30 Year Habitat Management and Monitoring Plan

Land at Ferry Moor Lane, Barnsley
Reference: 81-523-R3
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1. INTRODUCTION

1.1. BACKGROUND

E3P has been instructed by Oakland Golf and Leisure (UK) Ltd to produce a 30 Year Habitat Management and Monitoring Plan for the Land at Ferry Moor Lane, Barnsley, hereafter referred to as 'the site'.

This report has been prepared by Hannah Brodie BSc (Hons), MSc, Graduate Ecologist at E3P. Hannah has experience undertaking protected species surveys and ecological mitigation for a wide variety of projects across the UK.

This report will be read in conjunction with the Statutory Biodiversity Metric Report (Report reference: 81-523-R1-4) and The Statutory Biodiversity Metric Calculation Tool – Land at Ferry Moor Lane.xlsm, which outlines a net gain of habitat units through the retention of pre-existing habitat and habitat creation from the start of the planting period until a minimum of 30 years.

1.2. DEVELOPMENT PROPOSALS

The development proposals comprise the importation of material to level off and further remediate the site to create a suitable open green space.

1.3. SITE LOCATION

The site is located between Cudworth and Grimethorpe approximately 1.6 km east of Barnsley, adjacent to a large industrial area. Access to the site is off of A6195 to Ferry Moor Lane which is located within the site boundary. To the north, south and west features agricultural land and green open space with residential housing associated with Cudworth located beyond. Industrial buildings are located to the east of the site with further residential housing associated with Grimethorpe located beyond. Grimethorpe Nature Reserve is located approximately 915 m south-east of the site.

Please refer to **Figure 1** for the approximate site location and Appendix I for the Site Context Plan which outlines the Local Planning Authority (LPA) and National Character Area of the site.

Figure 1 Approximate Site Location

1.4. DISCHARGE CONDITION

A '30 Year Habitat Management and Monitoring Plan' has been prepared to discharge Condition 5 of the planning application 2023/0964 as follows:

> *5: A Habitat Management and Monitoring Plan (HMMP) completed by a suitably qualified ecologist for a minimum period of 30 years shall be submitted to the Local Planning Authority prior to the commencement of works on site. The HMMP should follow the template HMMP produced by Natural England and should include information on the following;*

- *Project information and funding;*
- *Summary of Habitat Proposal and Plans, site boundary map, site context map;*
- *Phasing Strategy – if relevant;*
- *Roles and Responsibilities;*
- *Land use summary, site context photographs, site baseline and environmental information checklist and environmental information;*
- *Management plan aims and objectives, design principles informed by baseline information;*
- *Habitat and condition targets, habitat retention and protection measures map;*
- *Creation, enhancement and management targets and prescriptions;*
- *Monitoring methods and intervals, monitoring reports and adaptive management;*
- *Other mitigation and enhancement measures, such as implementation of bat and bird boxes, suitable for use by species known to occur within the local area, and features to enhance the site for hedgehog and herptile species.*
  The scheme shall proceed in accordance with the approved plan.

  Reason: In accordance with Local Plan Policy BIO1

1.5. AIMS AND OBJECTIVES

In order to discharge Condition 5, this '30 Year Habitat Management and Monitoring Plan' will cover the following:

- Description and evaluation of the features to be managed;
- Ecological trends and constraints on site which may influence management;
- Aims and objectives of management;
- Appropriate management options for achieving aims and objectives;
- Prescriptions for management actions;
- Personnel responsible for the implementation of the plan;

- Confirmation of funding and ownership;
- Details of an adaptive programme of monitoring and remedial measures triggered by monitoring; and
- Location details of the protected species features to be installed on site to include bat and bird boxes, hibernacula and hedgehog houses.

1.6. PREVIOUS SURVEYS

PRELIMINARY ECOLOGICAL APPRAISAL, 2022

Environmental Business Solutions (EBS) undertook a Preliminary Ecological Appraisal (PEA) on-site in August 2022 (Report reference: Grim/0922/PEAR Preliminary Ecological Appraisal). During the PEA, the site was found to comprise semi-improved grassland, areas of broadleaved woodland, scrub, tall ruderal, young trees and eight waterbodies, which were all dry at the time of the survey. The site was also assessed as being able to support nesting birds, foraging bats, badger (*Meles meles*), reptiles, and common amphibians in the ponds on site and within 250 m of the site boundary.

BREEDING BIRD SURVEYS, 2024

E3P undertook four Breeding Bird Surveys between April and May 2024 (Report reference: 81-523-R2). During the surveys a total of 61 bird species were recorded on-site, including 35 Birds of Conservation Concern (BoCC) with ten red-listed species and 23 amber-listed species. Two Schedule 1 green-listed species were also recorded within the site. Of these notable species, 16 were considered to be breeding (confirmed, probable or possible) within the site.

ECOLOGY LETTER STATEMENT, 2024

E3P undertook an Ecological Walkover on the site in July 2024 (Report reference: 81-523-L1) in order to assess the site for its suitability to support water vole (*Arvicola amphibius*) and whether Open Mosaic Habitat (OMH) was present on site. During the walkover, the three ditches (D1, D2 and D3) previously identified during the Biodiversity Net Gain Assessment were assessed. D1 was dry during the breeding bird surveys between April and May 2024 and was determined as unsuitable for water vole, due to it only holding water during periods of heavy rainfall. D2 held shallow water, with large dry sections and no aquatic vegetation present. As such it was not considered suitable for water vole. D3 contained no aquatic vegetation and did not appear to have contained water for a long period of time and was also considered unsuitable for water vole. In addition, the habitats on site did not meet all the required criteria to be classified as OMH, and as such OMH was not considered to be present on-site.

BIODIVERSITY NET GAIN ASSESSMENT, 2024

E3P undertook a Biodiversity Net Gain assessment of the site in October 2024 (Report reference: 81-523-R1). In addition to the habitats identified during the previous PEA, three established waterbodies were identified in the centre of the site, and three ditches were identified around the western, northern and eastern site boundaries. The Biodiversity Metric 4.0 was used to calculate the baseline habitat units on-site. Habitat creation was then measured from the latest plans by Weller Designs Limited (2024) (Drawing reference: 901.07 Revision E). The results of the metric showed a gain of 7.78 habitat units (7.91%) and a gain of 2.15 watercourse units (65.36%). The trading rules of the metric were not satisfied as habitats lost have not been 'traded up'.

1.7. LAND USE SUMMARY

The site currently comprises a historically remediated colliery that has gone through a period of natural regeneration. The habitats present on site comprise developed land, sealed surface, other neutral grassland, bramble scrub, willow scrub, bare ground, ruderal/ephemeral, other woodland; broadleaved, three non-priority ponds, and three ditches. The site is currently used as an open green space and is used by members of the public.

