strategic Ecological Network of the Wrexham Industrial Estate. The ponds and planting will increase species diversity, start to create a range of linked habitats and provide an uplift in ecological attributes such as pollinator species, breeding sites and wildlife foraging potential. The site in between Parcel 01 and 02 (ownership and work by others) has been designed with a series of ponds of varying sizes and the aim of these 3 parcels takes into account the layout and features with a response to ensure a cohesive approach for wildlife.

RE-ESTABLISHING AND ENCOURAGING EXISITING VEGETATION

The approach within these parcels is to encourage the locally established and appropriate vegetation to re-colonise the fields and ponds. The existing grassland will be retained as much as possible throughout and following earthworks, excavations and ground repair, will be prepared to allow for Natural Regeneration. The seedbank contained within the soil should allow the regeneration of grassland and wetland marginal planting. We would advocate selective vegetative propagation for the aquatic planting by taking small transplants of existing vegetation and relocating in suitable conditions within the newly created ponds to allow natural establishment. Grasslands can also be vegetatively extended by taking sprigs' or small areas of grass and transplanting to areas needing coverage. Ongoing maintenance would reinforce the regenerative approach for grasslands and aquatic planting.

If successful regeneration has not been achieved after 2 growing seasons, we would then suggest implementing the wildflower grass and aquatic marginal planting mixes specified on the following drawings. The Wildflower species rich meadow mix is suggested for the western slopes to achieve a diverse flowering mix to support the ground level grassland. These western slopes will be backfilled with 'nutrient poor' subsoils that are available on site to create the right conditions for wildflower establishment. The eastern slopes will have normal nutrient level topsoil backfilled to the given depths shown on the sections for good growth conditions of trees and thicket transplant species. We would suggest seeding the Bent and Fescue grass mix beneath the thicket planting matrix for weed control measures.

BUNDS - The bunding will be installed as per plans on a natural curve with consistent visual profile aligning with the geotechnical engineering proposals. Angles of slopes at maximum 1:3 gradient to follow the natural angle of repose for unsupported topsoil. The planting approach takes into account the aspect of the bund slopes and the required nutrient levels for the type of planting proposed on those slopes. The sequence of earthworks operations aims to reduce any seed bank that is contained within the soil. Future management practices will continue this process.

Eastern slope proposals; a native thicket (scrub) mix planted as whips/transplants (60-90cm height) with select standard trees (8-10cm girth) planted within the 1.5m grid to provide a mixed height native planting matrix. Larger canopy species will be planted at the lower parts of the bund slopes at intervals with medium and smaller canopy trees and feathered species are to be planted at higher positions within the slopes, to provide ground stabilisation and visual screening following establishment. This is to provide clumps of larger canopy trees at the base of bunds to follow the landscape character of the surrounding area with its large Oak trees and similar local species.

Western slopes proposals; 'nutrient-poor' subsoils to be used in the regraded areas to provide the required conditions for the establishment of species rich wildflower meadow. The meadow grass species mix follows the ecological recommendations for the site for the open areas and aquatic margins to the ponds. Various habitat creation elements have been included such as log piles, bare earth scrapes for butterfly and bee habitats, amphibian hibernacula and rock piles.

PONDS - The ponds follow the principles set out by TEP (The Environment Partnership) Pond and Hibernacula Details (drawing D7215.002A) for Bryn Lane, Wrexham. Ponds to be multi-level with lower ponds depths maximum 1.5m; maximum 1:3 gradient to banks (based on stability of cover material); shallow ledge with regenerative grassland (or seeding as necessary after 2 seasons); marginal planting on 1500mm shelf (regenerative marginals from site); 1:5 banks to tie in with surrounding site levels. Refer to Earthworks notes, Pond Notes and liner specification as part of specialist information across all Networld Sports sites.

EXISTING PONDS existing ponds on site to be protected during earth movement operations to ensure good conditions maintained. Any ditches or smaller linked ponds to be checked with ecologist and engineer to ensure drainage patterns are uninterrupted and condition retained. Selective vegetation can be harvested during the planting season to vegetatively repopulate new pond areas.

BOUNDARY THICKET (SCRUB) PLANTING

These native species thicket areas to be planted on a 1.5m grid layout comprising of smaller whips with Select Standard trees (8-10cm girth) as shown on plan within that grid. A gap of around 3-5m to be kept between the thicket planting and existing site hedgerow to allow maintenance of the hedge, retain the clear margin and prevent thicket growing into the hedgerow. This measure is to ensure that the hedgerow habitat remains as that and the new thicket planting becomes another layered habitat over time. It is recommended to seed Bent and Fescue species within planting matrix for weed control.

HIBERNACULA AND HABITAT CREATION

Hibernacula to be built following TEP guidelines following dimensions, materials and construction recommendations. Butterfly and bee banks and scrapes to be built according to ecologists recommendations. Log and rock piles to be sited as per plan to ecologists specification for material sizes and placement methods.

These proposals outline the bigger picture' objectives of the site planting approach and provide the strategy of how this can be achieved through earthworks modelling, creating the right soil conditions, allowing Natural Regeneration and implementing the correct species to achieve this.

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Drawing Annotations

1. Insert note here
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Key

- Existing Fence
- Proposed Tree
- Existing Retained Tree
- Bee and butterfly banks and scrapes
- Rock piles
- Proposed Log Pile
- Proposed Hibernacula
- Retained Trees & Scrub
- Proposed Native Scrub / Thicket
- Proposed Native Scrub / Thicket with Fescue & Bent Grass underplanting
- Retained Wild/meadow Grass
- Proposed Wild/meadow Grass
- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
- Existing Water
- Proposed Slope / Bank / Gradient
- Redline Boundary
- Public Right of Way

Ponds Retained	*2 (of 2)*
New Ponds Proposed	*10*
Hedgerow Lost	*0 lin.m*
Hedgerow Created	*56 lin.m*
Trees Lost	*0*
Trees Proposed	*48*



Existing Site Condition



Proposed Site Treatment

Issue			
5/2025	4	CB	Layout changes to parcels 2 & 4
30/04/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
20/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:1000	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-2.1
Status: PLANNING
Drawing Title: Parcel 2 Overview
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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- Proposed Wildlife Pool
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- Proposed Slope / Bank / Gradient
- Redline Boundary
- Public Right of Way

PLANTING SCHEDULE

EXISTING TREES To be protected in accordance with BS5837 (2012): Trees in Relation to Design, Demolition and Construction' and based on approved Tree Protection Scheme for the site.
Refer to relevant Tree Constraints Plan and associated Arboricultural survey data sheets for detailed information on trees.

PROPOSED SELECT STANDARD TREES

8-10cm girth; 2.0 2.5m height; 1.0 1.5m clear stem. BARE ROOT.
To be planted within all landscape external and bund mounding areas as shown on plan, within the 1.5m grid at minimum 5.0m intervals interspersed within the whip (transplant) grid.

AC	Acer campestre	Field Maple
AG	Alnus glutinosa	Alder
CM	Crataegus monogyna	Hawthorn
MS	Malus sylvestris	Crab Apple
PA	Prunus avium	Wild Cherry
QR	Quercus Robur	English Oak
SC	Salix caprea	Goat Willow
SA	Sorbus aucuparia	Rowan

PROPOSED NATIVE THICKET (SCRUB) MIX

Planted on a 1.5m grid, with transplants in groups of 5-9 of the same species to create a natural random form. Planting grid to be set at 45 degrees to the linear planting line (north-south) to create an offset matrix pattern to avoid a grid at right angles.

Cornus sanguinea	Dogwood	10%
Corylus avellana	Hazel	15%
Crataegus monogyna	Hawthorn	15%
Euonymus europaeus	Spindle	10%
Rhamnus cathartica	Buckthorn	15%
Ilex aquifolium	Holly	5%
Rosa canina	Dog Rose	10%
Salix caprea	Goat Willow	10%
Viburnum lantana	Wayfaring Tree	10%

WILDFLOWER GRASS AREAS SPECIES RICH MEADOW MIX (RE1 TRADITIONAL HAY MEADOW) MG5

Species Rich Wildflower Meadow mix 20:80 mix (17 Wildflower species; 7 grass species).
RE1 (MG5 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Yarrow	(Achillea millefolium)	1.1%
Common Sorrel	(Rumex acetosa)	1.0%
Lady's Bedstraw	(Gallium verum)	0.1%
Oxeye Daisy	(Leucanthemum vulgare)	1.4%
Ribwort Plantain	(Plantago lanceolata)	3.1%
Agrimony	(Agrimonia eupatorium)	0.8%
Self Heal	(Prunella vulgaris)	1.0%
Meadow Sweet	(Filipendula ulmaria)	0.2%
Salad Burnet	(Sanguisorba minor)	2.0%
Birdsfoot Trefoil	(Lotus corniculatus)	1.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.5%
Burnett Saxifrage	(Pimpinella saxifraga)	0.2%
Greater Knapweed	(Centaurea scabiosa)	0.3%
Dandelion	(Taraxacum officinale)	0.3%
Common Knapweed	(Centaurea nigra)	3.0%
Grasses:		
Strong Creeping Red Fescue	(Festuca rubra rubra)	30.0%
Crested Dogstail	(Cynosurus cristatus)	25.0%
Golden Oat Grass	(Trisetum flavescens)	5.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Sheeps Fescue	(Festuca ovina)	6.5%
Browntop Bent	(Agrostis capillaris)	3.5%
Quaking Grass	(Briza media)	5.0%

AQUATIC MARGINAL GRASS AREAS WET MEADOW MIX (RE3 RIVER FLOODPLAIN / WATER MEADOW) MG8 (ONLY AFTER 2 SEASONS IF NATURAL REGENERATION DOES NOT ESTABLISH).

