



Habitat Management & Monitoring Plan

Brough Park Leisure Centre, Brough Park, Leek, ST13 6AT

Speller Metcalfe Malvern Ltd

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Contents

1.0 Introduction and Context

1.1 Survey background

1.2 Site Location and Existing Site Character

1.4 Proposed Site Plan

1.5 Purpose and Scope of this Report

2.0 Habitat Management Plan Details

2.1 Habitat Parcels Existing and Proposed, with Objectives

2.2 Creation and Management of Habitats

2.3 Sourcing Native Flora Advice for Creation Proposals

2.4 Personnel Responsible

2.5 Legal Security of the BNG Units

2.6 Monitoring

3.0 Bibliography

4

4

4

4

7

8

8

12

18

18

18

18

20

1.0 Introduction and Context

1.1 Survey background

Arbtech Consulting Ltd was commissioned by Speller Metcalfe Malvern Ltd to produce a Habitat Management and Monitoring Plan (HMMP) for Brough Park Leisure Centre, Brough Park, Leek, ST13 6AT.

This report should be read in conjunction with the following documents:

- Statutory BNG - Brough Park Leisure Centre – V3 – 27-08-2024
- PEA and PRA - Brough Park Leisure Centre, ST13 6AT - V3 - 14-04-2024
- Biodiversity Net Gain Proposed Plan – DWG No. 80002 P03

1.2 Site Location and Existing Site Character

The site is located at National Grid Reference SJ 98637 56999 and has an on-site area of 1.2868ha. The wider site (offsite) is centred on National Grid Reference SJ 98690 57031 and has an area of 0.6068ha. The onsite habitats include a building, hard standing, modified grassland, introduced shrubs, and individual trees. The offsite habitats include hard standing, modified grassland, individual trees, and a native hedgerow. A baseline habitat plan is provided in Figure 1 below.

1.4 Proposed Site Plan

The proposals include the extension and refurbishment of existing leisure centre including new swimming pools, extended fitness gym and associated parking. The post development site plan is included as Figure 2 below.



Figure 1: Baseline Habitat Map



Figure 2: Post development site plan

1.5 Purpose and Scope of this Report

The purpose of this report is to provide detailed guidance for the creation and long-term management of habitat units to comply with the Biodiversity Net Gain (BNG) metric within the development site. This will be through a HMMP for the ecological parcels on site targeted for unit generation.

This strategy provides:

- Site information: A description and evaluation of the features to be managed following completion of the development.
- Management aims and objectives: The broad conservation management objectives for the site to which all subsequent instruction and actions relate are set out.
- Management works: The specific measures to be conducted on site to reach the aims and objectives.
- Management timings: The timings of the management works.

This HMMP has been produced in accordance with BS 8683: Process for designing and implementing biodiversity net gain – Specification, BS 42020:2013 Biodiversity – Code of Practice for Planning and Development Section 11.1 in addition to the Chartered Institute for Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing.

The landowner shall be responsible for safeguarding the environment and for mitigating the effects of the works and development by implementing the general environmental requirements outlined in the specific requirements of the management plan.

Design statement

This report contains recommendations on measures for achieving a BNG. These recommendations do not constitute a design for BNG. In submitting these recommendations, Arbtech Consulting has no Design Liability associated with these recommendations for BNG. The strategy sets out the criteria which the landscape team can use to design the creation and management of the site.

2.0 Habitat Management Plan Details

2.1 Habitat Parcels Existing and Proposed, with Objectives

The following habitats proposed on site do not require management and monitoring and as such are not discussed further in this report:

- Developed land; sealed surface (retained and created buildings, and hard standing).
- Retained modified grassland.
- Retained introduced shrubs.
- Retained native hedgerow.

The following habitats have been recommended to ensure that the project achieves net gain, and are therefore included within the scope of this report:

- Creation modified grassland – **habitat parcels 1**
- Creation individual trees – **habitat parcels 2**
- Enhancement of modified grassland to other neutral grassland – **habitat parcels 3**

Habitat Parcel 1 – Modified grassland

Existing habitat: Developed land; sealed surface (hard standing).

Proposed habitat: an area of 0.002ha of modified grassland will be planted to reach poor condition within 1 years.