Development of the site will comprise the importation of material to level off and further remediate the site to create a suitable open green space. The habitats present on site will include developed land sealed surface, other neutral grassland, bramble scrub, willow scrub, mixed scrub, bare ground, ruderal/ephemeral, other woodland; broadleaved, individual trees, three non-priority ponds and a single ditch. The site will continue to be used as an open green space by members of the public.

The majority of the site comprises other neutral grassland and willow scrub. Please refer to Table 1 for the overview site context photographs. Please refer to Appendix II for the additional site context photographs.

Table 1 Overview Site Context Photographs

HABITAT TYPE	PHOTOGRAPHS
OTHER NEUTRAL GRASSLAND	

WILLOW SCRUB

2. ROLES AND RESPONSIBILITIES

2.1. SITE RESPONSIBILITIES

Management of the newly created habitats and retained habitats will be maintained for the first year by the Landscape Contractor responsible for the implementation of the works. The contract will include a defects liability clause to ensure replacement planting is carried out and successful establishment achieved. Thereafter, maintenance contracts will be organised by a management company on an annual basis. The full details of the responsible persons and organisation(s) for delivering this management plans are as follows:

Ecologist or Other Professional Responsible for HMMP
Organisation: E3P
Responsibility: The production and monitoring of the HMMP
Statement of Competency: Ecological consultancy.

Landowner or Land Manager:
Organisation: Oakland Golf and Leisure (UK) Ltd
Responsibility: Landowner
Statement of Competency: To ensure the effective delivery of the HMMP, Oakland Golf and Leisure Ltd will engage qualified ecological consultants and land management professionals, with the necessary expertise in habitat management and biodiversity monitoring. This collaboration guarantees that all habitat interventions meet best practice standards and comply with regulatory requirements. The company is committed to upholding high environmental standards and has experience in managing green spaces across its property portfolio.

Management Organisation(s) responsible for implementing the HMMP
Organisation: To be confirmed by client
Responsibility: Management Organisation

LPA for reviewing HMMP
Name: Gary Hildersley, Head of Planning, Policy and Building Control; Growth and Sustainability Directorate
Organisation: Barnsley Metropolitan Borough Council
Responsibility: Reviewing of the HMMP and the monitoring reports in years 1, 2, 5, 10, 20, and 30.

2.2. ECOLOGICAL CONSTRAINTS

Ecological constraints on site may influence management. Nesting birds, commuting, foraging and roosting bats, badger, hedgehog (*Erinaceus europaeus*) and common amphibians are anticipated on the site. The presence of these species will be considered when addressing habitat management techniques and timings.

Appendix III outlines timings of work and when ecological supervision will be required due to the known presence of protected species on and adjacent to the site.

2.3. FUNDING

During the construction stage, all works associated with the 30 Year Habitat Management and Monitoring Plan will be funded directly by and delivered by Oakland Golf and Leisure (UK) Ltd or by an appointed landscape contractor. Once the site is occupied and construction works are complete, the appointed management company will be responsible for the maintenance of the site.

3. PROPOSED LANDSCAPING FEATURES

Landscape proposals are outlined in accordance with the Masterplan provided by Weller Designs Limited (2024) (Drawing reference: 901.07 Revision E).

The current 30 Year Management and Mitigation Plan covers the following habitats:

- Retained developed land, sealed surface
- Retained bare ground
- Retained ruderal/ephemeral
- Retained other neutral grassland
- Retained bramble scrub
- Retained willow scrub
- Retained other woodland; broadleaved
- Proposed wildflower meadow
- Proposed scrub planting
- Proposed tree planting
- Proposed ponds
- Proposed wet ditch

The Work Schedule, located in Appendix III, details the locations and timings of sensitive works to avoid harm to biodiversity features on and adjacent to the site.

3.1. RETAINED DEVELOPED LAND; SEALED SURFACE

Developed land, sealed surface is to be retained throughout the site. The condition for the proposed developed land, sealed surface is automatically assigned by the metric, therefore condition assessment of the habitat is not applicable.

3.2. RETAINED BARE GROUND

Bare ground to the centre of the site is to be retained. The condition assessment of the habitat is Poor, passing one of three condition assessment criteria: Invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (WCA), and others which are to the detriment of native wildlife cover less than 5% of the total vegetated area.

3.3. RETAINED RUDERAL/EPHEMERAL

Ruderal/ephemeral to the northeast of the site is to be retained. The condition assessment of the habitat is Poor and passes one of three condition assessment criteria: Invasive non-native species cover less than 5% of the total vegetated area.

3.4. RETAINED OTHER NEUTRAL GRASSLAND

Other neutral grassland is to be retained throughout the site. The condition assessment of the habitat is Moderate, and passes three of six condition assessment criteria:

- The grassland is a good representation of the habitat type, it has been identified as, based on its UKHab description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present.
- Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.
- Cover of bare ground is between 1% and 5%, including localised areas.

3.5. RETAINED BRAMBLE SCRUB

Bramble scrub is to be retained throughout the site. The condition assessment for the bramble scrub was automatically assigned by the metric to 'N/A'.

3.6. RETAINED WILLOW SCRUB

Willow scrub is to be retained throughout the site. The condition assessment of the habitat is Moderate, and passes four of five condition assessment criteria:

- Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.
- There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.
- The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.
- There are clearings, glades or rides present within the scrub, providing sheltered edges.

3.7. RETAINED OTHER WOODLAND; BROADLEAVED

An area of broadleaved woodland is located along the western site boundary, the majority of which is to be retained post-development. The condition assessment of the habitat is Moderate, and passes 27 of 39 condition assessment criteria, as detailed in the Broadleaved Woodland Condition Assessment, in Appendix IV of the Biodiversity Net Gain Assessment produced by E3P (Report reference: 81-523-R1-4).

3.8. PROPOSED WILDFLOWER MEADOW

Areas of wildflower meadow are proposed to the centre, south and north of the site. The mix will be sown at a density of 3 to 5 grams per m^2 and comprises the following species:

- Yarrow (*Achillea millefolium*) – 0.5%
- Betony (*Betonica officinalis*) – 1%

- Common knapweed (*Centaurea nigra*) – 3.5%
- Meadowsweet (*Filipendula ulmaria*) – 1%
- Lady's bedstraw (*Galium verum*) – 2.5%
- Meadow vetchling (*Lathyrus pratensis*) – 0.4%
- Oxeye daisy (*Leucanthemum vulgare*) – 1%
- Bird's-foot trefoil (*Lotus corniculatus*) – 0.5%
- Ribwort plantain (*Plantago lanceolata*) – 1%
- Cowslip (*Primula veris*) – 0.3%
- Selfheal (*Prunella vulgaris*) – 2%
- Meadow buttercup (*Ranunculus acris*) – 3%
- Yellow rattle (*Rhinanthus minor*) – 1.5%
- Common sorrel (*Rumex acetosa*) – 1.5%
- Ragged robin (*Silene flos-cuculi*) – 0.2%
- Wild red clover (*Trifolium pratense*) – 0.1%
- Common bent (*Agrostis capillaris*) – 10%
- Meadow foxtail (*Alopecurus pratensis*) – 2%
- Sweet vernal grass (*Anthoxanthum odoratum*) – 2%
- Quaking grass (*Briza media*) – 1%
- Crested dogs tail (*Cynosurus cristatus*) – 36%
- Slender creeping red fescue (*Festuca rubra*) – 24%
- Meadow barley (*Hordeumn secalinum*) – 1%
- Smaller cats-tail (*Phleum bertolonii*) – 4%

3.9. PROPOSED SCRUB PLANTING

Scrub planting will comprise native scrub planting along the northern, eastern and western boundaries of the site. Please see **Table 2** for details.