A mixture of grasses and aquatic wildflowers that are tolerant of wet conditions and suitable for sowing at the edges and wet margin of ponds, streams, lakes and ditches. Contains:Wildflowers 20% (14 species) Grasses 80% (9 species)
RE3 (MG8 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

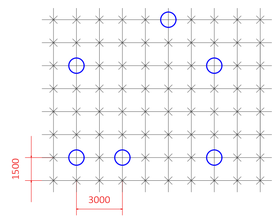
Wildflowers:		
Meadow Sweet	(Filipendula ulmaria)	0.5%
Dandelion	(Taraxacum officinale)	1.0%
Oxeye Daisy	(Leucanthemum vulgare)	3.6%
Ragged Robin	(Lychnis flos cuculi)	0.1%
Ribwort Plantain	(Plantago lanceolata)	4.0%
Self Heal	(Prunella vulgaris)	2.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.8%
Water Avens	(Geum rivale)	0.1%
Greater Stitchwort	(Stellaria holostea)	0.1%
Soft-Rush	(Juncus effusus)	0.6%
Meadow Buttercup	(Ranunculus acris)	1.9%
Salad Burnet	(Sanguisorba minor)	1.3%
Grasses:		
Slender Creeping Red Fescue	(Festuca rubra rubra)	25.0%
Crested Dogstail	(Cynosurus cristatus)	20.0%
Smooth Stalked Meadow Grass	(Poa Pratensis)	15.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Creeping Bent	(Agrostis stolonifera)	2.5%
Lolium perenne	(Lolium perenne)	5.0%
Yorkshire Fog	(Holcus lanatus)	2.5%
Browntop Bent	(Agrostis capillaris)	2.5%
Timothy (Small eared)	(Phleum bertolonii)	2.5%

AQUATIC AND MARGINAL PLANTING

Planting at 0.5m spacing (4/m2); 1L container grown plants planted in accordance with suppliers specifications with reference to TEP planting proposals (D7215.001A Landscape Proposals).

Caltha palustris	Marsh Marigold	17.5%
Juncus effusus	Common Rush	10%
Juncus inflexus	Hard Rush	15%
Lythrum salicaria	Purple Loosestrife	12.5%
Mentha aquatica	Water Mint	5%
Myosotis scorpioides	Water Forget Me Not	10%
Ranunculus flammula	Lesser Spearwort	10%
Sparganium erectum	Branched Bur-reed	15%
Veronica beccagunga	Brooklime	10%

NATIVE THICKET PLANTING LAYOUT GRID: 1:200



Key

- Native thicket mix transplants
- Proposed Select Standard trees

Rev	Date	Layout changes to parcels 2 & 4
4	19/05/2025	
3	02/05/2025	Additional Plot added to Site Location and Phasing Plans
2	20/03/2025	Minor Revisions.

Date 19/05/2025 | Original size A1 | Scale 1:500 | Drawn by CB | Checked by JK | Rev V4

Drawing no. 4826-Strategic Ecology Corridor-2.2

Drawing Title Parcel 2, Inset 1

Location Utopia City Strategic Ecology Corridor, Wrexham

Client name Net World Sport

Status PLANNING

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Drawing Annotations

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- Retained Trees & Scrub
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- Proposed Native Scrub / Thicket with Fescue & Bent Grass underplanting
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- Proposed Wild/meadow Grass
- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
- Existing Water
- Proposed Slope / Bank / Gradient
- Redline Boundary
- Public Right of Way

PLANTING SCHEDULE

EXISTING TREES To be protected in accordance with BS5837 (2012): Trees in Relation to Design, Demolition and Construction' and based on approved Tree Protection Scheme for the site.
Refer to relevant Tree Constraints Plan and associated Arboricultural survey data sheets for detailed information on trees.

PROPOSED SELECT STANDARD TREES

8-10cm girth; 2.0 2.5m height; 1.0 1.5m clear stem. BARE ROOT.
To be planted within all landscape external and bund mounding areas as shown on plan, within the 1.5m grid at minimum 5.0m intervals interspersed within the whip (transplant) grid.

AC	Acer campestre	Field Maple
AG	Alnus glutinosa	Alder
CM	Crataegus monogyna	Hawthorn
MS	Malus sylvestris	Crab Apple
PA	Prunus avium	Wild Cherry
QR	Quercus Robur	English Oak
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SA	Sorbus aucuparia	Rowan

PROPOSED NATIVE THICKET (SCRUB) MIX

Planted on a 1.5m grid, with transplants in groups of 5-9 of the same species to create a natural random form. Planting grid to be set at 45 degrees to the linear planting line (north-south) to create an offset matrix pattern to avoid a grid at right angles.

Cornus sanguinea	Dogwood	10%
Corylus avellana	Hazel	15%
Crataegus monogyna	Hawthorn	15%
Euonymus europaeus	Spindle	10%
Rhamnus cathartica	Buckthorn	15%
Ilex aquifolium	Holly	5%
Rosa canina	Dog Rose	10%
Salix caprea	Goat Willow	10%
Viburnum lantana	Wayfaring Tree	10%

WILDFLOWER GRASS AREAS SPECIES RICH MEADOW MIX (RE1 TRADITIONAL HAY MEADOW) MG5

Species Rich Wildflower Meadow mix 20:80 mix (17 Wildflower species; 7 grass species).
RE1 (MG5 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Yarrow	(Achillea millefolium)	1.1%
Common Sorrel	(Rumex acetosa)	1.0%
Lady's Bedstraw	(Gallium verum)	0.1%
Oxeye Daisy	(Leucanthemum vulgare)	1.4%
Ribwort Plantain	(Plantago lanceolata)	3.1%
Agrimony	(Agrimonia eupatorium)	0.8%
Self Heal	(Prunella vulgaris)	1.0%
Meadow Sweet	(Filipendula ulmaria)	0.2%
Salad Burnet	(Sanguisorba minor)	2.0%
Birdsfoot Trefoil	(Lotus corniculatus)	1.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.5%
Burnett Saxifrage	(Pimpinella saxifraga)	0.2%
Greater Knapweed	(Centaurea scabiosa)	0.3%
Dandelion	(Taraxacum officinale)	0.3%
Common Knapweed	(Centaurea nigra)	3.0%
Grasses:		
Strong Creeping Red Fescue	(Festuca rubra rubra)	30.0%
Crested Dogstail	(Cynosurus cristatus)	25.0%
Golden Oat Grass	(Trisetum flavescens)	5.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Sheeps Fescue	(Festuca ovina)	6.5%
Browntop Bent	(Agrostis capillaris)	3.5%
Quaking Grass	(Briza media)	5.0%

AQUATIC MARGINAL GRASS AREAS WET MEADOW MIX (RE3 RIVER FLOODPLAIN / WATER MEADOW) MG8 (ONLY AFTER 2 SEASONS IF NATURAL REGENERATION DOES NOT ESTABLISH).

A mixture of grasses and aquatic wildflowers that are tolerant of wet conditions and suitable for sowing at the edges and wet margin of ponds, streams, lakes and ditches. Contains:Wildflowers 20% (14 species) Grasses 80% (9 species)
RE3 (MG8 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Meadow Sweet	(Filipendula ulmaria)	0.5%
Dandelion	(Taraxacum officinale)	1.0%
Oxeye Daisy	(Leucanthemum vulgare)	3.6%
Ragged Robin	(Lychnis flos cuculi)	0.1%
Ribwort Plantain	(Plantago lanceolata)	4.0%
Self Heal	(Prunella vulgaris)	2.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.8%
Water Avens	(Geum rivale)	0.1%
Greater Stitchwort	(Stellaria holostea)	0.1%
Soft-Rush	(Juncus effusus)	0.6%
Meadow Buttercup	(Ranunculus acris)	1.9%
Salad Burnet	(Sanguisorba minor)	1.3%
Grasses:		
Slender Creeping Red Fescue	(Festuca rubra rubra)	25.0%
Crested Dogstail	(Cynosurus cristatus)	20.0%
Smooth Stalked Meadow Grass	(Poa Pratensis)	15.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Creeping Bent	(Agrostis stolonifera)	2.5%
Lolium perenne	(Lolium perenne)	5.0%
Yorkshire Fog	(Holcus lanatus)	2.5%
Browntop Bent	(Agrostis capillaris)	2.5%
Timothy (Small eared)	(Phleum bertolonii)	2.5%

AQUATIC AND MARGINAL PLANTING

Planting at 0.5m spacing (4/m2); 1L container grown plants planted in accordance with suppliers specifications with reference to TEP planting proposals (D7215.001A Landscape Proposals).

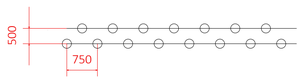
Caltha palustris	Marsh Marigold	17.5%
Juncus effusus	Common Rush	10%
Juncus inflexus	Hard Rush	15%
Lythrum salicaria	Purple Loosestrife	12.5%
Mentha aquatica	Water Mint	5%
Myosotis scorpioides	Water Forget Me Not	10%
Ranunculus flammula	Lesser Spearwort	10%
Sparganium erectum	Branched Bur-reed	15%
Veronica beccagunga	Brooklime	10%

PROPOSED NATIVE HEDGE

0.75m wide hedge, planted in a double staggered row at 0.75m spacing; 0.5m between rows; 4/m2.

