

# Habitat Management and Monitoring Plan

<b>Site Name:</b>	The Seam, Barnsley
<b>Date:</b>	21/05/2025
<b>Version:</b>	V2



Author: James Streets

Client: Willmott Dixon

Director

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## Version Control

Version	Issue Status		Prepared by / Date	Approved by / Date
V.1	Draft		James Streets/ 22 <sup>nd</sup> April 2025	
V.2	Final		James Streets 21 <sup>st</sup> May 2025	

## Document Details.

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# 1. Project Background

Site Overview PB-B01	
<b>Project type</b>	On-site BNG Provision
<b>Development Name and Address</b>	The Seam, Barnsley
<b>BNG Project Name and Address</b>	24103 BNG v4; The Seam Barnsley
<b>Author Organisation</b>	OS Ecology Ltd
<b>Landowner</b>	Barnsley Metropolitan Borough Council
<b>Land Manager</b>	Barnsley Metropolitan Borough Council
<b>Responsible person/organisation for creating or enhancing the habitat</b>	Gavin Jones Ltd
<b>Period covered by this management plan</b>	2025 – 2055 and 5-year update
<b>Planning authority</b>	Barnsley MBC
<b>Planning reference (if applicable)</b>	20241060
<b>BNG register reference (if applicable)</b>	N/A-onsite
<b>Central OS grid reference</b>	SE346067
<b>Metric revision/title</b>	Statutory Metric dated 21 <sup>st</sup> May 2025
<b>Are any Irreplaceable Habitats present onsite</b>	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>

## Summary of Management Plan

### Habitats to be Retained, Created and Enhanced PB-B02

It is proposed to create the following habitats on site;

Introduced shrubs – condition assessment not applicable – 0.127ha

Other neutral grassland - poor condition - 0.0549ha

Vegetated garden – condition assessment not applicable – 0.1112

Urban Trees – poor condition – 0.2891ha (71 no.)

It is also proposed to enhance an area of other neutral grassland from poor to moderate condition.

For the purposes of this document, it is assumed that post habitat creation, areas of introduced shrub and vegetated gardens will have limited management requirements as their condition is not assessed within the BNG metric.

### Timescales for Actions PB-B03

Habitat creation / enhancement will be undertaken within the first 12 months of the document, 2025/2026. TBC

### Monitoring Requirements PB-B04

Monitoring will be undertaken in the following years post commencement enhancement and management actions:

- Year 0 (initial enhancement and creation year)
- Year 1
- Year 3
- Year 5
- Every 5 years thereafter for 30 years in total.

This will be done as part of a 30-year plan to ensure a net gain for the 30 year period.

The land manager will be responsible for ensuring that the proposals are monitored by a suitably qualified ecologist and findings reported to Barnsley MBC.

The condition will be assessed based on the applicable DEFRA condition assessment document at the time of the issue of the monitoring document and a report will be produced to be submitted to the local authority based on or using the DEFRA monitoring template. This will include an assessment of the current habitat condition and any recommendations regarding management. This will include a baseline habitat to UK Habs level incorporating a species list for each habitat and photos of the habitats.

### Required Consents and Licences PB-B05

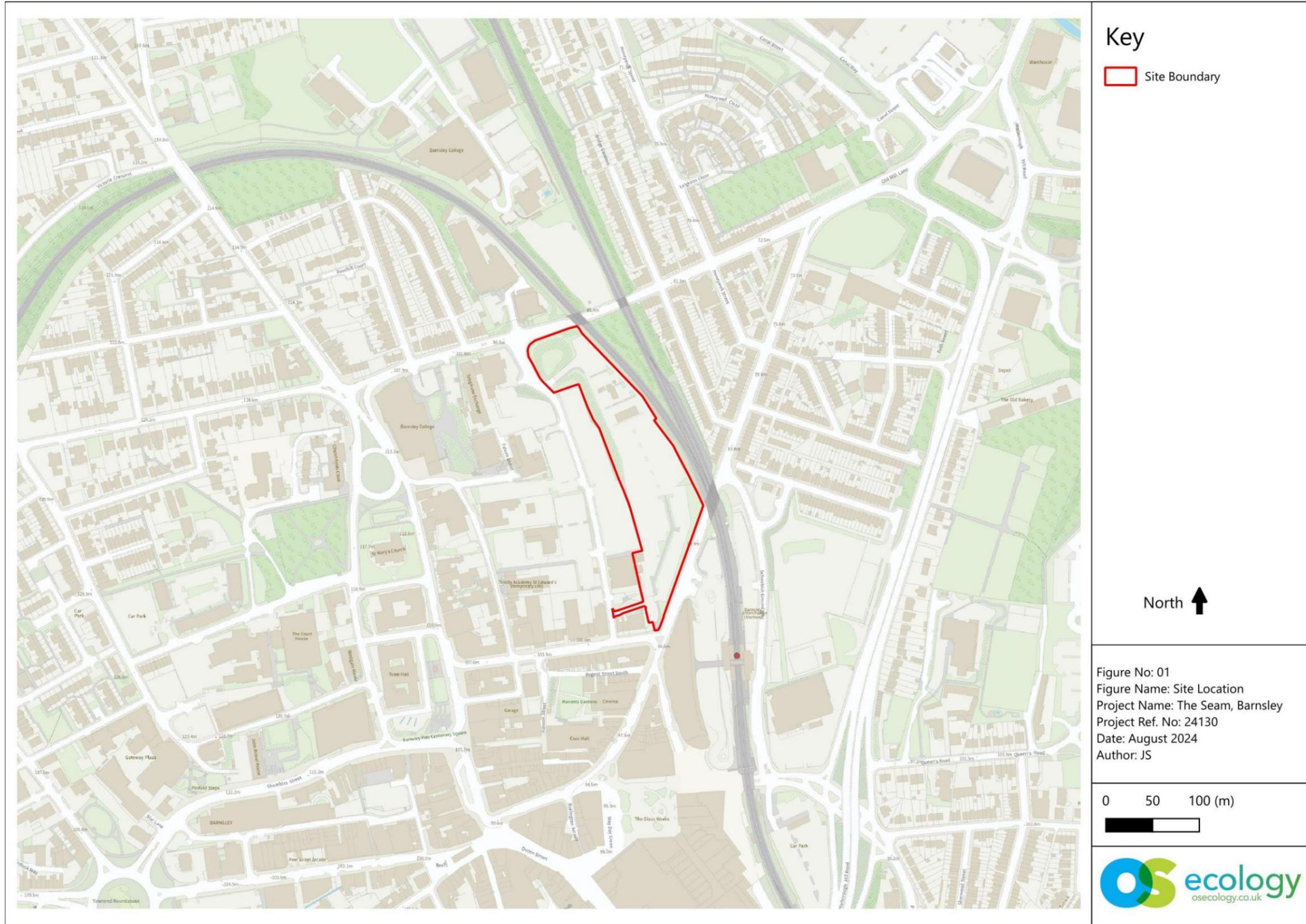
None that the client is aware of.