Table 2 Proposed Scrub Planting

SPECIES	MIX (%)	NUMBER
Clematis vitalba	8.00	3939
Crataegus monogyna	11.00	5415
Euonymus europaeus	9.00	4432
Ligustrum vulgare	10.00	4924

Prunus spinosa	12.00	5908
Rosa canina	8.00	3939
Rubus fruticosus	16.00	7877
Sambucus nigra	6.00	2954
Ulex europaeus	5.00	2462
Viburnum opulus	15.00	7385

3.10. PROPOSED TREE PLANTING

Semi-mature native trees are proposed throughout the site. Please see **Table 3** for details.

Table 3 Proposed Tree Planting

SPECIES	MIX (%)	SIZE (CM)	NUMBER
Acer campestre	20.00	20-25 cm	37
Alnus glutinosa	10.00	20-25 cm	19
Betula pendula	15.00	20-25 cm	28
Prunus avium	15.00	20-25 cm	28
Quercus robur	30.00	20-25 cm	56
Sorbus aucuparia	10.00	20-25 cm	19

3.11. PROPOSED PONDS

Three ponds are proposed in the centre of the site, surrounded by wildflower meadow. Species to be sown within the wildflower mix surrounding the ponds will include, but are not limited to; yarrow, betony, common knapweed, meadowsweet and meadow vetchling.

3.12. PROPOSED WET DITCH

A single wet ditch is proposed to the centre of the site, between the area of proposed wildflower meadow and proposed scrub planting. Species within the proposed scrub planting surrounding the outside of the ditch will include but are not limited to; blackthorn (*Prunus spinosa*), dog rose (*Rosa canina*), bramble (*Rubus fruticosus*), common elder (*Sambucus nigra*), gorse (*Ulex europaeus*), and wild privet (*Ligustrum vulgare*). Species within the proposed wildflower mix on the inside of the ditch will include but are not limited to meadow foxtail, sweet vernal-grass, crested dogs tail, meadow barley, and smaller cats-tail.

4. MANAGEMENT

4.1. AIMS AND OBJECTIVES

The management plan sets out how habitats will be protected and managed appropriately during the operational phase of the development for the long-term benefit of local wildlife.

The plan covers the following points:

- Demonstrate objectives and targets required for proposed and retained habitats to meet target condition in line with the Biodiversity Metric Report.
- Outline the working methods to be followed during the construction phase, regarding retained habitats and associated local wildlife.
- Outline habitat measures and management which will improve the sites suitability for local wildlife and ensure the habitat condition.
- Outline monitoring procedures of the ecological features within the site.

4.2. MANAGEMENT ACTIONS

The following sections will be read in conjunction with the Biodiversity Metric Report by E3P (Report reference: 81-523-R1), which details the Target Condition and Time in which the condition of each habitat will be achieved and the Biodiversity Metric Condition Assessment Criteria, each habitat needs to meet their respective target condition.

Please see Appendix III for the Work Schedule, Appendix IV for the Annual Work Plan, and Appendix VI for the Species Enhancement Plan.

4.3. HABITAT TARGET CONDITION SCHEDULE

Please see **Table 4** for the schedule detailing the expected condition of each habitat over a 30-year period.

Table 4 Expected Condition Over 30 Years

HABITAT	YEAR						TIME TO CONDITION
	1	2	5	10	20	30	
Wildflower Meadow	Poor	Poor	Poor	Good	Good	Good	10 years
Wildflower Meadow	Poor	Poor	Moderate	Moderate	Moderate	Moderate	5 years
Scrub Planting	Poor	Poor	Poor	Good	Good	Good	10 years
Tree Planting	Poor	Poor	Poor	Poor	Poor	Moderate	27 years
Ponds	Poor	Poor	Moderate	Moderate	Moderate	Moderate	5 years
Wet Ditch	Poor	Poor	Poor	Moderate	Moderate	Moderate	10 years

4.4. PROPOSED MANAGEMENT SUBSCRIPTIONS

4.4.1. RETAINED OTHER WOODLAND; BROADLEAVED

Adequate protective fencing will be installed around the retained other woodland to the west of the site, where practical before any materials and machinery are brought on site.

Tree protection fencing will consist of a vertical scaffold framework, well-braced to resist impacts. The vertical poles will be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels will be fixed. Any fence post excavations within the retained other woodland Root Protection Area (RPA) will be carried out manually, using handheld tools only, and in accordance with the guidelines set out in Section 7.2.1 of BS5837:2012. All proposed landscaping to be carried out within and close to the retained other woodland RPA will be carried out in strict accordance with the guidance detailed in Section 8 of BS5837:2012.

The retained other woodland will be managed only by occasional pruning to remove damaged or defective limbs for health and safety purposes, as detailed in Section 3.1 and Appendix 3 of the Arboricultural Method Statement produced by AWA Tree Consultants (Report reference: AWA5652AMS). The retained other woodland will be managed to ensure that it maintains 'Moderate' condition as detailed in the Biodiversity Metric Report. The following measures will be implemented:

- Any encroaching species will be maintained to ensure that invasive species such as rhododendron (*Rhododendron ponticum*) or cherry laurel (*Prunus laurocerasus)* are not present, and that the cover of other invasive species does not exceed <10% cover, as per Condition Assessment Criterion C.
- The majority of the habitat will consist of native species, with at least three to four native tree or shrub species found across the entire habitat parcel, as per Condition Assessment Criterion D.
- Growth of new trees and saplings will be managed to ensure that 21-40% of the woodland has areas of temporary open space, as per Condition Assessment Criterion F.
- Any diseased trees will be removed and those with crown dieback monitored to ensure that a mortality rate between 11% to 25% from crown dieback or low risk pests or disease will not be exceeded, as per Condition Assessment Criterion H.
- Any fallen deadwood will remain in situ, to ensure that between 25% and 50% of all survey plots within the woodland parcel will have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities, as per Condition Assessment Criterion L.

The default protective tree demarcation fencing in line with BS5837:2012 is deemed disproportionate in this instance, with an adequate level of protection instead to be provided by heavy duty plastic mesh fencing secured to steel pins, as detailed in Appendix 1 of the Arboricultural Method Statement produced by AWA Tree Consultants (Report reference: AWA5652AMS).