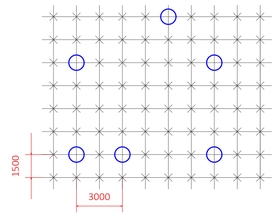
Crataegus monogyna	Hawthorn	40%	60 - 80 cm, 1+1
Acer campestre	Field Maple	15%	
Alnus glutinosa	Alder	5%	
Corylus avellana	Hazel	15%	
Ilex aquifolium	Holly	5%	45 - 60 cm
Rosa canina	Dog Rose	5%	60 - 80 cm, 1+1
Sambucus nigra	Elder	5%	
Malus sylvestris	Crab Apple	5%	
Viburnum opulus	Guelder Rose	5%	

HEDGE PLANTING DETAIL: 1:50



Transplants (600 - 800 mm height as per spec)

NATIVE THICKET PLANTING LAYOUT
GRID: 1:200



Key

- Native thicket mix transplants
- Proposed Select Standard trees

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
20/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:500	JK	CB	V4

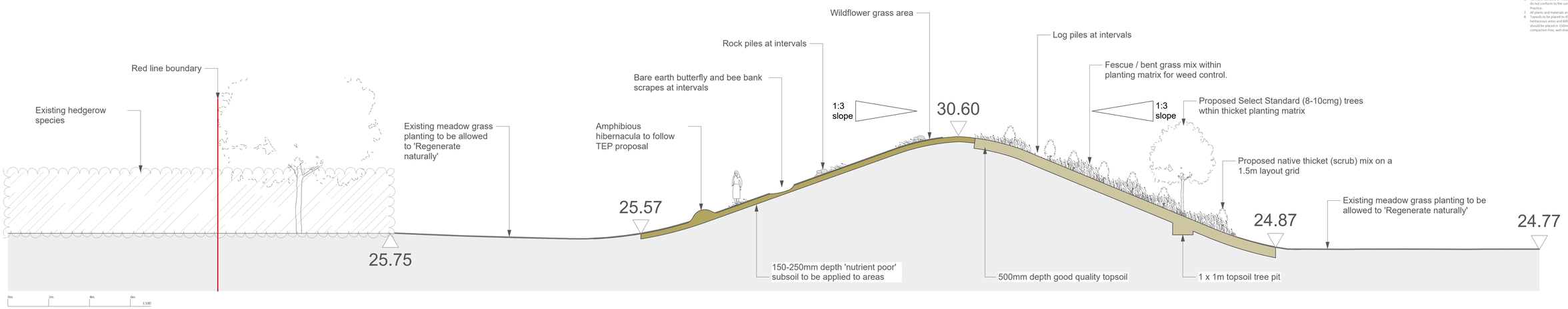
Drawing no: 4826-Strategic Ecology Corridor-2.3
Status: PLANNING
Drawing title: Parcel 2, Inset 2
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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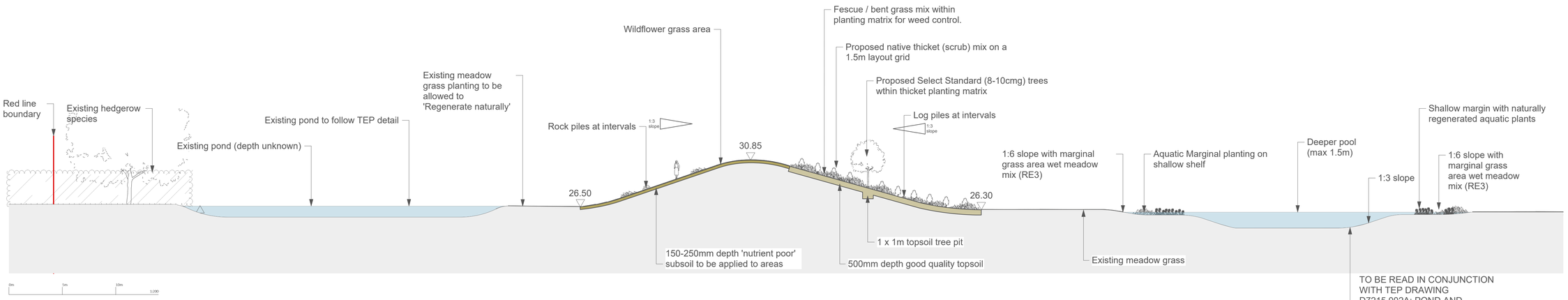
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General Notes

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5. All work must comply with the current building regulations.
6. No materials used or methods of workmanship to be employed that do not conform to the current relevant British Standard and Code Of Practice.
7. All plants and materials are subject to availability at time of ordering.
8. Topsoils to be placed to 450mm overall depth in shrub and herbaceous areas and 600mm in tree pits and hedge trenches. Soils should be placed in 150mm layers, firming as you go, over compaction free, well draining subsoil.



SECTION 1



SECTION 2



Site Plan (NTS)

Recommended topsoil placement operations

It is noted that the topsoil on site is clayey and loamy with high fertility rates. If the following sequence of operations is not carried out, there is the potential to create a stagnant layer of organic matter between existing bund topsoil and the new blinding/profile layer which needs to be avoided.

-Strim whole bund area existing vegetation layer to about 6" (150mm) height and remove arisings. Apply a suitable glyphosate (systemic herbicide) to the remaining vegetation layer and allow 2-3 weeks, based on weather conditions, to allow vegetation to be killed off. Removed arisings from the sprayed area.

-Eastern thicket slopes Import soil material to profiles in line with approved gradients (1:3 maximum); tip and lightly consolidate new or re-graded topsoil with a flat excavator bucket to avoid compaction; in March/April, seed the slopes with a fescue and bent mix grass mix to act as a weed control cover. Plant thicket transplants (whips) and tree species according to relevant British Standards outlined in the Specification page. Mulch trees and transplants to prevent competition from grass mix and prevent weeds.

-Western wildflower grass slopes Import reduced fertility subsoil that is available on site, to ensure that the soils blend' to avoid a smooth surface on clay soils that may result in new subsoil slippage. Tip and lightly consolidate site-won subsoil using a flat excavator bucket rather to avoid compaction rather than a bulldozer with tool attachment. Specified wildflower seed to be spread on the surface which has been raked to a fine tilth to provide a suitable seed bed; timing, in Spring in line with suppliers recommended instructions and rates/m2.

TOPSOIL AND PROFILING NOTES

– Slope gradients to be determined by geotechnical properties of the soils; information available from the geotechnical engineer on soils composition and suitability to be checked and verified.
– At this stage, the suggested maximum gradient is 1:3 (recommended maximum natural angle of repose for soils).
– Soil Management, handling and placement to be in accordance with BS3882 and Defra guidance document 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites'.
– No excavation works to be undertaken within root protection areas all relevant Arboricultural information produced for the site to be followed (TCP; AIA; Arboricultural Method Statement) as appropriate.
– Eastern slopes of bund re-profiling of topsoil to follow approved engineering proposals to achieve a consistent and stable profile with a topsoil depth of 0.5m for native thicket planting areas and 1.0m depth topsoil for tree pits. Soil on the western slopes to be capped with a 0.15-0.25m depth layer of low nutrient' subsoil available on site. Depths based on existing topsoil conditions, with the aim to reduce fertility to provide suitable conditions for wildflower grass mix establishment.

19/05/2025	4	CB	Layout changes to parcels 2 & 4
01/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
20/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:200	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-2.4
Status: PLANNING
Drawing Title: Parcel 2 Sections
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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STRATEGIC APPROACH FOR LANDSCAPE PLANTING AND ECOLOGICAL IMPROVEMENT

The overall aim of these landscaping proposals is to provide connections between the existing established surrounding hedgerows, trees, ponds, and grasslands with the wider Strategic Ecological Network of the Wrexham Industrial Estate. The ponds and planting will increase species diversity, start to create a range of linked habitats and provide an uplift in ecological attributes such as pollinator species, breeding sites and wildlife foraging potential. The site in between Parcel 01 and 02 (ownership and work by others) has been designed with a series of ponds of varying sizes and the aim of these 3 parcels takes into account the layout and features with a response to ensure a cohesive approach for wildlife.

RE-ESTABLISHING AND ENCOURAGING EXISITING VEGETATION

The approach within these parcels is to encourage the locally established and appropriate vegetation to re-colonise the fields and ponds. The existing grassland will be retained as much as possible throughout and following earthworks, excavations and ground repair, will be prepared to allow for Natural Regeneration. The seedbank contained within the soil should allow the regeneration of grassland and wetland marginal planting. We would advocate selective vegetative propagation for the aquatic planting by taking small transplants of existing vegetation and relocating in suitable conditions within the newly created ponds to allow natural establishment. Grasslands can also be vegetatively extended by taking sprigs' or small areas of grass and transplanting to areas needing coverage. Ongoing maintenance would reinforce the regenerative approach for grasslands and aquatic planting.

If successful regeneration has not been achieved after 2 growing seasons, we would then suggest implementing the wildflower grass and aquatic marginal planting mixes specified on the following drawings. The Wildflower species rich meadow mix is suggested for the western slopes to achieve a diverse flowering mix to support the ground level grassland. These western slopes will be backfilled with 'nutrient poor' subsoils that are available on site to create the right conditions for wildflower establishment. The eastern slopes will have normal nutrient level topsoil backfilled to the given depths shown on the sections for good growth conditions of trees and thicket transplant species. We would suggest seeding the Bent and Fescue grass mix beneath the thicket planting matrix for weed control measures.

BUNDS - The bunding will be installed as per plans on a natural curve with consistent visual profile aligning with the geotechnical engineering proposals. Angles of slopes at maximum 1:3 gradient to follow the natural angle of repose for unsupported topsoil. The planting approach takes into account the aspect of the bund slopes and the required nutrient levels for the type of planting proposed on those slopes. The sequence of earthworks operations aims to reduce any seed bank that is contained within the soil. Future management practices will continue this process.

Eastern slope proposals; a native thicket (scrub) mix planted as whips/transplants (60-90cm height) with select standard trees (8-10cm girth) planted within the 1.5m grid to provide a mixed height native planting matrix. Larger canopy species will be planted at the lower parts of the bund slopes at intervals with medium and smaller canopy trees and feathered species are to be planted at higher positions within the slopes, to provide ground stabilisation and visual screening following establishment. This is to provide clumps of larger canopy trees at the base of bunds to follow the landscape character of the surrounding area with its large Oak trees and similar local species.

Western slopes proposals; 'nutrient-poor' subsoils to be used in the regraded areas to provide the required conditions for the establishment of species rich wildflower meadow. The meadow grass species mix follows the ecological recommendations for the site for the open areas and aquatic margins to the ponds. Various habitat creation elements have been included such as log piles, bare earth scrapes for butterfly and bee habitats, amphibian hibernacula and rock piles.