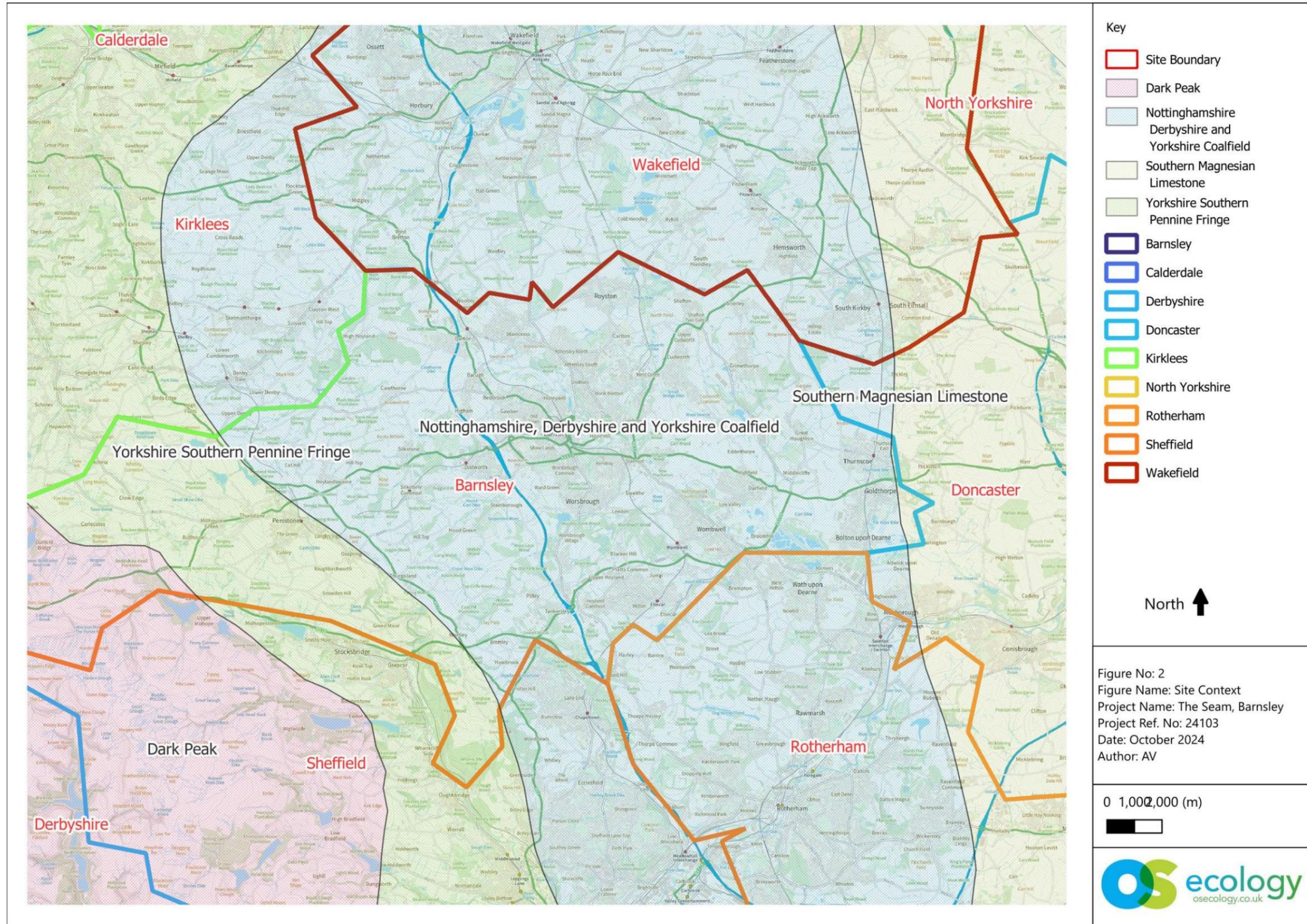
**Funding** PB-B06

Maintenance costs will be covered by Barnsley MBC.