Please refer to Appendix V for the Habitat Retention and Protection Measures Plan, which details the approximate location of the designated plastic mesh fencing implemented to protect the retained broadleaved woodland.

4.4.2. RETAINED RUDERAL/EPHEMERAL

Retained ruderal/ephemeral is located to the northeast of the site. The tall ruderal will be managed to ensure that it maintains 'Poor' condition as detailed in the Biodiversity Metric Report. As such any invasive non-native species (as listed on Schedule 9 of the Wildlife and Countryside Act, 1981) will be maintained to ensure they cover less than 5% of the total vegetated area.

The site will be monitored in years 1, 2, 5, 10, 20 and 30, and any invasive non-native species that arise will be removed by a specialist contractor to prevent them from becoming established and spreading to the wider area. These invasive species include but are not limited to, Japanese knotweed (*Reynoutria japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*).

4.4.3. PROPOSED WILDFLOWER MEADOW AND RETAINED OTHER NEUTRAL GRASSLAND

The areas of wildflower meadow will be created and managed in order to be of maximum benefit to terrestrial mammals such as badger, birds, and amphibians. The meadows will be located in the centre, northeast and south of the site and will be separated by the access road running through the centre of the site. The retained other neutral grassland will be located around the entire site, close to the site boundary.

The wildflower meadow will be sown at a density of 3-5g per m^2. The habitat will be allowed to grow to a long sward length, providing a more favourable habitat for use by sheltering amphibians, reptiles and their invertebrate prey. The habitats will be cut annually in autumn to a minimum of 150 mm, with encroaching scrub, noxious weeds (such as common ragwort (*Jacobaea vulgaris*) common nettle (*Urtica dioica*) and broad-leaved dock (*Rumex obtusifolius*)) and self-seeded tree saplings cleared at this time.

As part of the long-term management plan, monitoring of the wildflower meadows will be undertaken to ensure that they achieve 'Good' and 'Moderate' condition within 10 and 5 years, respectively, as detailed in the Biodiversity Metric Report. The following measures will be implemented:

- The appearance and composition of the vegetation will closely match the characteristics of the specific grassland habitat type (other neutral grassland). Management of the grassland will be undertaken to ensure the wildflowers, sedges and indicator species for the grassland remain as per Condition Assessment Criterion 1.
- Annual cutting at the start and end of the growing season to create a varied sward (at least 20% of the sward less than 7 cm, and at least 20% of the sward more than 7 cm), creating microclimates which provide opportunities for insects, birds and small mammals to live and breed as per Condition Assessment Criterion 2.
- Any areas where grass has failed to thrive will be reseeded to ensure that cover of bare ground is between 1% and 5% as per Condition Assessment Criterion 3.
- Any scrub or bracken growth or encroachment will be removed to ensure scrub cover is less than 20% as per Condition Assessment Criterion 4.

There are 10 or more vascular plant species per m^2 present, including forbs that are characteristics of the specific grassland habitat type (other neutral grassland) as per Condition Assessment Criterion 6. This will be monitored to ensure the retention of species rich mix and competitive species do not dominate the sward.

4.4.4. PROPOSED SCRUB PLANTING, RETAINED BRAMBLE SCRUB AND RETAINED WILLOW SCRUB

Areas of proposed scrub planting and retained willow and bramble scrub are located around the borders of the site on all sides. These areas will consist of native species and be managed to maximise their potential for wildlife within the area. Areas of scrub will be allowed to grow to a long length, providing a more favourable habitat for use by foraging and sheltering birds, amphibians, hedgehogs and their invertebrate prey. The habitats will be cut annually in autumn to a minimum of 50 cm, with noxious weeds (such as common ragwort (*Jacobaea vulgaris*) common nettle (*Urtica dioica*) and broad-leaved dock (*Rumex obtusifolius*)) and self-seeded tree saplings also cleared at this time

The proposed scrub will be managed to ensure they reach their target condition of 'Good' within the target time of ten years, and the retained scattered scrub will be managed to ensure it maintains its condition assessment of 'Moderate' by achieving five out of five of the following criteria:

- The parcel represents a good example of its habitat type – the appearance and composition of the vegetation closely matches it's UKHab description (where in its natural range), with at least three woody species and no single species comprising more than 75% of cover, as per Condition Assessment Criterion 1.
- Species present have a good age range as per Condition Assessment Criterion 2. .
- There is an absence of invasive non-native species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover, as per Condition Assessment 3.
- The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat, as per Condition Assessment Criterion 4.
- There are clearings, glades or rides present within the scrub, providing sheltered edges, as per Condition Assessment Criterion 5.

Bramble scrub is to be retained throughout the borders of the site. The condition assessment for bramble scrub was automatically assigned by the metric to 'N/A' and therefore no specific management is required, however, the habitat will need to be managed to ensure it does not fail.

4.4.5. PROPOSED TREE PLANTING

On-site tree planting will be subject to a five-year establish defects period ensuring that any plants that perish or fail to thrive will be replaced within the next available planting season.

The proposed trees will be managed by occasional pruning only to remove damaged or defective limbs for health and safety purposes. Management and maintenance of the trees will take place outside of the breeding bird season (March to September, inclusive).

Trees will be maintained to reach Moderate condition within 27 years.

As part of the long-term management plan, monitoring of the proposed trees will be undertaken to ensure that the trees achieve their 'Moderate' Condition Assessment Score within 27 years a detailed in the Biodiversity Metric Report. The following measures will be implemented:

- Trees will be native species as per Condition Assessment Criterion 1.

- Trees will be protected from vandalism by an ornamental tree guard to minimise adverse impacts on tree health as per Condition Assessment Criterion 4.

- Trees will be planted within vegetated habitats so that >20% of the canopy will be oversailing vegetation as per Condition Assessment Criterion 6.

4.4.6. PROPOSED PONDS

Three ponds are proposed in the centre of the site, surrounded by wildflower meadow. The ponds will be maintained in order to maximise their potential for wildlife in the area. The ponds will be managed to ensure they reach their target condition of 'Moderate' within the target time of three years by achieving the following criteria:

- The pond is of good water quality, with clear water and low turbidity indicating no obvious signs of pollution, as per Condition Assessment Criterion 2.

- There is a semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10m from the pond edge for its entire perimeter, as per Condition Assessment Criterion 3.

- Any encroaching species will be removed to ensure that less than 10% of the water's surface will be covered with duckweed species (*Lemna spp.*) or filamentous algae, as per Condition Assessment Criterion 4.

- The pond is not artificially connected to other waterbodies, e.g. agricultural ditches, or artificial pipework, as per Condition Assessment Criterion 5.

- Pond water levels can fluctuate naturally throughout the year, with no obvious artificial dams, pumps or pipework present, as per Condition Assessment Criterion 6.