PONDS - The ponds follow the principles set out by TEP (The Environment Partnership) Pond and Hibernacula Details (drawing D7215.002A) for Bryn Lane, Wrexham. Ponds to be multi-level with lower ponds depths maximum 1.5m; maximum 1:3 gradient to banks (based on stability of cover material); shallow ledge with regenerative grassland (or seeding as necessary after 2 seasons); marginal planting on 1500mm shelf (regenerative marginals from site); 1:5 banks to tie in with surrounding site levels. Refer to Earthworks notes, Pond Notes and liner specification as part of specialist information across all Networld Sports sites.

EXISTING PONDS existing ponds on site to be protected during earth movement operations to ensure good conditions maintained. Any ditches or smaller linked ponds to be checked with ecologist and engineer to ensure drainage patterns are uninterrupted and condition retained. Selective vegetation can be harvested during the planting season to vegetatively repopulate new pond areas.

BOUNDARY THICKET (SCRUB) PLANTING

These native species thicket areas to be planted on a 1.5m grid layout comprising of smaller whips with Select Standard trees (8-10cm girth) as shown on plan within that grid. A gap of around 3-5m to be kept between the thicket planting and existing site hedgerow to allow maintenance of the hedge, retain the clear margin and prevent thicket growing into the hedgerow. This measure is to ensure that the hedgerow habitat remains as that and the new thicket planting becomes another layered habitat over time. It is recommended to seed Bent and Fescue species within planting matrix for weed control.

HIBERNACULA AND HABITAT CREATION

Hibernacula to be built following TEP guidelines following dimensions, materials and construction recommendations. Butterfly and bee banks and scrapes to be built according to ecologists recommendations. Log and rock piles to be sited as per plan to ecologists specification for material sizes and placement methods.

These proposals outline the bigger picture' objectives of the site planting approach and provide the strategy of how this can be achieved through earthworks modelling, creating the right soil conditions, allowing Natural Regeneration and implementing the correct species to achieve this.

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8. Topsoils to be placed to 450mm overall depth in shrub and herbaceous areas and 600mm in tree pits and hedge trenches. Soils should be placed in 150mm layers, firming as you go, over compaction free, well draining subsoil.

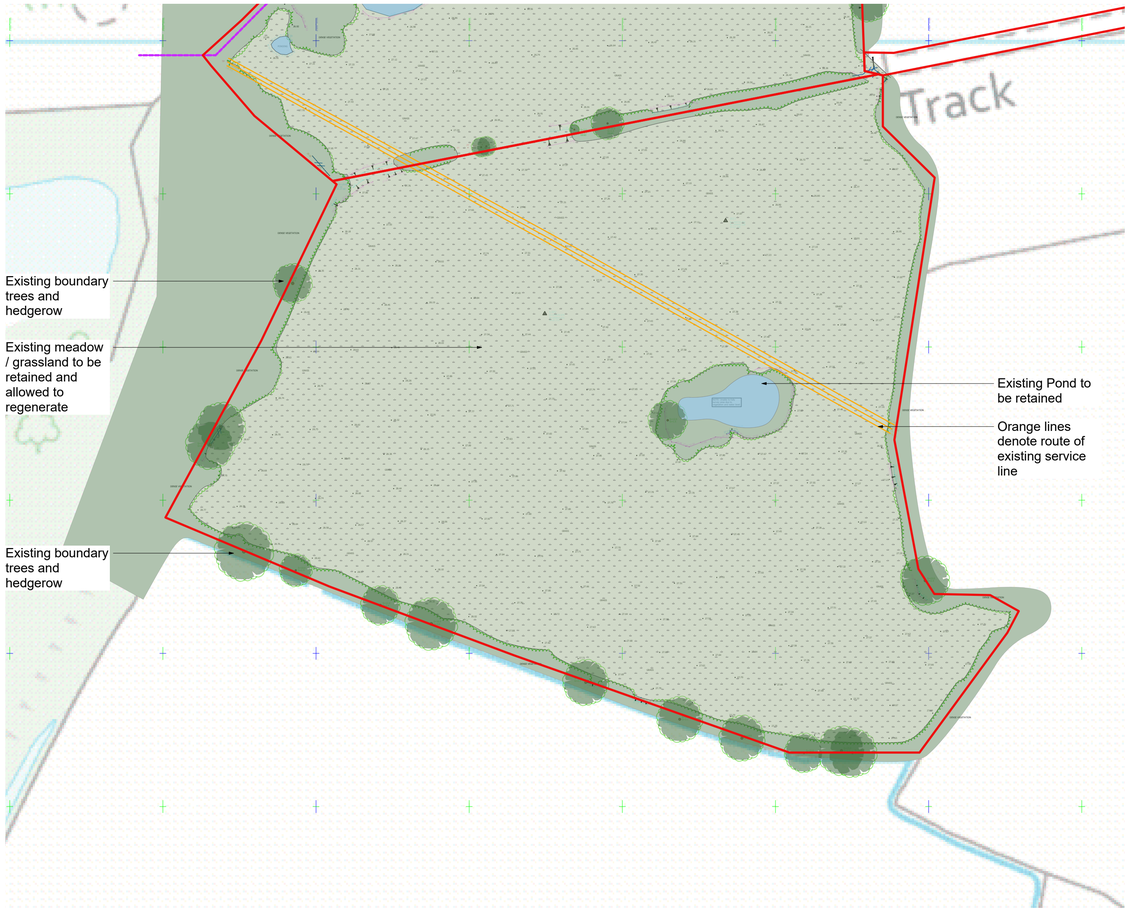
Drawing Annotations

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Key

- Existing Fence
- Proposed Tree
- Existing Retained Tree
- Bee and butterfly banks and scrapes
- Rock piles
- Proposed Log Pile
- Proposed Hibernacula
- Retained Trees & Scrub
- Proposed Native Scrub / Thicket
- Proposed Native Scrub / Thicket with Fescue & Bent Grass underplanting
- Retained Wild/meadow Grass
- Proposed Wild/meadow Grass
- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
- Existing Water
- Proposed Slope / Bank / Gradient
- Redline Boundary
- Public Right of Way

Ponds Retained	*1 (of 1)*
New Ponds Proposed	*6*
Hedgerow Lost	*0 lin.m*
Hedgerow Created	*0 lin.m*
Trees Lost	*0*
Trees Proposed	*33*



Existing Site Condition



Proposed Site Treatment

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
25/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:1000	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-3.1
Status: PLANNING
Drawing Title: Parcel 3 Overview
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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Drawing Annotations

1. Insert note here
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5. Insert note here
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Key

- Existing Fence
- Proposed Tree
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- Rock piles
- Proposed Log Pile
- Proposed Hibernacula
- Retained Trees & Scrub
- Proposed Native Scrub / Thicket
- Proposed Native Scrub / Thicket with Fescue & Bent Grass underplanting
- Retained Wild/meadow Grass
- Proposed Wild/meadow Grass
- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
- Existing Water
- Proposed Slope / Bank / Gradient
- Redline Boundary
- Public Right of Way

PLANTING SCHEDULE

EXISTING TREES To be protected in accordance with BS5837 (2012): Trees in Relation to Design, Demolition and Construction' and based on approved Tree Protection Scheme for the site.
Refer to relevant Tree Constraints Plan and associated Arboricultural survey data sheets for detailed information on trees.

PROPOSED SELECT STANDARD TREES

8-10cm girth; 2.0 2.5m height; 1.0 1.5m clear stem. BARE ROOT.
To be planted within all landscape external and bund mounding areas as shown on plan, within the 1.5m grid at minimum 5.0m intervals interspersed within the whip (transplant) grid.

AC	Acer campestre	Field Maple
AG	Alnus glutinosa	Alder
CM	Crataegus monogyna	Hawthorn
MS	Malus sylvestris	Crab Apple
PA	Prunus avium	Wild Cherry
QR	Quercus Robur	English Oak
SC	Salix caprea	Goat Willow
SA	Sorbus aucuparia	Rowan

PROPOSED NATIVE THICKET (SCRUB) MIX

Planted on a 1.5m grid, with transplants in groups of 5-9 of the same species to create a natural random form. Planting grid to be set at 45 degrees to the linear planting line (north-south) to create an offset matrix pattern to avoid a grid at right angles.

Cornus sanguinea	Dogwood	10%
Corylus avellana	Hazel	15%
Crataegus monogyna	Hawthorn	15%
Euonymus europaeus	Spindle	10%
Rhamnus cathartica	Buckthorn	15%
Ilex aquifolium	Holly	5%
Rosa canina	Dog Rose	10%
Salix caprea	Goat Willow	10%
Viburnum lantana	Wayfaring Tree	10%

WILDFLOWER GRASS AREAS SPECIES RICH MEADOW MIX (RE1 TRADITIONAL HAY MEADOW) MG5

Species Rich Wildflower Meadow mix 20:80 mix (17 Wildflower species; 7 grass species).
RE1 (MG5 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Yarrow	(Achillea millefolium)	1.1%
Common Sorrel	(Rumex acetosa)	1.0%
Lady's Bedstraw	(Gallium verum)	0.1%
Oxeye Daisy	(Leucanthemum vulgare)	1.4%
Ribwort Plantain	(Plantago lanceolata)	3.1%
Agrimony	(Agrimonia eupatorium)	0.8%
Self Heal	(Prunella vulgaris)	1.0%
Meadow Sweet	(Filipendula ulmaria)	0.2%
Salad Burnet	(Sanguisorba minor)	2.0%
Birdsfoot Trefoil	(Lotus corniculatus)	1.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.5%
Burnett Saxifrage	(Pimpinella saxifraga)	0.2%
Greater Knapweed	(Centaurea scabiosa)	0.3%
Dandelion	(Taraxacum officinale)	0.3%
Common Knapweed	(Centaurea nigra)	3.0%
Grasses:		
Strong Creeping Red Fescue	(Festuca rubra rubra)	30.0%
Crested Dogstail	(Cynosurus cristatus)	25.0%
Golden Oat Grass	(Trisetum flavescens)	5.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Sheeps Fescue	(Festuca ovina)	6.5%
Browntop Bent	(Agrostis capillaris)	3.5%
Quaking Grass	(Briza media)	5.0%

AQUATIC MARGINAL GRASS AREAS WET MEADOW MIX (RE3 RIVER FLOODPLAIN / WATER MEADOW) MG8 (ONLY AFTER 2 SEASONS IF NATURAL REGENERATION DOES NOT ESTABLISH).