**Legal Agreement** PB-B07

The planning consent for the site will secure the delivery of the HMMP.





## Phasing strategy

Will the proposed work measures be delivered in phases? PB-B08		Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
No			

## Roles and Responsibilities

Provide details of the responsible persons and organisation(s) for delivering this management plan.

Ecologist or Other Professional Responsible for HMMP PB-B09				
Name or Initials	James Streets			
Organisation	OS Ecology			
Responsibility	Start Date:	April 2025	End Date:	May 2025
The ecologists have been responsible for the base-line habitat surveys of the site, a Biodiversity Net Gain Feasibility Report, a Statutory Biodiversity Metric and the production of this HMMP.				
Statement of Competency				
Report writing was undertaken by James Streets CEcol MCIEEM, an experienced ecological surveyor who holds protected species licences for a range of protected species.				
Review of the HMMP was undertaken by Mark Osborne CEcol MCIEEM, an experienced surveyor who holds protected species licences for a range of protected species and holds a Field Identification Skills Certificate (FISC) level 5 certificate. He has worked in Ecology for over 20 years and has undertaken Biodiversity Net Gain Assessments and Habitat Management and Monitoring Reports across a range of sites.				

Landowner or Land Manager PB-B10				
Name or Initials	Barnsley MBC			
Organisation	Barnsley MBC			
Responsibility	Start Date:	2025	End Date:	2055
The landowner will be responsible for the habitat enhancement approaches, the management approaches and the future monitoring of the site as detailed within this HMMP.				
Statement of Competency				
The landowner will assess each task based on its complexity and risk level, deciding whether to carry out the work personally or appoint a suitably qualified contractor. For low-risk, simple tasks, the landowner may perform the work, ensuring proper training and safety measures. For moderate-risk tasks, the landowner will either handle them if competent or hire a contractor with relevant experience. For high-risk or complex work, such as machinery operation, a qualified contractor will be hired with the necessary licenses, certifications, and insurance. The landowner will ensure all work is properly documented, compliant with regulations, and regularly monitored.				

Management Organisation(s) Responsible for Implementing the HMMP PB-B11				
Name or Initials	Barnsley MBC will be responsible for appointing an ecologist to implement monitoring requirement and a grounds maintenance contractor to implement maintenance set out in the HMMP.			
Organisation	Barnsley MBC			
Responsibility	Start Date:	2025	End Date:	2055
TBC				
Statement of Competency				
TBC				

LPA or Responsible Body for Reviewing HMMP PB-B12				
Name or Initials	Barnsley MBC			
Organisation	Barnsley MBC			
Responsibility	Start Date:	2025	End Date:	2055

This document is to be adhered to as part of the planning consent for the site.

## Land Use Summary

### Overview of Baseline Site Use PB-B13

The site comprises an area of carpark which has a small number of trees, grassland and woodland within it or at its peripheries. There is also an older stone built wall forming the part of the western site boundary with a building located partially within the site to the west.

### Overview of Proposed Site Use PB-B14

It is proposed to:

- Alter the arrangement of the car park and provide new areas of public open space and landscaping comprising:
- The creation of other neutral grassland to the east of the site, areas of open space to the south of the site including grassland, tree planting and introduced planting
- The retention and protection of a number of the trees on site.

## Site Context Photos PB-F03

Please include two overview photographs of the site in its current form here. Include additional photographs in an appendix if needed. Tick if additional photographs are provided in the Appendices