- The pond will remain in its natural state and is not to be artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities, as per Condition Assessment Criterion 7.

- Emergent, submerged, or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep, as per Condition Assessment Criterion 8.

- Any encroaching scrub or self-seeded tree saplings will be cleared to ensure that the pond surface is no more than 50% shaded by adjacent trees and scrub, as per Condition Assessment Criterion 9.

4.4.7. PROPOSED WET DITCH

A single wet ditch is proposed surrounding the wildflower meadow in the centre of the site. The ditch will be managed to ensure it reaches its target condition of 'Moderate' within the target time of five years by achieving the following criteria:

- The ditch is of good water quality with clear water and low turbidity indicating no obvious signs of pollution, as per Condition Assessment Criterion 1.

- A range of emergent, submerged, and floating-leaved plants are present. >10 species of emergent, floating or submerged plants present in a 20m ditch length, as per Condition Assessment Criterion 2.

- There is less than 10% cover of filamentous algae and or duckweed *Lemna spp.,* which are signs of eutrophication, as per Condition Assessment Criterion 3.
- A fringe of aquatic marginal vegetation is present along more than 75% of the ditch, as per Condition Assessment Criterion 4.
- Physical damage is evident along less than 5% of the ditch, with examples of damage including excessive poaching, damage from machinery use or storage, or any other damaging management activities, as per Condition Assessment Criterion 5.
- There is an absence of non-native plant and animal species, as per Condition Assessment Criterion 6.

4.5. PROTECTED SPECIES ENHANCEMENTS

4.5.1. BAT BOXES

A total of six 1FF Schwegler Bat Boxes (or a similar alternative) are to be installed on posts within the proposed tree planting throughout the site.

To enhance the site for bats, six bat boxes are proposed on tall wooden posts within the proposed tree planting throughout the site. The boxes will be installed facing south to south-east at a minimum height of 2 m. To avoid predation and vandalism, the boxes will be installed at the tallest point possible. Boxes will not be placed, where the flight path will be blocked by obstructions or vegetation and will be placed in locations sheltered from high winds.

The boxes will be checked by a qualified ecologist, to assess whether they are in use, for years 1, 2 and 5 post-development. Any damaged/missing boxes will be replaced and relocated if necessary. Please refer to **Table 5** for the Bat Box Specification. Boxes of similar specifications but different brands can be used. Please refer to Appendix VI for the Species Enhancement Plan, showing the approximate locations of the bat boxes.

Table 5 Bat Box Specification

SPECIFICATIONS	NUMBER	IMAGE
Schwegler 1FF Bat Box Standard box which allows colonial bats to be used as either a roost or nursery. The open bottom allows the droppings to fall out, meaning no cleaning is required. It is suitable to hang on trees and will attract crevice-dwelling species. https://www.nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel	6	

4.5.2. BIRD BOXES

A total of seven bird boxes will be installed on posts within the proposed tree planting throughout the site. All boxes will be positioned at the highest points (minimum 2 m from ground level) and facing between north and east to avoid strong sunlight and high winds. They will not be placed where the flight path would be blocked by obstructions or vegetation. Boxes of similar specification but different brands can be used.

The nest boxes selected consider which species are most likely to be present within the local area: Please refer to **Table 6** for further details on the number and specification of the bird boxes.

Table 6 Bird Box Specifications

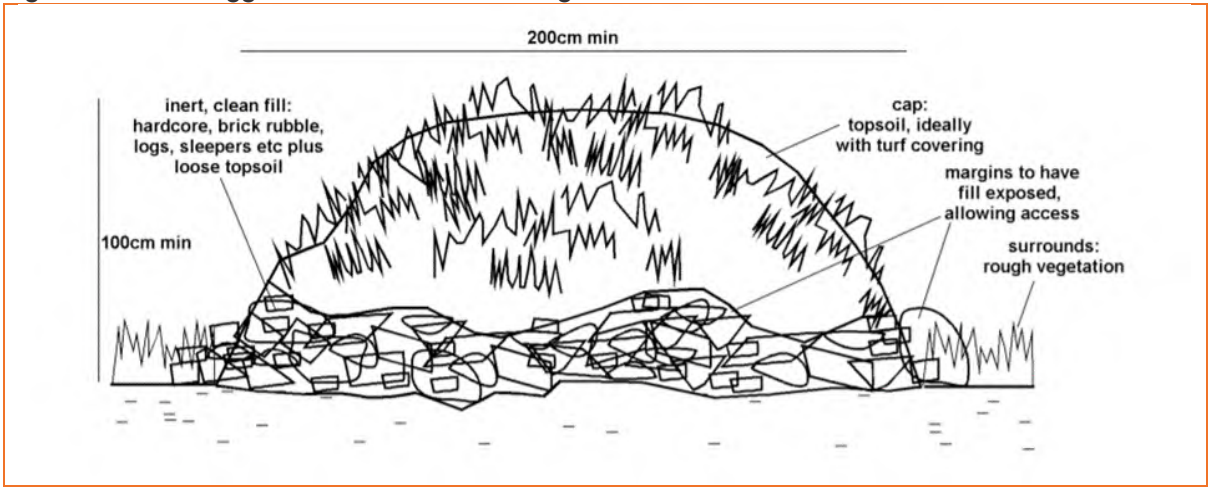
SPECIFICATIONS	NUMBER	IMAGE
Vivara Pro Seville 32 mm WoodStone Nest Box These 32 mm hole nest boxes are suitable for blue tits (*Cyanistes caeruleus*), tree sparrows (*Passer Montanus*), house sparrows (*Passer domesticus*), great tits (*Parus major*), nuthatches (*Sitta europaea*), and coal tits (*Periparus ater*).	3	
Vivara Pro Barcelona WoodStone Open Nest Box These open nest boxes are suitable for species such as wrens (*Troglodytes Troglodytes*), robins (*Erithacus rubecula*), thrushes and blackbirds (*Turdus merula*).	2	
Vivara Pro WoodStone Starling Nest Box This box offers suitable nesting provisions for starlings (*Sturnus vulgaris*	2	

The boxes are to be checked by a qualified ecologist, to assess whether they are in use, for years 1, 2 and 5. Any damaged/missing boxes are to be replaced and relocated if necessary. Please refer to Appendix VI for the Species Enhancement Plan, showing the approximate locations of the bird boxes.

4.5.3. COMMON AMPHIBIANS AND REPTILES

Common amphibians are expected to utilise the site. Newly created ponds and a wet ditch are proposed under the approved landscape plans, which will offer common amphibians with suitable breeding opportunities. To further enhance the site for common amphibians and reptiles, hibernacula will be created close to the waterbodies to provide suitable terrestrial habitat. A suggested hibernaculum design is shown in **Figure 2**. Dimensions will not be below 2 m length x 1 m width x 1 m height. Hibernacula will ideally be positioned across a site, both close to and distant from breeding ponds, always in a suitable terrestrial habitat and above the flood line. Where practical the hibernacula will be sunk approximately 30 m into the ground. Seven hibernacula will be created in proximity to the proposed ponds.