A mixture of grasses and aquatic wildflowers that are tolerant of wet conditions and suitable for sowing at the edges and wet margin of ponds, streams, lakes and ditches. Contains:Wildflowers 20% (14 species) Grasses 80% (9 species)
RE3 (MG8 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Meadow Sweet	(Filipendula ulmaria)	0.5%
Dandelion	(Taraxacum officinale)	1.0%
Oxeye Daisy	(Leucanthemum vulgare)	3.6%
Ragged Robin	(Lychnis flos cuculi)	0.1%
Ribwort Plantain	(Plantago lanceolata)	4.0%
Self Heal	(Prunella vulgaris)	2.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.8%
Water Avens	(Geum rivale)	0.1%
Greater Stitchwort	(Stellaria holostea)	0.1%
Soft-Rush	(Juncus effusus)	0.6%
Meadow Buttercup	(Ranunculus acris)	1.9%
Salad Burnet	(Sanguisorba minor)	1.3%
Grasses:		
Slender Creeping Red Fescue	(Festuca rubra rubra)	25.0%
Crested Dogstail	(Cynosurus cristatus)	20.0%
Smooth Stalked Meadow Grass	(Poa Pratensis)	15.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Creeping Bent	(Agrostis stolonifera)	2.5%
Lolium perenne	(Lolium perenne)	5.0%
Yorkshire Fog	(Holcus lanatus)	2.5%
Browntop Bent	(Agrostis capillaris)	2.5%
Timothy (Small eared)	(Phleum bertolonii)	2.5%

AQUATIC AND MARGINAL PLANTING

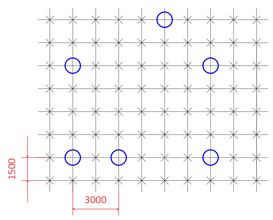
Planting at 0.5m spacing (4/m2); 1L container grown plants planted in accordance with suppliers specifications with reference to TEP planting proposals (D7215.001A Landscape Proposals).

Caltha palustris	Marsh Marigold	17.5%
Juncus effusus	Common Rush	10%
Juncus inflexus	Hard Rush	15%
Lythrum salicaria	Purple Loosestrife	12.5%
Mentha aquatica	Water Mint	5%
Myosotis scorpioides	Water Forget Me Not	10%
Ranunculus flammula	Lesser Spearwort	10%
Sparganium erectum	Branched Bur-reed	15%
Veronica beccagunga	Brooklime	10%

SOILS INFORMATION AND EARTHWORKS NOTES

It is important to understand the underlying soil conditions during the design and implementation process to evaluate slope gradients and ensure conditions are achieved to allow successful establishment of the various types of planting being advocated woodland trees, ticket mix, species rich grasslands and aquatic planting.
Soil Type: Soilscape 18 (as classified on LandIS viewer)
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Fertility: Moderate; **Landcover:** Grassland and arable some woodland
Habitats: Seasonally wet pastures and woodlands; **Carbon:** Low
Water protection: Main risks are associated with overland flow from compacted or poached fields. Organic slurry, dirty water, fertiliser, pathogens and fine sediment can all move in suspension or solution with overland flow or drain water
General cropping: Mostly suited to grass production for dairying or beef; some cereal production often for feed. Timeliness of stocking and fieldwork is important, and wet ground conditions should be avoided at the beginning and end of the growing season to avoid damage to soil structure. Land is tile drained and periodic moling or subsoiling will assist drainage.

NATIVE THICKET PLANTING LAYOUT
GRID: 1:200



Key

- Native thicket mix transplants
- Proposed Select Standard trees

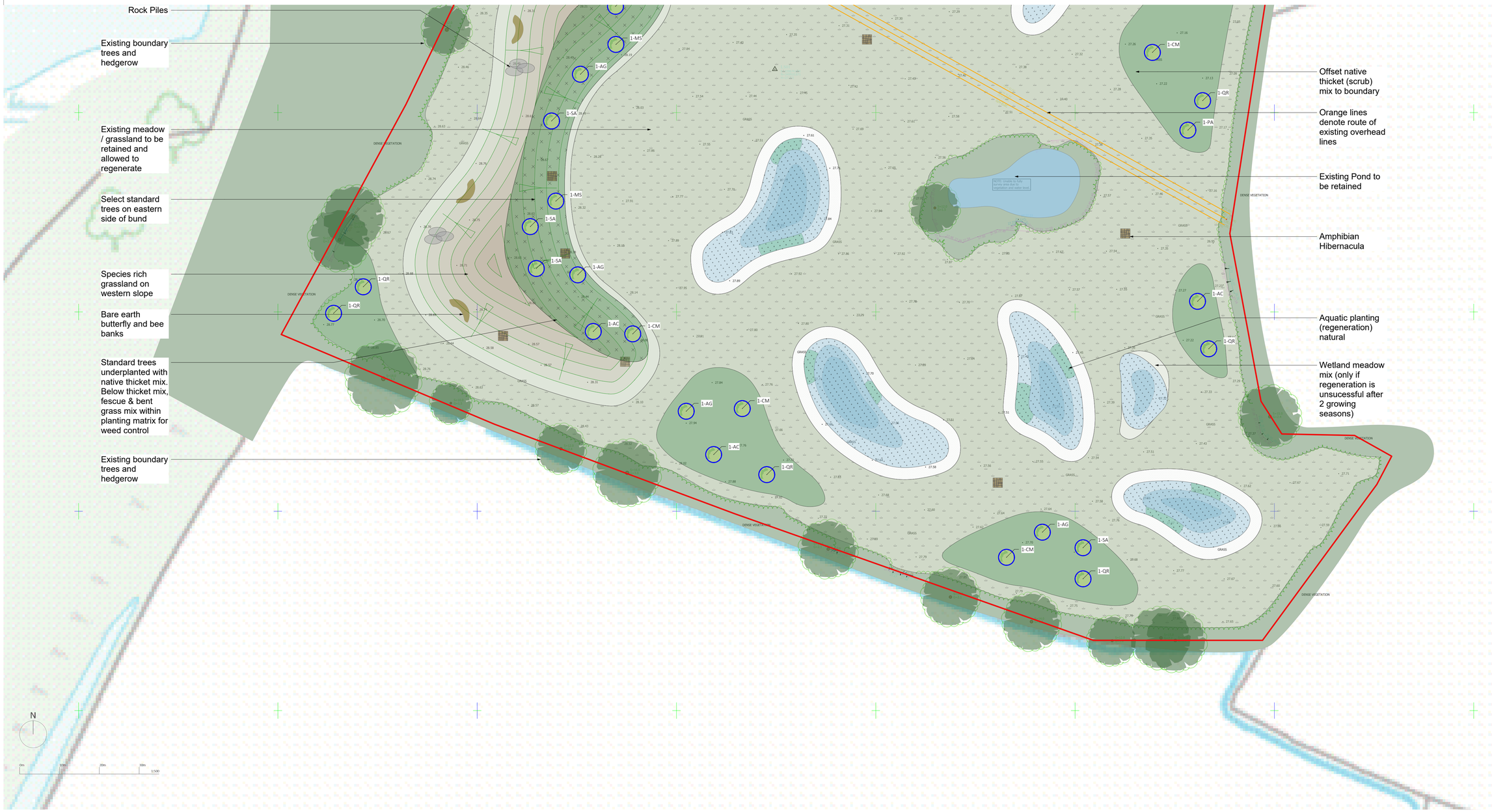
Rev	Date	Description
4	CB	Layout changes to parcels 2 & 4
3	CB	Additional Plot added to Site Location and Phasing Plans
2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:500	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-3.2
Status: PLANNING
Drawing Title: Parcel 3, Inset 1
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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7. All plants and materials are subject to availability at time of ordering.
8. Topsoils to be placed to 450mm overall depth in shrub and herbaceous areas and 600mm in tree pits and hedge trenches. Soils should be placed in 150mm layers, firming as you go, over compaction free, well draining subsoil.

Drawing Annotations

1. Insert note here
2. Insert note here
3. Insert note here
4. Insert note here
5. Insert note here
6. Insert note here

Key

- Existing Fence
- Proposed Tree
- Existing Retained Tree
- Bee and butterfly banks and scrapes
- Rock piles
- Proposed Log Pile
- Proposed Hibernacula
- Retained Trees & Scrub
- Proposed Native Scrub / Thicket
- Proposed Native Scrub / Thicket with Fescue & Bent Grass underplanting
- Retained Wild/meadow Grass
- Proposed Wild/meadow Grass
- Proposed Wet Grassland
- Aquatic Marginal Planting
- Proposed Wildlife Pool
- Existing Water
- Proposed Slope / Bank / Gradient
- Redline Boundary
- Public Right of Way

PLANTING SCHEDULE

EXISTING TREES To be protected in accordance with BS5837 (2012): Trees in Relation to Design, Demolition and Construction' and based on approved Tree Protection Scheme for the site.
Refer to relevant Tree Constraints Plan and associated Arboricultural survey data sheets for detailed information on trees.