## Site Baseline, Environmental Information and Associated Impacts Checklist PB-

T01

Baseline and Environmental Information	Prompts for when these may be relevant. This is not an exhaustive list. Use your professional judgement to determine which are required for your HMMP	Check box if included	Document Reference or Reason if not included
<b>Statutory / Non-statutory Designated Sites</b>	Will your proposals lead to direct or indirect effects on designated sites?	<input checked="" type="checkbox"/>	No, the site is sufficiently distant to not impact on designated sites. Site records are shown on the accompanying EclA Report.
<b>Protected and Notable Species</b>	Does the presence or proximity of specific species on or near your site present any constraints or opportunities to project design or management?	<input checked="" type="checkbox"/>	There are records of a bat roost and nesting birds on site, however the proposals will enhance the site for these species rather than degrade them.
<b>Invasive Non-Native Species (INNS)</b>	Are any INNS present onsite that could affect the proposals?	<input type="checkbox"/>	No INNS have been recorded within the proposed site area which will impact on the proposals.
<b>Biological Records Plan - Sites and Species</b>	Does the presence of designated sites or specific species on or near the site present any constraints or opportunities to proposals?	<input type="checkbox"/>	Records were provided by the local records centre for all protected and notable species within 2km of the site. The full data search can be provided on request. No specific species were noted which present a constraint to proposal.
<b>Baseline Habitats Survey</b>	Is this current and important HMMP information located in a separate document? If so, provide details on where it is located.	<input checked="" type="checkbox"/>	The baseline is provided below.
<b>Public Access</b>	Has public access, or proposals to allow public access, influenced your management prescriptions? If so, how?	<input checked="" type="checkbox"/>	Yes, the design has been targeted to increasing the areas of public open space on site allowing better public access and management proposals, as well as the conditions targeted for the habitat types have taken this into account.
<b>Climate</b>	Are local climate conditions and, or, climate change likely to impact the target habitat retention, creation or enhancement?	<input type="checkbox"/>	The enhancement proposals chosen are unlikely to be impactable by climate. Climate is therefore not considered a significant constraint to the proposals.
<b>Geology and Topography</b>	Any geological or topographical constraints or opportunities?	<input type="checkbox"/>	No geological or topographical constraints have been identified.
<b>Agricultural Land Status</b>	Does the site support any land favourable for agricultural management? Could this affect the proposals?	<input type="checkbox"/>	Land not favourable for agricultural management.
<b>Soils and Substrates</b>	Do soils and substrates present any constraints or opportunities?	<input type="checkbox"/>	The underlying soil condition for the area is unknown due to the area being a carpark currently. Given the proposals and that the site has not been historically used for agriculture, no constraints are likely with the substrates and it should be suitable for additional seed planting, with the nature of the soils present likely to require additional materials to be added which can be controlled if needed.
<b>Contaminated Land</b>	If there is any contaminated land, will this present any constraints?	<input type="checkbox"/>	No issues with contamination are known for the site.
<b>Hydrology and Drainage</b>	Will the site hydrology present any constraints or opportunities?	<input type="checkbox"/>	No issues with hydrology are known for the site.
<b>Flood Risk Zones</b>	Is the site within a flood risk zone? Will that present any site management risks?	<input type="checkbox"/>	This location is largely within flood zone 1. Land within flood zone 1 has a low probability of flooding from rivers and the sea, Flood zone 2 has a medium risk whilst flood zone 3 has a high probability of flooding from rivers and the sea. Given the proposals this is not considered a major constraint.
<b>Landscape Character and Designations</b>	Does the landscape character of the site present any constraints or opportunities?	<input type="checkbox"/>	The site lies within the Nottinghamshire, Derbyshire and Yorkshire Coalfields National Character Area. The proposals provide opportunities to help to meet the environmental opportunities for this area.
<b>Historic Land Use</b>	Does the historic land use present any constraints or opportunities?	<input type="checkbox"/>	No constraints issues with historic land use are known for the site
<b>Historic Environment and Earth Heritage</b>	Are there any historic environment designations? What are the implications for your plan?	<input type="checkbox"/>	No constraints with historic environment features are known for the site and there are no statutory or non-statutory historic environment features designated within the site boundary.
<b>Other – please specify</b>	Any other details - for example underground services or overhead powerlines, which may impact habitat management.	<input type="checkbox"/>	N/A

## 2. Baseline and Environmental Records

### Biological Records

#### Designated Sites (BI-T01)

Site Name	Designation	Distance from Project Site	Potential Impact from Project
Dearn valley Park	Local Nature Reserve	1.5km east	None

#### Summary of Designated Sites (BI-B01)

The site lies within an identified Site of Special Scientific Interest (SSSI) Impact Risk Zone relating to designated sites in the wider area, however the nature of the development is not identified as a potential impact risk trigger.

No other effects on designated sites are predicted

#### Constraints and Opportunities for Project (BI-B02)

N/A

### Baseline Habitats Survey

#### Ecologist responsible for baseline surveys (BI-T03)

Name or Initials	James Streets
Organisation	OS Ecology
Survey Date	10 <sup>th</sup> August 2024

#### Statement of Competency

Survey was undertaken by James Streets CEcol MCIEEM. James has more than 15 years' experience as an ecological consultant on a wide range of projects and with a large variety of species and habitats. James has a degree in Zoology with Marine Zoology from the University of Wales, Bangor and a Master's degree in Environmental Consultancy from Newcastle University.

#### Survey conditions and limitations

Survey conditions can be seen below.

Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
10 <sup>th</sup> August 2024	19-17°C	10%	Dry	F2

There were not considered to be any significant limitations to the assessment.

## Habitat Degradation

Are there any signs or evidence that the baseline habitats have been purposefully degraded since 30<sup>th</sup> January 2020? (BI-B05)

There are no signs or evidence that the baseline habitats have been purposefully degraded since 30th January 2020.

If habitats have been purposefully degraded, provide details of how this has been accounted for (BI-B06)