Figure 2 Suggested Hibernaculum Design



Seven egg laying heaps will also be installed throughout the proposed wildflower meadows to the centre of the site, which will attract invertebrates, and provide foraging resources for reptiles. Egg-laying heaps will be constructed of one third horse manure, one third vegetation and one third large branches (ARG, 2019). Egg-laying heaps will be located in a sunny location no more than 40 m from a waterbody. Egg laying heaps can be built upon over time, with the decaying process enhancing the value for reptiles. Please refer to Appendix VI for the Species Enhancement Plan, showing the approximate locations of the hibernacula and egg laying heaps.

4.5.4. HEDGEHOGS

Five hedgehog houses will be located throughout the proposed scrub planting on site, and in the proposed wildflower meadow to the south of the existing access track to the south of the site. Please refer to Appendix VI for the Species Enhancement Plan, which details the approximate locations of the hedgehog houses.

5. FUTURE MONITORING

Monitoring of the habitats created will be undertaken at years 1, 2, 5, 10, 20 and 30 by an ecologist or otherwise suitably qualified person, from the start of the planting period. This is to ensure that habitats are on track to achieve their target condition in accordance with the proposed timetable. Any potential remediation measures can therefore be identified and subsequently implemented, as appropriate. If habitats do not establish, additional management will be required, with additional visits once a year until establishment.

Monitoring and subsequent reports will be submitted to the Local Planning Authority in years 1, 2, 5, 10, 20, and 30 to allow auditing / monitoring of the delivery of proposed biodiversity net gain on-site, – in accordance with the S106 agreement, and in accordance with the methodology and frequency specified in this report. Monitoring will entail site visits, condition assessments and mapping of all on-site habitats.

The management plans will also be reviewed during years 1, 2, 5, 10, 20, and 30. The plans are to be revised, as appropriate, and the frequency of visits for certain habitats will be increased or decreased depending on the progress made towards establishment.

Details of when the monitoring surveys and reports will be undertaken and submitted are outlined in **Table 7**.

Table 7 Monitoring surveys and report details

PROJECT YEAR	MONTH REPORT TO BE SUBMITTED	MONTH MANAGEMENT PLAN TO BE REVIEWED	COMMENTS
1	August	August/September	Report on results of initial proposed habitat creation measures, and the status of retained habitats post-development. Species enhancement features are to be checked for damage and to ensure proper installation, and bat and bird boxes assessed for use.
2	August	August/September	Report on the status and progress of both the proposed and retained habitats on site and whether the individual management actions have been implemented. Species enhancement features are to be checked and replaced if damaged, and bat and bird boxes assessed for use.

5	August	August/September	Report on the status and progress of both the proposed and retained habitats on site and whether the individual management actions have been implemented. Specific monitoring of the wildflower meadow and three ponds which will have achieved Moderate condition. Species enhancement features are to be checked and replaced if damaged, and bat and bird boxes assessed for use.
10	August	August/September	Report on the status and progress of both the proposed and retained habitats on site and whether the individual management actions have been implemented. Specific monitoring of the wildflower meadow, scrub planting and wet ditch which will have achieved Good and Moderate condition, respectively, and the wildflower meadow and three ponds which will have maintained Moderate condition. Species enhancement features are to be checked and replaced if damaged.
20	August	August/September	Report on the status and progress of both the proposed and retained habitats on site and whether the individual management actions have been implemented. Monitoring all proposed habitats to ensure they have maintained their target condition. Species enhancement features are to be checked and replaced if damaged.
30	August	August/September	Report on the status and progress of both the proposed and retained habitats on site and whether the individual management actions have been implemented. Monitoring all proposed habitats to ensure they have maintained their target condition, with specific monitoring of the planted trees which will have achieved Moderate condition. Species enhancement features are to be checked and replaced if damaged.

6. REFERENCES

- AWA Tree Consultants (2023). Arboricultural Method Statement. (Report reference: AWA5652AMS).
- E3P (2024). Biodiversity Net Gain Assessment – Land at Ferry Moor Lane, Barnsley. 81-523-R1-4.
- E3P (2024). Breeding Bird Surveys - Land at Ferry Moor Lane, Barnsley. 81-523-R2.
- E3P (2024). Ecology Letter Statement - Land at Ferry Moor Lane, Barnsley. 81-523-L1.
- E3P (2024). Woodland Condition Assessment, Appendix IV – Biodiversity Net Gain Assessment - Land at Ferry Moor Lane, Barnsley. 81-523-R1-4.
- Environmental Business Solutions (2022). Preliminary Ecological Appraisal – Grimethorpe Colliery (Report reference: Grim/0922/PEAR Preliminary Ecological Appraisal).
- Herpetofauna Groups of Britain and Ireland (1998). Evaluating local mitigation/translocation programmes: Maintaining best practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth. Unpublished.
- Institute of Lighting Engineers (2005). Guidance Notes for the Reduction of Obtrusive Light.
- Natural England Joint Publication JP039 (2023). The Biodiversity Metric 4.0. User Guide.
- Weller Designs Limited (2024). Masterplan (Drawing reference: 901.07 Revision E).
- Wildlife and Countryside Act (2010) Schedule 9 of the Wildlife and Countryside Act 1981.

END OF REPORT

APPENDIX I
SITE CONTEXT PLAN

Key:

Site boundary

Notes

Local Planning Authority:

BARNSLEY
Metropolitan Borough Council

National Character Area:

38 - Nottinghamshire, Derbyshire and Yorkshire Coalfield

Issue:	Revision:	Date:	Drawn:	Authorised:
1	1	14/02/2025	NS2	CK

Client: Oakland Gold and Leisure (UK) Ltd	Job No. 81-523	Date: 14/02/2025
	Drawing No. 81-523-007	Scale: 1:55000 @ A4
Job title: Land at Ferry Moor Lane, Barnsley	Drawing title: Site Context Plan	