PROPOSED SELECT STANDARD TREES

8-10cm girth; 2.0 2.5m height; 1.0 1.5m clear stem. BARE ROOT.
To be planted within all landscape external and bund mounding areas as shown on plan, within the 1.5m grid at minimum 5.0m intervals interspersed within the whip (transplant) grid.

AC	Acer campestre	Field Maple
AG	Alnus glutinosa	Alder
CM	Crataegus monogyna	Hawthorn
MS	Malus sylvestris	Crab Apple
PA	Prunus avium	Wild Cherry
QR	Quercus Robur	English Oak
SC	Salix caprea	Goat Willow
SA	Sorbus aucuparia	Rowan

PROPOSED NATIVE THICKET (SCRUB) MIX

Planted on a 1.5m grid, with transplants in groups of 5-9 of the same species to create a natural random form. Planting grid to be set at 45 degrees to the linear planting line (north-south) to create an offset matrix pattern to avoid a grid at right angles.

Cornus sanguinea	Dogwood	10%
Corylus avellana	Hazel	15%
Crataegus monogyna	Hawthorn	15%
Euonymus europaeus	Spindle	10%
Rhamnus cathartica	Buckthorn	15%
Ilex aquifolium	Holly	5%
Rosa canina	Dog Rose	10%
Salix caprea	Goat Willow	10%
Viburnum lantana	Wayfaring Tree	10%

WILDFLOWER GRASS AREAS SPECIES RICH MEADOW MIX (RE1 TRADITIONAL HAY MEADOW) MG5

Species Rich Wildflower Meadow mix 20:80 mix (17 Wildflower species; 7 grass species).
RE1 (MG5 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Yarrow	(Achillea millefolium)	1.1%
Common Sorrel	(Rumex acetosa)	1.0%
Lady's Bedstraw	(Gallium verum)	0.1%
Oxeye Daisy	(Leucanthemum vulgare)	1.4%
Ribwort Plantain	(Plantago lanceolata)	3.1%
Agrimony	(Agrimonia eupatorium)	0.8%
Self Heal	(Prunella vulgaris)	1.0%
Meadow Sweet	(Filipendula ulmaria)	0.2%
Salad Burnet	(Sanguisorba minor)	2.0%
Birdsfoot Trefoil	(Lotus corniculatus)	1.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.5%
Burnett Saxifrage	(Pimpinella saxifraga)	0.2%
Greater Knapweed	(Centaurea scabiosa)	0.3%
Dandelion	(Taraxacum officinale)	0.3%
Common Knapweed	(Centaurea nigra)	3.0%
Grasses:		
Strong Creeping Red Fescue	(Festuca rubra rubra)	30.0%
Crested Dogstail	(Cynosurus cristatus)	25.0%
Golden Oat Grass	(Trisetum flavescens)	5.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Sheeps Fescue	(Festuca ovina)	6.5%
Browntop Bent	(Agrostis capillaris)	3.5%
Quaking Grass	(Briza media)	5.0%

AQUATIC MARGINAL GRASS AREAS WET MEADOW MIX (RE3 RIVER FLOODPLAIN / WATER MEADOW) MG8 (ONLY AFTER 2 SEASONS IF NATURAL REGENERATION DOES NOT ESTABLISH).

A mixture of grasses and aquatic wildflowers that are tolerant of wet conditions and suitable for sowing at the edges and wet margin of ponds, streams, lakes and ditches. Contains:Wildflowers 20% (14 species) Grasses 80% (9 species)
RE3 (MG8 Grassland) supplied by Germinal Seeds Limited or similar approved; seed sown at rate of 5gm/m2 in accordance with the suppliers sowing instructions. Establishment and ongoing maintenance in accordance with suppliers guidance and specification.

Wildflowers:		
Meadow Sweet	(Filipendula ulmaria)	0.5%
Dandelion	(Taraxacum officinale)	1.0%
Oxeye Daisy	(Leucanthemum vulgare)	3.6%
Ragged Robin	(Lychnis flos cuculi)	0.1%
Ribwort Plantain	(Plantago lanceolata)	4.0%
Self Heal	(Prunella vulgaris)	2.0%
White Clover	(Trifolium repens)	2.0%
Red Clover	(Trifolium pratense)	2.0%
Yellow Rattle	(Rhinanthus minor)	0.8%
Water Avens	(Geum rivale)	0.1%
Greater Stitchwort	(Stellaria holostea)	0.1%
Soft-Rush	(Juncus effusus)	0.6%
Meadow Buttercup	(Ranunculus acris)	1.9%
Salad Burnet	(Sanguisorba minor)	1.3%
Grasses:		
Slender Creeping Red Fescue	(Festuca rubra rubra)	25.0%
Crested Dogstail	(Cynosurus cristatus)	20.0%
Smooth Stalked Meadow Grass	(Poa Pratensis)	15.0%
Meadow Fescue	(Festuca pratensis)	5.0%
Creeping Bent	(Agrostis stolonifera)	2.5%
Lolium perenne	(Lolium perenne)	5.0%
Yorkshire Fog	(Holcus lanatus)	2.5%
Browntop Bent	(Agrostis capillaris)	2.5%
Timothy (Small eared)	(Phleum bertolonii)	2.5%

AQUATIC AND MARGINAL PLANTING

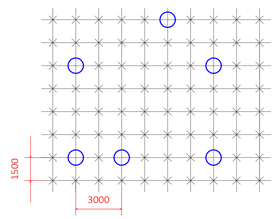
Planting at 0.5m spacing (4/m2); 1L container grown plants planted in accordance with suppliers specifications with reference to TEP planting proposals (D7215.001A Landscape Proposals).

Caltha palustris	Marsh Marigold	17.5%
Juncus effusus	Common Rush	10%
Juncus inflexus	Hard Rush	15%
Lythrum salicaria	Purple Loosestrife	12.5%
Mentha aquatica	Water Mint	5%
Myosotis scorpioides	Water Forget Me Not	10%
Ranunculus flammula	Lesser Spearwort	10%
Sparganium erectum	Branched Bur-reed	15%
Veronica beccagunga	Brooklime	10%

SOILS INFORMATION AND EARTHWORKS NOTES

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NATIVE THICKET PLANTING LAYOUT
GRID: 1:200



Key

- Native thicket mix transplants
- Proposed Select Standard trees

Rev	Date	Description	By
4	19/05/2025	Layout changes to parcels 2 & 4	CB
3	01/05/2025	Additional Plot added to Site Location and Phasing Plans	CB
2	20/03/2025	Minor Revisions	CB

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:500	CB	JK	V4

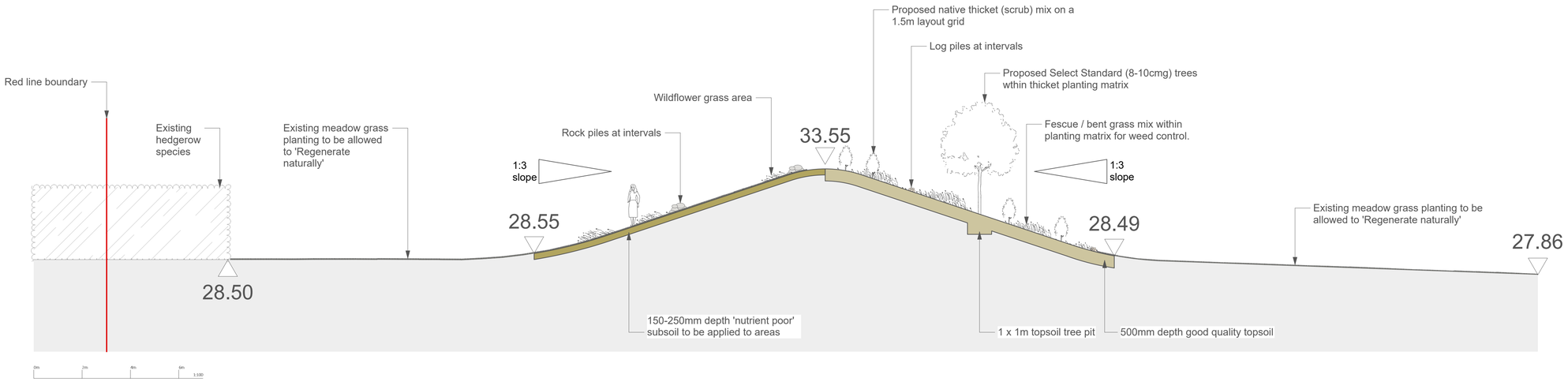
Drawing no: 4826-Strategic Ecology Corridor-3.3
Status: PLANNING
Drawing Title: Parcel 3, Inset 2
Location: Utopia City Strategic Ecology Corridor, Wrexham
Client name: Net World Sport

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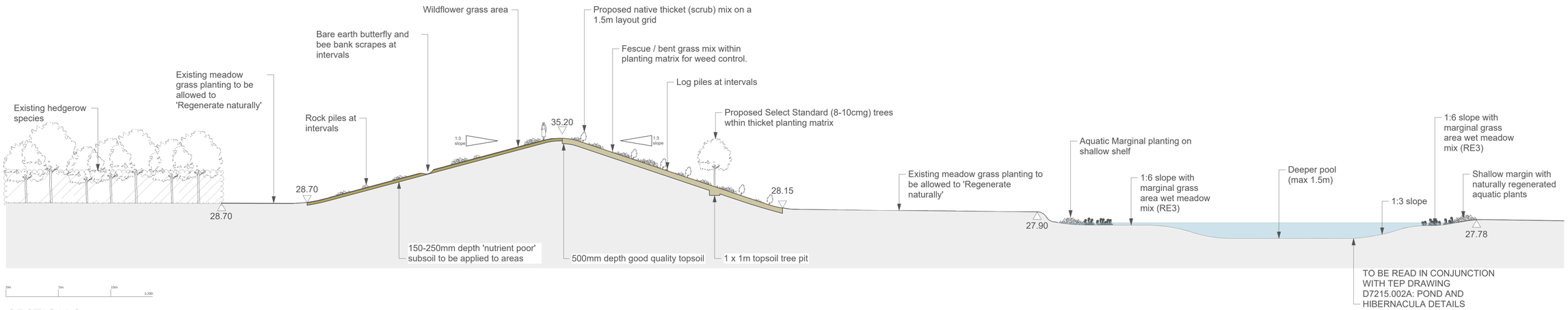
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SECTION 1



SECTION 2



Site Plan (NTS)

Recommended topsoil placement operations

It is noted that the topsoil on site is clayey and loamy with high fertility rates. If the following sequence of operations is not carried out, there is the potential to create a stagnant layer of organic matter between existing bund topsoil and the new blinding/profile layer which needs to be avoided.