N/A

## Baseline Habitat Descriptions and Condition

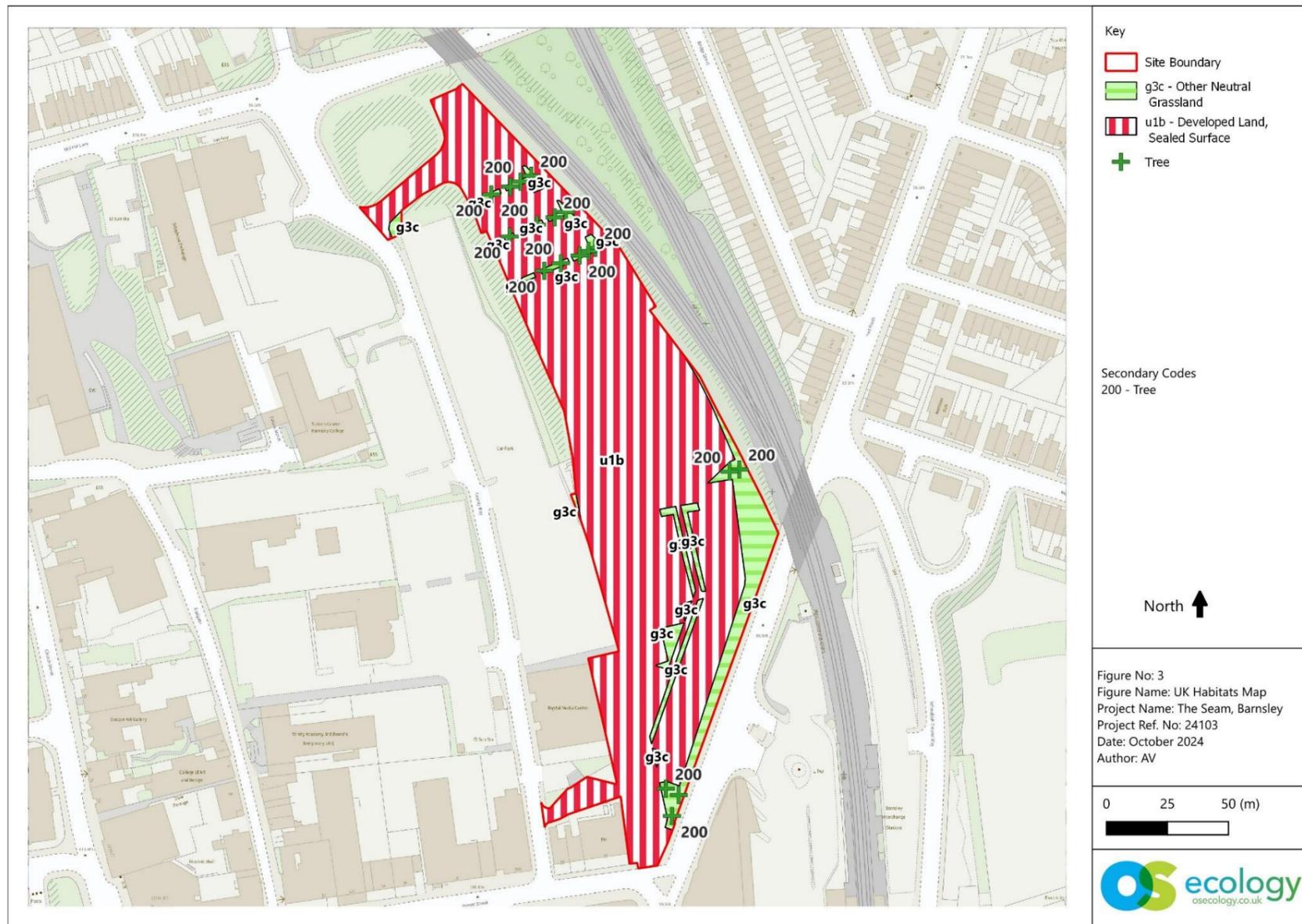
Habitats (BI-T04)