Criteria of success:

The satisfaction of the following BNG condition criteria for the proposed habitat:

Passes **3 or fewer** criteria or passes **4-6** criteria (excluding criteria A) (for poor condition):

- A. "There are 6-8 vascular plant species per m2 present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.
Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet. "
- B. 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 vertebrates and invertebrates to live and breed.
- C. **"Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type."**
- D. **Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.**
- E. **Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)².**
- F. **Cover of bracken *Pteridium aquilinum* is less than 20%.**
- G **There is an absence of invasive non-native plant species³ (as listed on Schedule 9 of WCA4).**

Habitat Parcel 2 – Tree planting

Existing habitat: Modified grassland of poor condition.

Proposed habitat: Subject to the planting of 14 small trees that are all expected to reach good condition within 30+ years.

Criteria of success:

The satisfaction of the following BNG condition criteria for the proposed habitat:

Passes at **least 5** of the following criteria (for good condition):

- A. The tree is a native species (or at least 70% within the block are native species).**
- B. The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).**
- C. The tree is mature (or more than 50% within the block are mature).
- D. There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity).
And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.**
- E. Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.**
- F. More than 20% of the tree canopy area is oversailing vegetation beneath.**

Habitat Parcel 3 – Enhanced Grassland

Existing habitat: Modified grassland of poor condition.

Proposed habitat: Poor modified grassland to be enhanced to other neutral grassland of good condition within 15 years.

Criteria of success:

The satisfaction of the following BNG condition criteria for the proposed habitat:

Passes at **least 5** of the following criteria, including essential criterion A and additional criterion F (for good condition):

A. "The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).¹

Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only."

B. 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.

C. Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens².

D. Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.

E. "Combined cover of species indicative of suboptimal condition³ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.

If any invasive non-native plant species⁴ (as listed on Schedule 9 of WCA⁵) are present, this criterion is automatically failed."

F. "There are 10 or more vascular plant species per m² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count).

Note - this criterion is essential for achieving Good condition for non-acid grassland types only."

2.2 Creation and Management of Habitats

This section details the habitat creation and management instructions for the site to ensure that the above aims can be achieved.