-Strim whole bund area existing vegetation layer to about 6" (150mm) height and remove arisings. Apply a suitable glyphosate (systemic herbicide) to the remaining vegetation layer and allow 2-3 weeks, based on weather conditions, to allow vegetation to be killed off. Removed arisings from the sprayed area.

-Eastern thicket slopes Import soil material to profiles in line with approved gradients (1:3 maximum); tip and lightly consolidate new or re-graded topsoil with a flat excavator bucket to avoid compaction; in March/April, seed the slopes with a fescue and bent mix grass mix to act as a weed control cover. Plant thicket transplants (whips) and tree species according to relevant British Standards outlined in the Specification page. Mulch trees and transplants to prevent competition from grass mix and prevent weeds.

-Western wildflower grass slopes Import reduced fertility subsoil that is available on site, to ensure that the soils blend' to avoid a smooth surface on clay soils that may result in new subsoil slippage. Tip and lightly consolidate site-won subsoil using a flat excavator bucket rather to avoid compaction rather than a bulldozer with tool attachment. Specified wildflower seed to be spread on the surface which has been raked to a fine tilth to provide a suitable seed bed; timing, in Spring in line with suppliers recommended instructions and rates/m2.

TOPSOIL AND PROFILING NOTES

– Slope gradients to be determined by geotechnical properties of the soils; information available from the geotechnical engineer on soils composition and suitability to be checked and verified.
– At this stage, the suggested maximum gradient is 1:3 (recommended maximum natural angle of repose for soils).
– Soil Management, handling and placement to be in accordance with BS3882 and Defra guidance document 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites'.
– No excavation works to be undertaken within root protection areas all relevant Arboricultural information produced for the site to be followed (TCP; AIA; Arboricultural Method Statement) as appropriate.
– Eastern slopes of bund re-profiling of topsoil to follow approved engineering proposals to achieve a consistent and stable profile with a topsoil depth of 0.5m for native thicket planting areas and 1.0m depth topsoil for tree pits. Soil on the western slopes to be capped with a 0.15-0.25m depth layer of low nutrient' subsoil available on site. Depths based on existing topsoil conditions, with the aim to reduce fertility to provide suitable conditions for wildflower grass mix establishment.

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
20/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:200	CB	JK	V4

Drawing no
4826-Strategic Ecology Corridor-3.4

Status
PLANNING

Drawing Title
Parcel 3 Sections

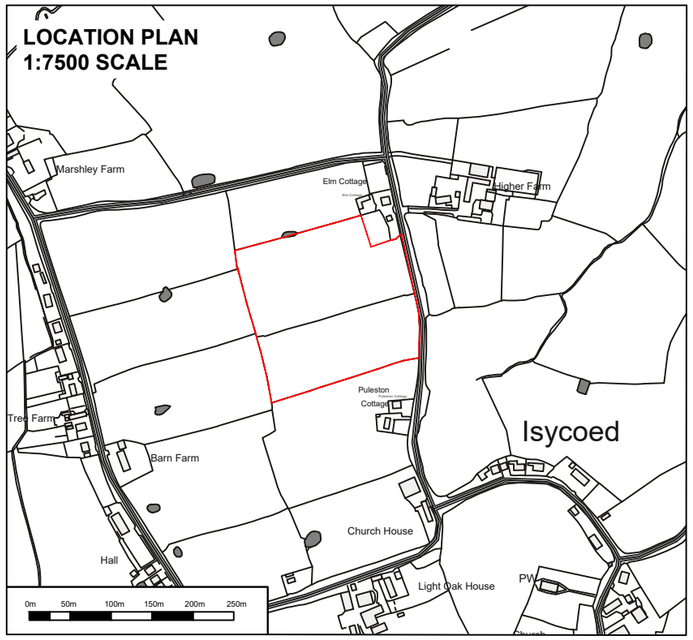
Location
Utopia City Strategic Ecology Corridor, Wrexham

Client name
Net World Sport

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LOCATION PLAN
1:7500 SCALE



BLOCK PLAN
1:1250 SCALE

Key:

Site Boundary

REV: BY: DETAILS:
v2 SF Add annotation

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TITLE:
Site Location Plan

LAYOUT:
Overview

PROJECT/SITE:
Land at Isycoed, Wrexham

CLIENT:
Net World Sports

MAP REF:
22-3014

REVISION:
v2

DATE: **26/07/2023**

SCALE: **As Shown @A3**

APPROVED BY: **JK**

PRODUCED BY: **SF**

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Elm Cottage

Existing scrub (Goat Willow) surrounding existing pond.

Existing ditch along hedgerow.

Existing hedgerow to Elm Cottage.

Slightly larger vegetation within hedgerow.

Existing native hedge, ditch & grass verge.

Ditch along hedgerow.

MAESGWYN LANE

Existing semi-improved grassland

Ditch along roadside verge.

2 existing oak trees.

Existing native hedge & mature oak trees along boundary.

Footbridge across ditch & circle style

Gate

Ditch

Existing oak trees.

Existing Hawthorn & Blackthorn hedges.

Puleston Cottage

Existing oak tree.

Public Right of Way (outside boundary)

0m 5m 10m 20m 30m 40m 50m

N

Key:

- Site Boundary
- Existing trees
- Existing hedgerow
- Existing grass verge
- Existing semi-improved grass land
- Existing pond

REV.	BY	DETAILS
v1	SF	Drawing Issued

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TITLE: **Existing Site Plan**

LAYOUT: **Layout 1**

PROJECT: **Land at Isycoed, Wrexham**

CLIENT: **Net World Sports**

MAP REF: **22-3015**

REVISION: **v1**

DATE: **26/07/2023** SCALE: **1:500 @A1**

APPROVED BY: **JK** PRODUCED BY: **SF**

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Redline Boundary

Other land in Applicant Ownership

N

0m 50m 100m 150m 200m 250m

1:4000

19/05/2025	4	CB	Layout changes to parcels 2 & 4
02/05/2025	3	CB	Additional Plot added to Site Location and Phasing Plans
20/03/2025	2	CB	Minor Revisions

Date	Original size	Scale	Drawn by	Checked by	Rev
19/05/2025	A1	1:4000	CB	JK	V4

Drawing no: 4826-Strategic Ecology Corridor-5

Status: PLANNING

Drawing Title: Red Line Boundary Plan / Site Location Plan

Location: Utopia City Strategic Ecology Corridor, Wrexham

Client Name: Net World Sport

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Appendix B: Landscape Maintenance Schedules

Utopia City Southern Ecological Mitigation Area, Wrexham
Landscape Maintenance Schedules
Document Ref: x10944.001

Key

✓	Works to be carried out in these months
	Works not to be carried out in these months

*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

Activity	Frequency per Annum	Years	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
Inspections, Surveys and Cleansing														
Health and Safety														
Undertake a formal inspection to review hazards identified by original assessment.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Specialist Surveys														
Instruct a trained arboriculturist to undertake a tree hazard and condition survey of mature trees.	0.3	Every 3 years or following a storm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Annual GCN habitat monitoring by trained ecologist	1.0	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Site Cleansing														
Cleanse the whole site monthly	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Remove fly-tipping and graffiti as soon as possible.	As required	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Soft Landscape Elements														
Existing Retained Trees														
Tree maintenance as prescribed by an arboriculturist in the tree survey	As required	All years	✓	✓							✓	✓	✓	✓
Proposed Trees														
Top up mulch to maintain a depth of 75mm around the base of all young plants.	1	1 to 5									✓	✓		
Re-firm newly planted trees as required.	As required	1 to 5	✓	✓							✓	✓	✓	✓
Check stakes and ties quarterly, adjust twice annually.	4	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace any damaged or missing stakes and ties.	As required	1 to 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Remove stakes and ties.	1	Year 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Formative prune to maintain health and vigour.	As required	5 to 10	✓	✓							✓	✓	✓	✓
Replace failed or damaged deciduous species.	As required	1 to 5	✓	✓	✓								✓	✓
Water new planting.	As required	1 to 5				✓	✓	✓	✓	✓	✓			
Apply slow-release multi-purpose plant food and soil improver.	1	1 to 5								✓	✓	✓		
Assessment of condition and structure of new tree planting.	1	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Following establishment, proposed trees should be managed as for retained trees														
Existing Boundary Hedgerows														
Cut in an 'A' shape. Hedgerow cutting will be cut on a rotation basis with one third cut every three years to retain foraging and sheltering opportunities. Cut grass strip simultaneously with hedge. Materials collected through maintenance will be used to replenish amphibian hibernacula, ars required.	0.3	All years	✓	✓							✓	✓	✓	✓
Additional hedge cutting may be required should there be a good growing season.	As required	All years	✓	✓							✓	✓	✓	✓
Retained Scrub														
Annual visual inspection to determine any dominant species or encroachment.	1	All years									✓			
Cut as required to prevent encroachment onto other landscape types.	As required	All years	✓	✓										✓
Cut 5% of the scrub back annually.	1	All years	✓	✓										✓

Utopia City Southern Ecological Mitigation Area, Wrexham
Landscape Maintenance Schedules
Document Ref: x10944.001