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APPENDIX II
ADDITIONAL SITE CONTEXT PHOTOS

DEVELOPED LAND, SEALED SURFACE	
BRAMBLE SCRUB	
BARE GROUND	

RUDERAL/EPHEMERAL	
OTHER WOODLAND; BROADLEAVED	
PONDS	

DITCHES

APPENDIX III
WORK SCHEDULE

WORK SCHEDULE			
WORKS	**METHODS**	**TIMING**	**ECOW REQUIRED?**
TOOLBOX TALK	Toolbox talk to be completed by the ECoW in relation to protected species that may be present within the working areas including amphibians, nesting birds and bats.	Anytime of the year – completed when relevant.	Yes
PRE-VEGETATION CLEARANCE WORKS – BREEDING BIRDS	Vegetation removal is to be completed outside of the nesting bird season (March to September, inclusive). If this is not possible, the area will be subject to a nesting bird check by the ECoW, within 48 hours to works commencing. If a nest (or nest in construction) is found, a suitable stand-off area will be maintained. The suitable stand-off will be decided by the ECoW and will be designated as a temporary 'Biodiversity Protection Zone'.	Within 48 hours of vegetation clearance during March to September (inclusive).	Yes, if during nesting bird season
VEGETATION MANAGEMENT – BREEDING BIRDS	Vegetation management works related to aiding habitats to achieve their Target Condition are to be completed outside of the nesting bird season. This includes removal of diseased trees and clearance of encroaching scrub. If this is not possible, the area will be subject to a nesting bird check by the ECoW, within 48 hours to works commencing. If a nest (or nest in construction) is found, a suitable stand-off area will be maintained. The suitable stand-off will be decided by the ECoW and will be designated as a temporary 'Biodiversity Protection Zone'.	Within 48 hours of vegetation clearance during March to September (inclusive).	Yes, if during nesting bird season
PRE-VEGETATION CLEARANCE WORKS – AMPHIBIANS	Pre-commencement check for amphibians prior to clearance of ruderal/ephemeral, other neutral grassland, bramble scrub and willow scrub.	Immediately prior to clearance during March to September.	No
VEGETATION MANAGEMENT - AMPHIBIANS	RAMs will be followed during the management of ruderal/ephemeral, other neutral grassland, bramble scrub and willow scrub deemed suitable for amphibians, including clearance of encroaching scrub and during annual cutting of grassland.	March to September.	No
PRE-VEGETATION CLEARANCE WORKS – REPTILES	Pre-commencement check for reptiles prior to the clearance of ruderal/ephemeral, other neutral grassland, bramble scrub and willow scrub. Any grassland and scrub to be removed will be strimmed to a length of approximately 500 mm under the supervision of an ecologist, checked by an ecologist for the	Prior to any works.	Yes

	presence of reptiles, and once the area is deemed free, immediately cleared to ground level. During works the site will be kept tidy of any debris and material, and any vegetation within the working areas will be maintained below 50 mm in height to discourage reptiles from re-entering these areas. If a reptile is identified, works will cease and the project ecologist will be contacted immediately to capture the individual.		
VEGETATION MANAGEMENT - REPTILES	RAMs will be followed during the management of ruderal/ephemeral, other neutral grassland, bramble scrub and willow scrub deemed suitable for reptiles, including clearance of encroaching scrub and during annual cutting of grassland.	March to September.	Yes
PRE-VEGETATION CLEARANCE WORKS – HEDGEHOG	Ruderal/ephemeral, other neutral grassland, bramble scrub and willow scrub, which is deemed suitable for hedgehog, will be checked prior to clearance. If the vegetation is too dense, vegetation will be strimmed to 50 cm and then checked for hedgehogs by the ECoW. Once deemed clear, the vegetation will be immediately cleared to ground level. The bases of the broadleaved woodland to be removed will be checked for hedgehog prior to removal. Clearance will take place outside of December to March to avoid hibernating hedgehogs.	Prior to any works.	Yes, if during hedgehog hibernation period
VEGETATION MANAGEMENT - HEDGEHOG	ECoW to check for hedgehogs prior to management of broadleaved woodland, bramble scrub, willow scrub, ruderal/ephemeral and other neutral grassland deemed suitable for hedgehog, including clearance of encroaching scrub and during annual cutting of grassland.	Prior to any works.	Yes, during hedgehog hibernation period
PRE-VEGETATION CLEARANCE WORKS – BADGER	PWMs will be followed during the clearance of the broadleaved woodland, other neutral grassland, bramble scrub and willow scrub, which is deemed suitable for badger.	Prior to any works.	Yes
VEGETATION MANAGEMENT - BADGER	PWMs will be followed during the management of broadleaved woodland, other neutral grassland, bramble scrub and willow scrub, which is deemed suitable for badger, including clearance of encroaching scrub and during annual cutting of grassland	Prior to any works.	Yes, for scrub understorey management