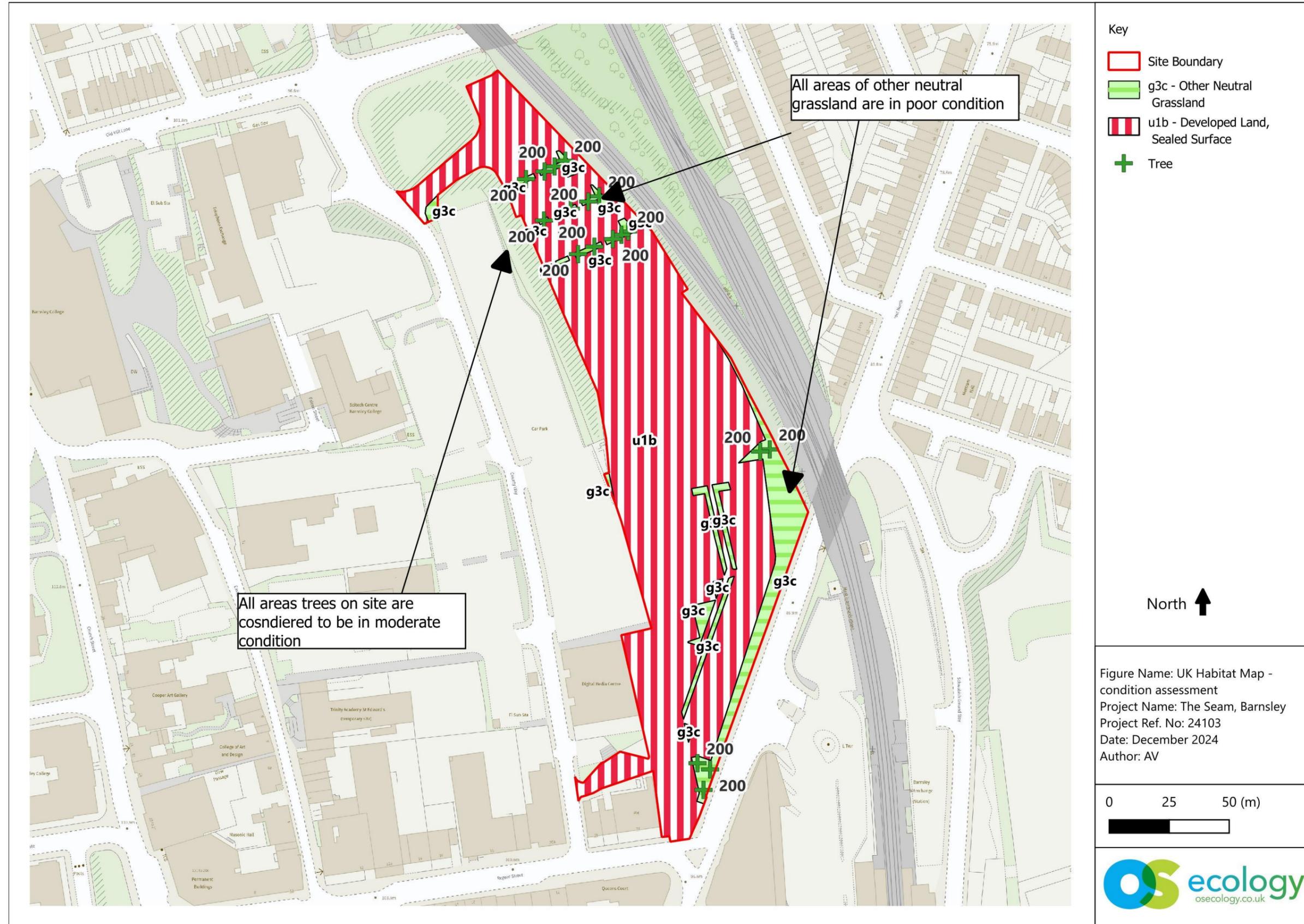
Parcel Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification				Condition	Area (ha)								
G1, G2, G3	Other neutral grassland	No	No	<p>The area of grassland is species poor and is managed with the arisings removed. Species recorded include nettle <i>Urtica dioica</i>, white campion <i>Silene alba</i>, Bracken <i>Pteridium aquilinum</i>, Sweet Vernal Grass <i>Anthoxanthum odoratum</i>, cocks-foot <i>Dactylis glomerata</i>, False Oat Grass <i>Arrhenatherum elatius</i>, Ragwort <i>Senecio jacobaea</i>, perforate St John's Wort <i>Hypericum perforatum</i>, Mugwort <i>Artemisia vulgaris</i>, Spear Thistle <i>Cirsium vulgare</i>, Common Mallow <i>Malva sylvestris</i>, Broadleaved Willowherb <i>Epilobium montanum</i>.</p> <p><b>Condition Sheet: GRASSLAND Habitat Type (Medium distinctiveness)</b></p> <p><b>UK Habitat Classification (UKHab) Habitat Type</b></p> <p><b>Grassland – Other Neutral grassland</b></p> <table border="1"> <tr> <td><b>On-site or off-site, site name and location</b></td> <td>On-site (including mitigation area)</td> <td><b>Survey date and Surveyor name</b></td> <td>10<sup>th</sup> August 2024 James Streets</td> </tr> <tr> <td><b>Limitations (if applicable)</b></td> <td>N/A</td> <td><b>Survey reference (if relating to a wider survey)</b></td> <td>N/A</td> </tr> </table>				<b>On-site or off-site, site name and location</b>	On-site (including mitigation area)	<b>Survey date and Surveyor name</b>	10 <sup>th</sup> August 2024 James Streets	<b>Limitations (if applicable)</b>	N/A	<b>Survey reference (if relating to a wider survey)</b>	N/A	Poor	0.1856
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				<p><b>Condition Assessment Criteria</b></p> <table border="1"> <tr> <td>A</td> <td>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).<sup>1</sup></td> <td>No</td> </tr> <tr> <td>B</td> <td>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.</td> <td>No</td> </tr> <tr> <td>C</td> <td>Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens<sup>2</sup>.</td> <td>Yes</td> </tr> <tr> <td>D</td> <td>Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.</td> <td>Yes</td> </tr> <tr> <td>E</td> <td>Combined cover of species indicative of suboptimal condition<sup>3</sup> 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.</td> <td>No</td> </tr> <tr> <td></td> <td>If any invasive non-native plant species<sup>4</sup> (as listed on Schedule 9 of WCA<sup>5</sup>) are present, this criterion is automatically failed.</td> <td></td> </tr> <tr> <td>F</td> <td>There are 10 or more vascular plant species per m<sup>2</sup> present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count).</td> <td>Yes</td> </tr> <tr> <td></td> <td><b>Note - this criterion is essential for achieving Good condition for non-acid grassland types only.</b></td> <td></td> </tr> <tr> <td colspan="2"><b>Essential criterion achieved (Yes or No)</b></td> <td>No</td> </tr> <tr> <td colspan="2"><b>Number of criteria passed</b></td> <td>3</td> </tr> </table>	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). <sup>1</sup>	No	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.	No	C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens <sup>2</sup> .	Yes	D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes	E	Combined cover of species indicative of suboptimal condition <sup>3</sup> 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.	No		If any invasive non-native plant species <sup>4</sup> (as listed on Schedule 9 of WCA <sup>5</sup> ) are present, this criterion is automatically failed.		F	There are 10 or more vascular plant species per m <sup>2</sup> present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count).	Yes		<b>Note - this criterion is essential for achieving Good condition for non-acid grassland types only.</b>		<b>Essential criterion achieved (Yes or No)</b>		No	<b>Number of criteria passed</b>		3		
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Trees	Urban Trees	No	No	<p><b>Condition Sheet: Individual Trees Habitat Type (Medium distinctiveness)</b></p> <p><b>UK Habitat Classification (UKHab) Habitat Type</b></p> <p><b>Individual Trees – Urban Trees</b></p> <table border="1"> <tr> <td><b>On-site or off-site, site name and location</b></td> <td>On-site (including mitigation area)</td> <td><b>Survey date and Surveyor name</b></td> <td>10<sup>th</sup> August 2024 James Streets</td> </tr> <tr> <td><b>Limitations (if applicable)</b></td> <td>N/A</td> <td><b>Survey reference (if relating to a wider survey)</b></td> <td>N/A</td> </tr> </table> <p><b>Condition Assessment Criteria</b></p> <table border="1"> <tr> <td></td> <td></td> <td><b>Criterion passed (Yes or No)</b></td> </tr> <tr> <td>A</td> <td>The tree is a native species (or at least 70% within the block are native species).</td> <td>No</td> </tr> </table>	<b>On-site or off-site, site name and location</b>	On-site (including mitigation area)	<b>Survey date and Surveyor name</b>	10 <sup>th</sup> August 2024 James Streets	<b>Limitations (if applicable)</b>	N/A	<b>Survey reference (if relating to a wider survey)</b>	N/A			<b>Criterion passed (Yes or No)</b>	A	The tree is a native species (or at least 70% within the block are native species).	No	Moderate	0.2687																
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A	The tree is a native species (or at least 70% within the block are native species).	No																																		