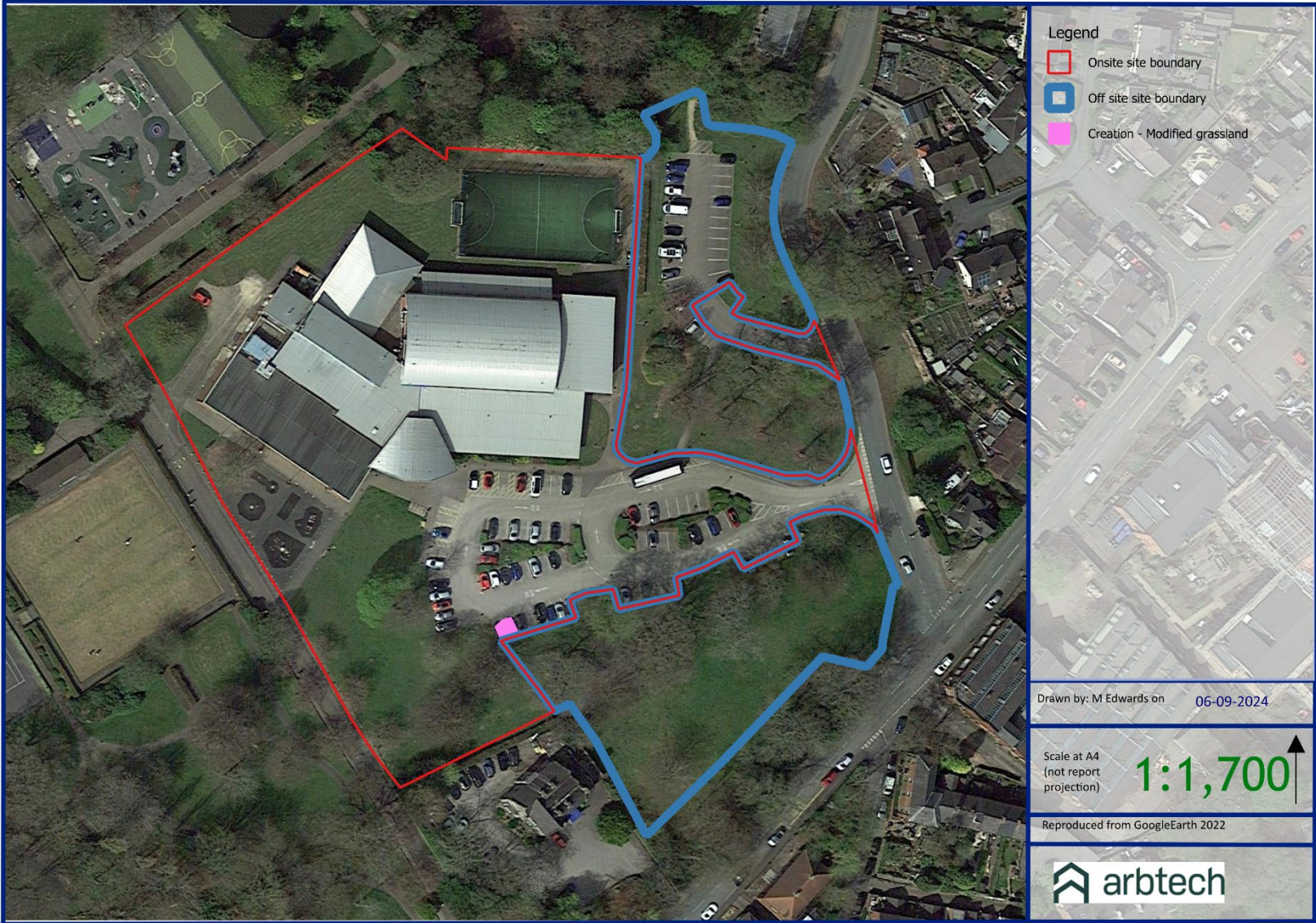
Habitat Parcel 1 – Modified grassland

Existing habitat: Developed land; sealed surface (hard standing).

Proposed habitat: an area of 0.002ha of modified grassland will be planted to reach poor condition within 1 years.

Creation: Once the land has been cleared to bare earth, the soil should be rolled or stamped to produce a firm surface ready for seeding. Based on LandIS soil map information the site has “slowly permeable seasonally wet acid loamy and clayey soils” soil type. As such appropriate seed mixes have been suggested. Seeding should be undertaken in the spring between April and May. A EG22 strong lawn grass mixture is proposed to be utilised to help create a minimum of four species per m2 of grassland and retain a species composition consistent with the UKHabs definition of modified grassland. The proposed seed mix combination includes common bent, red fescue, perennial rye grass and smooth-stalked meadow grass. After sowing, seeds will be ‘bedded’ in by trampling or light rolling.

Management: Once seedling grasses are established, lightly roll or tread to firm and level the soil around the grass roots ready for the first cut. This step cannot be completed whilst grassland is saturated with water. Once established, grassland can be mown regularly as required throughout the growing season



Map 3: Parcel 1 – Creation of modified grassland

Habitat Parcel 2 – Tree planting

Existing habitat: Modified grassland of poor condition.

Proposed habitat: Subject to the planting of 14 small trees that are all expected to reach good condition within 30+ years.

Creation: The trees should be purchased as a ‘whips’, i.e. a young bare root sapling a year old. The trees should be kept in their protective bag during transportation and planted within 4 days, after being kept in a frost-free environment and watered regularly. Planting should take place between November to March. Tree species should be chosen from the list below:

Alder ***Alnus glutinosa***

Bay willow ***Salix pentandra***

Pedunculate oak ***Quercus robur***

Bird cherry ***Prunus padus***

Silver birch ***Betula pendula***

Field maple ***Acer campestre***

Rowan ***Sorbus aucuparia***

Wild cherry ***Prunus avium***

Pear ***Pyrus sp.***

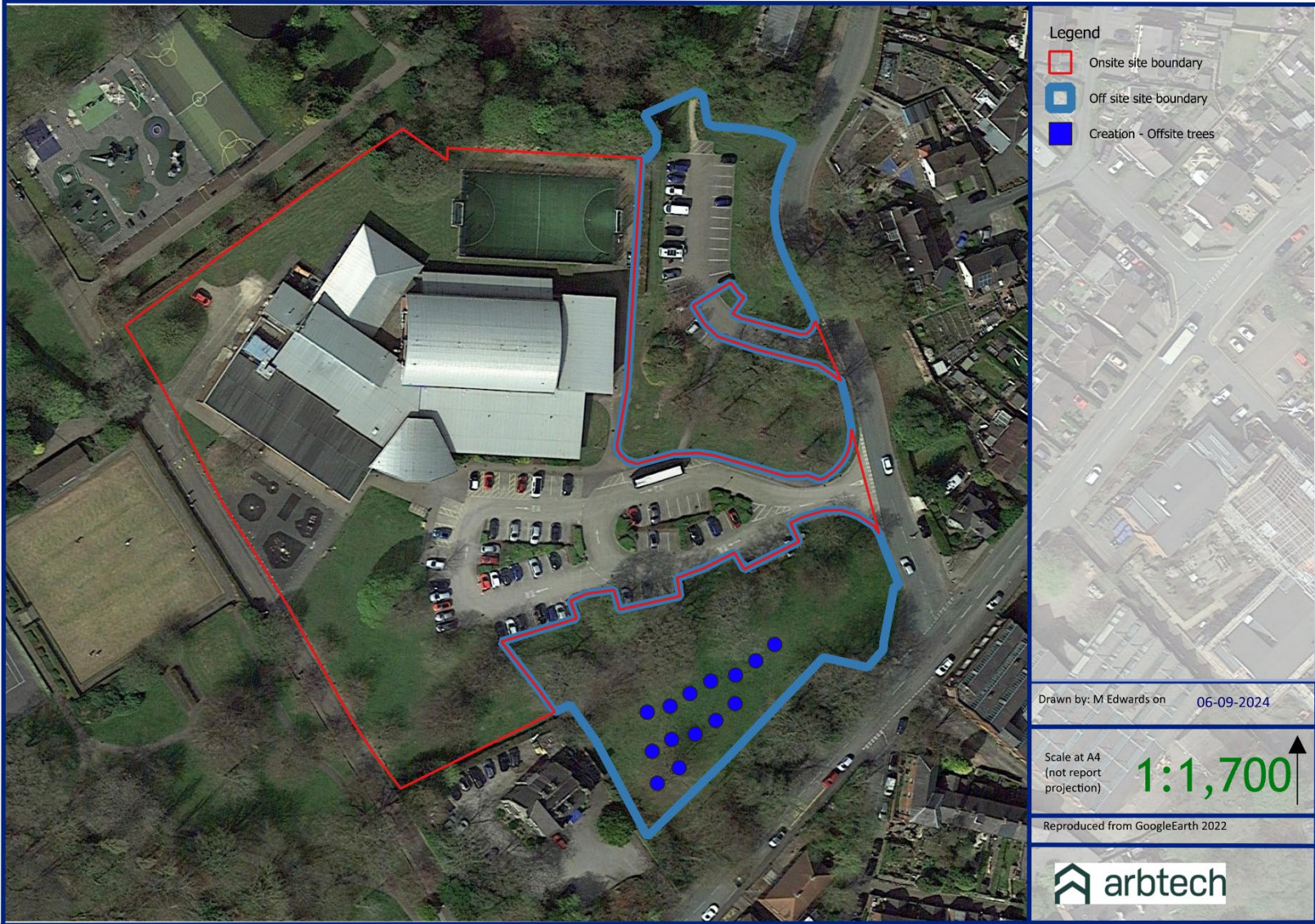
Yew ***Taxus baccata***

Hawthorn ***Crataegus monogyna***

Soil preparation: Remove any weeds or stones. Rotovate the soil and incorporate organic matter. The ground should not be frozen or waterlogged. In heavy clay or other difficult soils, a trench may need to be dug for planting.

After planting: Water the trees and add a layer of mulch to reduce weed competition to the growing sapling. Assess newly planted tree immediately after the development is completed and replace any failures with another tree of the same species. Top up the mulch where necessary and water monthly or when dry.

Management: Any plants that die in the first 5 years will need to be replaced. Pruning should be undertaken outside the period 1st March to 31st August to avoid disturbing nesting birds.



Map 4: Parcel 2 – Newly planted native trees.

Habitat Parcel 3 – Other neutral grassland

Existing habitat: Modified grassland of poor condition.