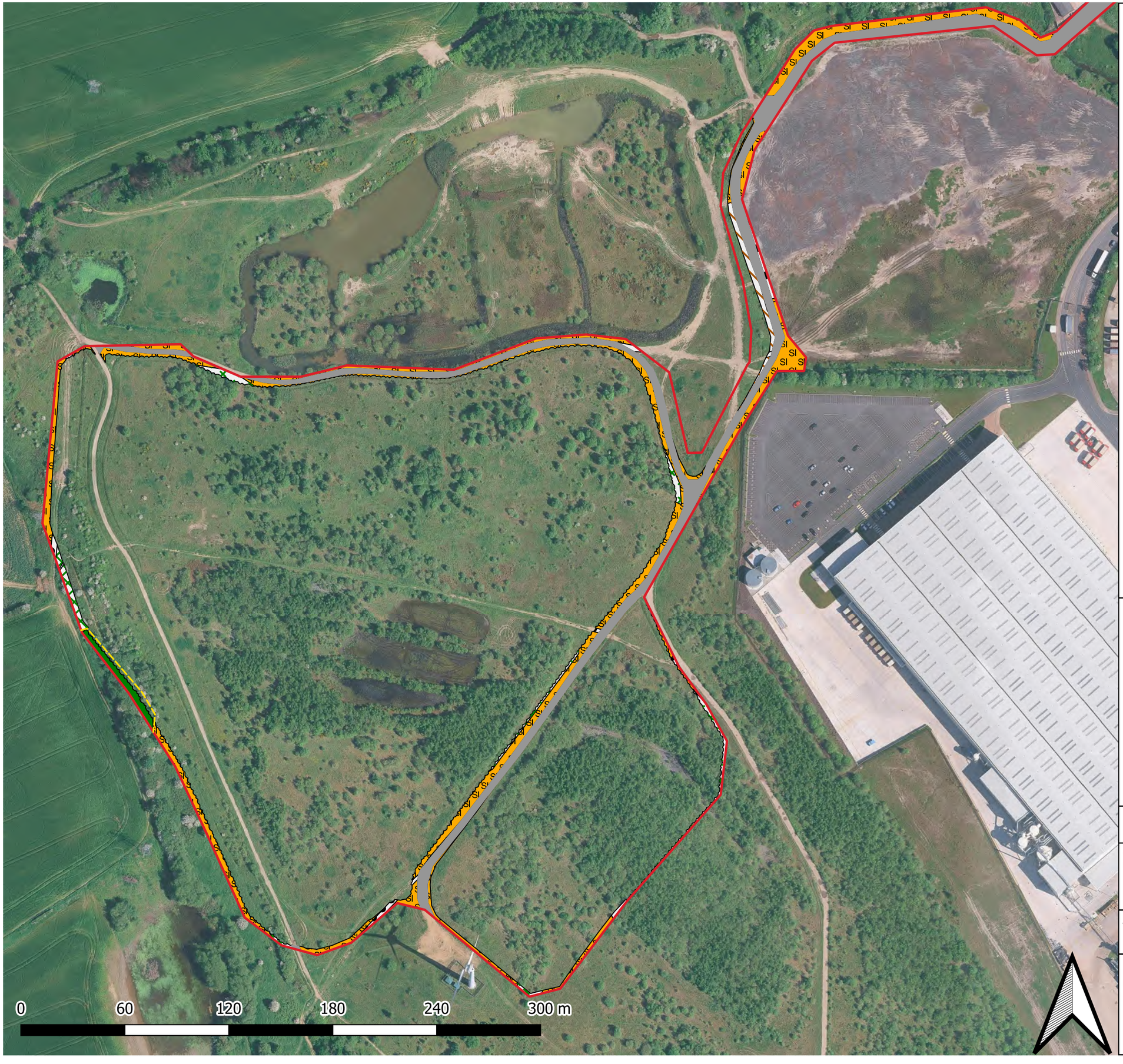
APPENDIX IV
ANNUAL WORK PLAN

ANNUAL WORK PLAN					
MANAGEMENT REQUIRED	**FREQUENCY OF MONITORING**	**REMEDIAL MEASURES**	**TIME OF YEAR WORKS ARE UNDERTAKEN**	**PROTECTED SPECIES CONSTRAINTS**	**ECOLOGICAL SUPERVISION REQUIRED?**
RETAINED BROADLEAVED WOODLAND					
Pruning	Every two years during first 10 years. Subsequently every 5 years	Removal of diseased trees. Natural deadwood to remain *in situ*.	September to February	Birds- Will avoid nesting bird season where possible.	No (if undertaken outside of nesting bird season).
Control of invasive species	Ongoing	Continued control	September to November	N/A	No
PROPOSED WILDFLOWER MEADOW, RETAINED OTHER NEUTRAL GRASSLAND AND RETAINED RUDERAL/EPHEMERAL					
Control of invasive species	Ongoing	Continued control	September to November	N/A	No
Annual cut to a minimum of 150mm	Annual	Encroaching scrub and noxious weeds cleared at this time.	September to November	Reptiles, Amphibians and Hedgehog – ECoW to check for species prior to management.	Yes
Control of weeds, if required	Annual	Removal by hand or spot use of chemicals.	September to November	N/A	No
PROPOSED SCRUB PLANTING, RETAINED BRAMBLE SCRUB AND WILLOW SCRUB					
Scrub clearance.	Every two years during first 10 years. Subsequently every 5 years	Monitor scrub to ensure there is not excessive encroachment into grassland areas.	September to November	Birds- Will avoid nesting bird season where possible.	No (if undertaken outside of nesting bird season).
Rotational coppicing	10 to 15 years	Coppicing of native species to encourage understory growth to allow age range	September to November	Birds- Will avoid nesting bird season where possible.	No (if undertaken outside of nesting bird season).
PROPOSED TREES					
Check stakes and ties	During each visit	Adjust/replace if necessary	All year	N/A	No

MANAGEMENT REQUIRED	FREQUENCY OF MONITORING	REMEDIAL MEASURES	TIME OF YEAR WORKS ARE UNDERTAKEN	PROTECTED SPECIES CONSTRAINTS	ECOLOGICAL SUPERVISION REQUIRED?
Water availability	Each visit	Ensure sufficient water is applied to all new trees, particularly during establishment.	N/A	N/A	No
Base of trees maintained	During each visit	Maintain a grass & weed free area at the base of each tree	All year	N/A	No
Pruning	Annually	Undertake formative pruning of young trees to encourage good growth & shape.	As required	Birds - Will avoid nesting bird season (March to September, inclusive) where possible.	No (if undertaken outside of nesting bird season).
Slow-release fertiliser (if required)	Once a year	N/A	March/April	N/A	No
Check trees for signs of deterioration or distress	Ongoing	Replacement of any dead, dying, diseased or lost trees	As required	Birds - Will avoid nesting bird season (March to August, inclusive) where possible.	No (if undertaken outside of nesting bird season).
Replacement of dying trees	Annually	After 5 years, dead, dying diseased or lost trees shall be replaced with a standard tree of the same species	As required	Birds - Will avoid nesting bird season (March to August, inclusive) where possible.	No (if undertaken outside of nesting bird season).
Tree inspections	Annually / After storm events	Within areas that have public access, tree conditions will be reviewed annually to ensure no risk from public from damaged / dead trees.	Annually	N/A	No
GENERAL MAINTENANCE OPERATIONS					
Bat boxes, bird boxes, hibernacula and hedgehog houses	Years 1, 2 and 5 post-developments	Replacement if damaged	October – February to avoid nesting birds / roosting bats	Hedgehog – Will avoid hedgehog hibernation season (December to March, inclusive)	No

				Birds - Will avoid nesting bird season (March to September, inclusive) where possible. Bats – Will avoid roosting bats season (May to September, inclusive)

APPENDIX V
HABITAT RETENTION AND PROTECTION MEASURES PLAN



Key:

- Site boundary
- Tree Protection Fencing
- Retained hardstanding
- Retained scattered scrub
- Retained broadleaved woodland
- Retained tall ruderal
- Retained bare ground
- Retained semi-improved grassland
- Retained dense scrub

Notes

Issue:	Revision:	Date:	Drawn:	Authorised:
1	1	04/02/2025	CJ	CK

Client: Oakland Golf and Leisure (UK) Ltd	Job No. 81-523	Date: 04/02/2025
	Drawing No. 81-523-005	Scale: 1:3500 @ A3
Job title: Land at Ferry Moor Lane, Barnsley	Drawing title: Habitat Retention and Protection Plan	

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APPENDIX VI
SPECIES ENHANCEMENT PLAN

Key:

- Site boundary
- Hedgehog houses x5
- Bat boxes x6
- Bird boxes x7
- Egg laying heap x7
- Hibernacula x7
- Retained hardstanding
- Retained broadleaved woodland
- Retained dense scrub
- Retained scattered scrub
- Retained neutral semi-improved grassland
- Retained tall ruderal
- Retained bare ground
- Proposed ponds
- Proposed wet ditch
- Proposed small sized trees
- Proposed wildflower meadow (Other neutral grassland) Moderate condition
- Proposed hardstanding (Developed land, sealed surface)
- Proposed wildflower meadow (Other neutral grassland) Good condition
- Proposed scrub planting (Mixed scrub)

Notes:

Issue:	Revision:	Date:	Drawn:	Authorised:
1	1	05/02/2025	HB	CK

Client: Oakland Golf and Leisure (UK) Ltd	Job No. 81-523	Date: 05/02/2025
	Drawing No. 81-523-006	Scale: 1:3400 @ A3
Job title: Land at Ferry Moor Lane, Barnsley	Drawing title: Species Enhancement Plan	

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