			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).	No		
			C	The tree is mature (or more than 50% within the block are mature) <sup>1</sup> .	Yes		
			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.	Yes		
			E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No		
			F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes		
			<b>Number of criteria passed</b>		<b>3</b>		

**Baseline Habitats Plan (BI-F02)**

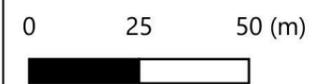




- Key
- Site Boundary
  - g3c - Other Neutral Grassland
  - u1b - Developed Land, Sealed Surface
  - + Tree

North ↑

Figure Name: UK Habitat Map - condition assessment  
 Project Name: The Seam, Barnsley  
 Project Ref. No: 24103  
 Date: December 2024  
 Author: AV



Baseline Habitats Photos (BI-F04)



### 3. Planned Management Activities

#### Management Plan Aims and Objectives PM-B01

The overall aims and objectives have been established as follows:

- *To create new areas of habitat including other neutral grassland and urban trees as well as vegetated gardens and introduced shrubs within the site.*
- *To enhance ecological connectivity within the site and wider area through this objective.*

#### Enhancement

- 0.0822 ha of other neutral grassland in 'poor' condition will be enhanced to other neutral grassland in 'moderate' condition

#### Creation

- 0.1472ha of other neutral grassland
- 0.2891 (71no.) new trees
- 0.1270 introduced shrubs
- 0.1112ha vegetated gardens
- 0.14km native hedgerow

#### Principles Informed by Design Stage

#### Design Principles Informed by Baseline Information PM-B02

#### Design Principles

Habitat enhancement aspirations have been based upon the detailed baseline undertaken. A pragmatic and functional approach has been taken to what can be achieved on site based on the habitats already present.

#### Strategic significance

A strategic significance of 'low' has been reached given the urban location of the site.

## Habitat and Condition Targets PM-T01

Baseline Habitat Type	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
<b>Enhancement</b>							
Other neutral grassland	Other neutral grassland	Grassland to the east of the site	Poor	Moderate	10	Moderate condition will be targeted by achieving a pass in criteria A as well as C and D	N/A
<b>Creation</b>							
N/A	Other neutral grassland	POS	N/A	Poor	2	Poor condition will be targeted by achieving a pass in criteria A, D and E.	<p>N/A</p> <p>Criteria E sub-optimal species &lt;5% should be qualified using professional judgement.</p> <p>Species including Ranunculus repens and Trifolium repens which are listed as sub-optimal indicators within the BNG C/A criteria, are also constant species in medium distinctiveness mesotrophic grassland communities and their removal by chemical or mechanical means to meet a &lt;5% threshold would likely be highly damaging.</p> <p>This criteria should preferably target invasive species, injurious weeds and ruderal species which are not constant species of the target NVC classification and which an abundance of, is often related to a specific problem such as nutrient enrichment and/or disturbance</p>
N/A	Urban trees	Urban trees	N/A	Poor	10	Poor condition will be targeted by achieving a pass in criteria A & B (automatic pass).	<p>Criteria C, D, E and F will not be targeted for the following reasons:</p> <p>C: This requires mature the tree to be mature and this cannot be achieved within the timeframe of this HMMP</p> <p>D: This can be influenced by external human factors i.e. vandalism.</p>

							<p>E: These features may form naturally but are outside of the control of the management company.</p> <p>F: This is dependant on the placement of the tree and whilst some may pass, others may not.</p>
N/A	Native hedgerow	All new native hedgerows	N/A	Poor	1	<p>Poor condition will be targeted by achieving a pass in criteria A1, A2, B1, B2, C2, D1.</p> <p>Criteria C1 and D2 will not be targeted.</p>	<p>Criteria C1 and D2 will not be targeted for the following reasons:</p> <p>C1: &gt;1m width of undisturbed perennial ground adjacent to hedgerows may not always be possible with hedgerows bounding hard landscaping and private gardens.</p> <p>D2: As sections of the hedgerow bound private gardens it will not be possible to limit potential damage from these vectors.</p>

### Habitat and Condition Targets Further Comments

No specific condition requirements are necessary for introduced shrubs and vegetated gardens, as long as the species being proposed are maintained.