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			J	F	M	A	M	J	J	A	S	O	N	D
Proposed Native Scrub/Thicket														
Re-firm newly plants as required.	As required	1 to 5	✓	✓							✓	✓	✓	✓
Replace failed or damaged deciduous species.	As required	1 to 5	✓	✓	✓								✓	✓
Replace failed or damaged evergreen species.	As required	1 to 5	✓	✓	✓	✓					✓	✓	✓	✓
Annual visual inspection to determine any dominant species or encroachment.	1	All years									✓			
Cut as required to prevent encroachment onto other landscape types.	As required	All years	✓	✓										✓
Cut 5% of the scrub back annually.	1	All years	✓	✓										✓
Retained Wild/Meadow Grass														
Regeneration Period														
Weed Control	1	Year 1				✓	✓	✓	✓	✓	✓			
Top grass to a height of 150mm twice annually. Cut in sections with one third cut weekly over three weeks. First cut in February, second cut in October. Arisings to be left for 24 hours then raked and used elsewhere on the Site.	2	Year 1 and 2		✓								✓		
Capital Works (If Required)														
Hay cut (150mm) with arisings collected and removed offsite. Works to be carried out in sections with one third worked on weekly over three weeks.	1	Year 3										✓		
Harrow and scarify land. Works to be carried out in sections with one third worked on weekly over three weeks.	1	Year 3										✓		
Overseed with wildflower mix	1	Year 3										✓		
Following Establishment														
Cut (150mm-300mm) once a year and use arisings sustainably elsewhere on the Site. Two thirds of the grass will be cut in a semi-random rotational pattern. Cut in 1/3 sections on a weekly rotation. Arisings will be raked and used sustainably elsewhere on the Site.	1	Post-establishment										✓		
Cultivating and reseeding	As required	Post-establishment										✓		
Weed control.	As required	Post-establishment				✓	✓	✓	✓	✓				
Proposed Wild/Meadow Grass														
Capital Works														
Harrow and scarify land	1	Year 1										✓		
Overseed with wildflower mix	1	Year 1										✓		
Maintenance Operations														
Cut (150mm-300mm) once a year and use arisings sustainably elsewhere on the Site. Two thirds of the grass will be cut in a semi-random rotational pattern. Cut in 1/3 sections on a weekly rotation. Arisings will be raked and used sustainably elsewhere on the Site.	1	Post-establishment										✓		
Cultivating and reseeding	As required	Post-establishment										✓		

Utopia City Southern Ecological Mitigation Area, Wrexham
Landscape Maintenance Schedules
Document Ref: x10944.001

Key

✓	Works to be carried out in these months
	Works not to be carried out in these months

*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

Activity	Frequency per Annum	Years	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
Weed control.	As required	All years				✓	✓	✓	✓	✓				
Proposed Wet Grassland														
Regeneration Period														
Weed Control	1	Year 1				✓	✓	✓	✓	✓	✓			
Top grass to a height of 150mm twice annually. Cut in sections with one third cut weekly over three weeks. First cut in February, second cut in October. Arisings to be left for 24 hours then raked and used elsewhere on the Site.	2	Year 1 and 2		✓								✓		
Capital Works (If Required)														
Hay cut (150mm) with arisings collected and removed offsite. Works to be carried out in sections with one third worked on weekly over three weeks.	1	Year 3										✓		
Harrow and scarify land. Works to be carried out in sections with one third worked on weekly over three weeks.	1	Year 3										✓		
Overseed with wildflower mix	1	Year 3										✓		
Following Establishment														
Cut (150mm-300mm) once a year and use arisings sustainably elsewhere on the Site. Two thirds of the grass will be cut in a semi-random rotational pattern. Cut in 1/3 sections on a weekly rotation. Arisings will be raked and used sustainably elsewhere on the Site.	1	Post-establishment										✓		
Cultivating and reseeding	As required	Post-establishment										✓		
Weed control.	As required	Post-establishment				✓	✓	✓	✓	✓				
Existing Water (Ponds)														
Inspect monthly during site inspections, assessing water quality, extent of vegetation zones and open water, presence of INNS and presence of rubbish and debris.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Removal of debris and rubbish. Any soft pliable debris noted within the pond during April to, and including, August will be left in situ as they may support GCN eggs.	As required	All years	✓	✓	✓	✓					✓	✓	✓	✓
Removal of marginal/emergent vegetation in autumn to maintain 30-60% of open water.	1	All years									✓	✓	✓	
1x yearly cut (150mm) to 1/3 of bankside vegetation with arisings removed from site. Trim sections on a three-year rotation.	1	All years									✓	✓		
Scrub control	As required	All years	✓										✓	✓
Desilting	0.2	Every 5 years	✓										✓	✓
Proposed Wildlife Pools and Aquatic Marginal Planting														
Inspect monthly during site inspections, assessing water quality, extent of vegetation zones and open water, presence of INNS and presence of rubbish and debris.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Removal of debris and rubbish. Any soft pliable debris noted within the pond during April to, and including, August will be left in situ as they may support GCN eggs.	As required	All years	✓	✓	✓	✓					✓	✓	✓	✓
Removal of marginal/emergent vegetation in autumn to maintain 30-60% of open water.	1	All years									✓	✓	✓	

Utopia City Southern Ecological Mitigation Area, Wrexham
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Activity	Frequency per Annum	Years	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
1x yearly cut (150mm) to 1/3 of bankside vegetation with arisings removed from site. Trim sections on a three-year rotation.	1	All years									✓	✓		
Scrub control	As required	All years	✓										✓	✓
Desilting	0.2	Every 5 years	✓										✓	✓
Replace failed or damaged marginal planting.	1	1 to 5	✓	✓	✓								✓	✓
Ecological Feature														
Bee and Butterfly Banks and Scrapes														
Cut vegetation with surrounding wild/meadow grass	1	All years									✓			
Inspect monthly to assess bare ground coverage.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Re-scrape as required	As required	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proposed Rock Piles														
Replenish annually	1	All years								✓	✓			
Proposed Log Piles														
Replenish annually with material from tree works	1	All years								✓	✓			
Proposed Hibernacula														
Monthly inspection to check condition and clear any blockages from access points.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replenish materials, as required.	As required	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Repairs and/or replacement as required.	As required	All years	✓	✓	✓							✓	✓	✓
Hard Landscape Elements														
Footpath (PRoW)														
Inspect footpath monthly and clear overhanging vegetation, broken branches, leaf litter and trip hazards as required.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Repairs to footpath surfacing.	As required	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cut back vegetation with appropriate edging tool.	1	All years				✓	✓	✓	✓	✓	✓	✓		
Existing Fence														
Inspect during monthly site inspections.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Repairs or replacement as required	As required	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Existing Agricultural Fields (Parcel 5)														
Grazing will be low intensity	N/A	All years	✓	✓					✓	✓	✓	✓	✓	✓
Existing Pond Maintenance														
Inspect monthly during site inspections, assessing water quality, extent of vegetation zones and open water, presence of INNS and presence of rubbish and debris.	12	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Removal of debris and rubbish. Any soft pliable debris noted within the pond during April to, and including, August will be left in situ as they may support GCN eggs.	As required	All years	✓	✓	✓	✓					✓	✓	✓	✓
Removal of marginal/emergent vegetation in autumn to maintain 35-60% of open water.	1	All years										✓	✓	
1x yearly cut (150mm) to 1/3 of bankside vegetation with arisings removed from site. Trim sections on a three-year rotation.	1	All years									✓	✓		
Scrub control	As required	All years	✓										✓	✓
Monitoring and Review														

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Activity	Frequency per Annum	Years	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
Site inspections by managing organisation	4	All years			✓			✓			✓			✓
Annual site meeting with stakeholders	1	All years	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Formal review of management plan and maintenance operations.	0.2	Every 5 years			✓									

NOTE Glyphosate formulations containing the surfactant Polyethoxylated tallow amine (POEA) should not be used within close proximity to waterbodies or other wetland habitats as it can cause high amphibian larvae mortality.

Appendix C: Legislation Context

Summary of Relevant Legislation

The following legal obligations, among others must be considered in carrying out any management operations:

Legislation	Obligations
Health and Safety Legislation	
The Health and Safety at Work Act (1974)	All operations carried out on the Site must only be undertaken by trained personnel, using methods and equipment approved by the Health and Safety Executive (HSE).
Occupiers Liability Act (1984)	Management organisation must ensure that every reasonable care is taken to remove any risks to both legitimate visitors and to any trespassers. In compliance it will be necessary: ■ To make sure that all footpaths and any other structures are safe; ■ To remove any hazardous objects; and ■ To conduct an annual safety audit in order to identify any further hazards.
Environmental Legislation	
Conservation of Habitats and Species Regulations 2017 (as amended)	The Habitat Regulations for England and Wales assign a greater level of protection to a variety of native species of animals and plants listed. The 2017 Regulations have been amended by the 2019 EU Exit Regulations.
Wildlife and Countryside Act (1981)	There is an obligation to comply with legislation for UK species protected (including amphibians, reptiles and bats) under this Act.
Environmental Protection Act (1990)	There is an obligation to keep the Site free from litter and refuse.
Countryside and Rights of Way Act (2000)	Imposes a new right of access on foot to registered common land and other areas of 'open countryside' which under certain circumstances allows access without being confined to footpaths.

WARRINGTON

401 Faraday Street
Birchwood Park
Warrington
WA3 6GA

T: 01925 844004
E: tep@tep.uk.com

MARKET HARBOROUGH

The Reynard Suite
Bowden Business Village
Market Harborough
Leicestershire
LE16 7SA

T: 01858 383120
E: mh@tep.uk.com

GATESHEAD

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

T: 0191 6053340
E:gateshead@tep.uk.com

LONDON

8 Trinity Street
London
SE1 1DB

T: 020 3096 6050
E: london@tep.uk.com

CORNWALL

Nr Falmouth
Cornwall

T: 01326 240081
E: cornwall@tep.uk.com