Proposed habitat: Poor modified grassland to be enhanced to other neutral grassland of good condition within 15 years.

Creation: Once the land has been cleared to bare earth, the soil should be rolled or stamped to produce a firm surface ready for seeding. Based on LandIS soil map information the site has “slowly permeable seasonally wet acid loamy and clayey soils” soil type and as such appropriate seed mixes have been suggested. Seeding should be undertaken in the spring between April and May. A combination of three seed mixes is proposed. Specifically, a 50/50 mix of Emorsgate General Purpose Seed Mix EM2 and EM5 Meadow Mixture for Loamy Soils are proposed to be utilised. This combination of seed mixes will help create a minimum of 9 species per m² of grassland and retain a species composition consistent with the UKHabs definition of other neutral grassland. The proposed seed mix combination includes numerous grassland and wildflower species suitable for loamy dominated soils. Notably, the species mix includes yellow rattle which is known to suppress dominant grass species which will allow existing grasses within the seed bank to colonise whilst preventing dominance and thus increasing species diversity per m². After sowing, seeds will be ‘bedded’ in by trampling or light rolling.

Management: Management required annually is to cut twice a year; one cut in late March/early April and the second late August/early September. This ensures the meadow does not grow excessively long and become rank but allows wildflowers to set seed and invertebrates to breed. This will also allow a diverse sward of varying lengths to naturally occur in accordance with growth characteristics of each species. Cutting twice annually will also prevent encroachment of scrub and bracken. Cut grass as to provide a heterogeneous habitat structure aiming to maintain at least 20% of grass <7cm and 20% >7cm. As such, each cutting phase must cut 20% of the area to ground level, 60% of the area to 15cm, and the remainder to 30cm. These areas must be rotated each year to maintain a diverse sward. Turn and dry the cut grass over 3-5 days before removing arisings off site. This allows the seeds to drop encouraging species diversity and invertebrates to relocate unharmed. Chemical fertilisers must not be used. The use of chemical fertilisers will encourage vigorous grasses and weeds to grow or cause large areas of bare ground due to inhospitable growing conditions.



Map 4: Parcel 3 – Grassland enhancement

2.3 Sourcing Native Flora Advice for Creation Proposals

Any plants introduced in the scheme will need to be of appropriate native grown origin, and ideally from locally sourced stock. Suppliers should be able to source-identify the stock and will need to be asked to do so before purchase.

2.4 Personnel Responsible

The landowner shall consult with a dedicated environmental specialist team and any other relevant specialist deemed to be necessary in discharging the BOMP obligations. The roles and responsibilities may be amalgamated with those of others (such as the project manager), provided that the individual's experience and qualifications meet the cumulative requirements of both roles and responsibilities.

Management will be undertaken by an appropriate management agent, appointed by the owner when necessary. An experienced ecologist may also be consulted with, where necessary.

2.5 Legal Security of the BNG Units

It is critical to the delivery of the site's BNG units, that their management and retention are secured for at least 30 years for use as compensation. It cannot be considered counted until it is legally secured. A 'conservation covenant' or planning obligation is recommended for the land to achieve this. This should cover to following:

- To require a competent person to carry out the works for the purpose of habitat enhancement.
- For the works to commence as soon as feasible and no more than 12 months after discharge of developer's Net Gain Condition (or else metric penalises developer in terms of units gained)
- Requiring a person to maintain the enhancement for 30+ years after completion of the enhancement works
- Monitoring and reporting

2.6 Monitoring

Regular monitoring of the ecological effects of the management prescriptions will be crucial in assessing whether the management regime is delivering the desired outcomes in terms of the aims of management outlined above and is likely required as part of the site's planning commitments.

- A monitoring report is to be created every 5 years for 30 years total, with survey and remedial actions to meet the management aims outlined per parcel per monitoring year.

- Each report will include evidence of source-identification for any local plants as necessary.

After 30 years of management, and the conservation covenant expires, then these areas can be released for other uses – although the enhanced site at completion would be the baseline for BNG.

3.0 Bibliography

- Arbtech (2024). Preliminary Ecological Appraisal
- Arbtech (2024). Biodiversity Net Gain Assessment
- Environment Act (2021)
- National Planning Policy Framework (2021)
- BS 8683:2021 Process for designing and implementing Biodiversity Net Gain