## Habitat Retention

### Measures to be Implemented to Protect Retained Habitats PM-03

A number of areas of other neutral grassland are to be retained as part of the scheme. These are to be protected during works, however they are in poor condition and no habitat enhancement is proposed. These areas are to be excluded from the working area with either Heras fencing or orange net fencing in order to prevent access and damage to these areas.

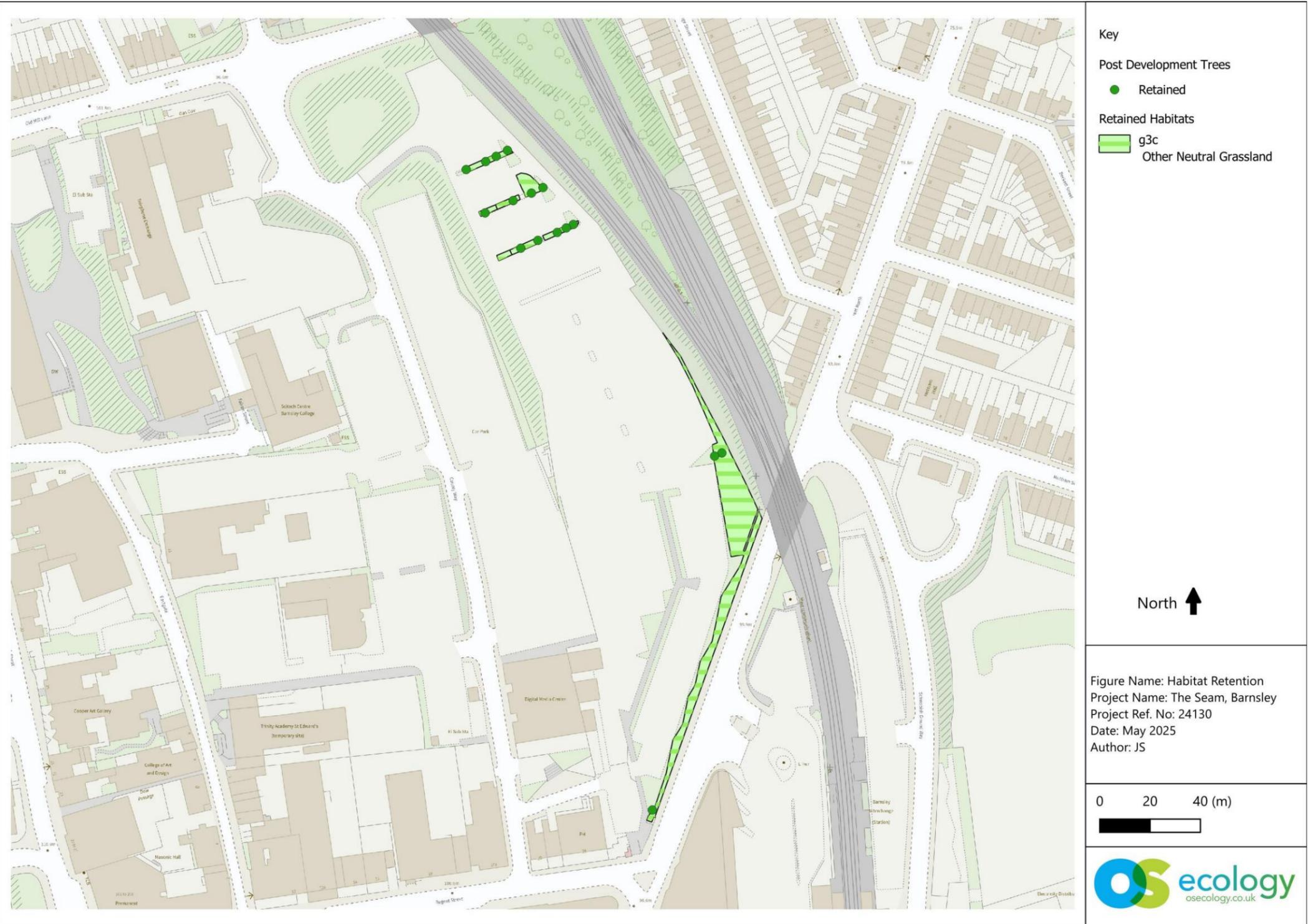
Retained trees will be maintained and protected throughout the works through similar measures in line with the Tree Protection Plan for the scheme, ensuring that both the main trunk and the roost protection areas are protected from direct and indirect impacts including ground disturbance.

### Specification of Protective Measures to be Used PM-04

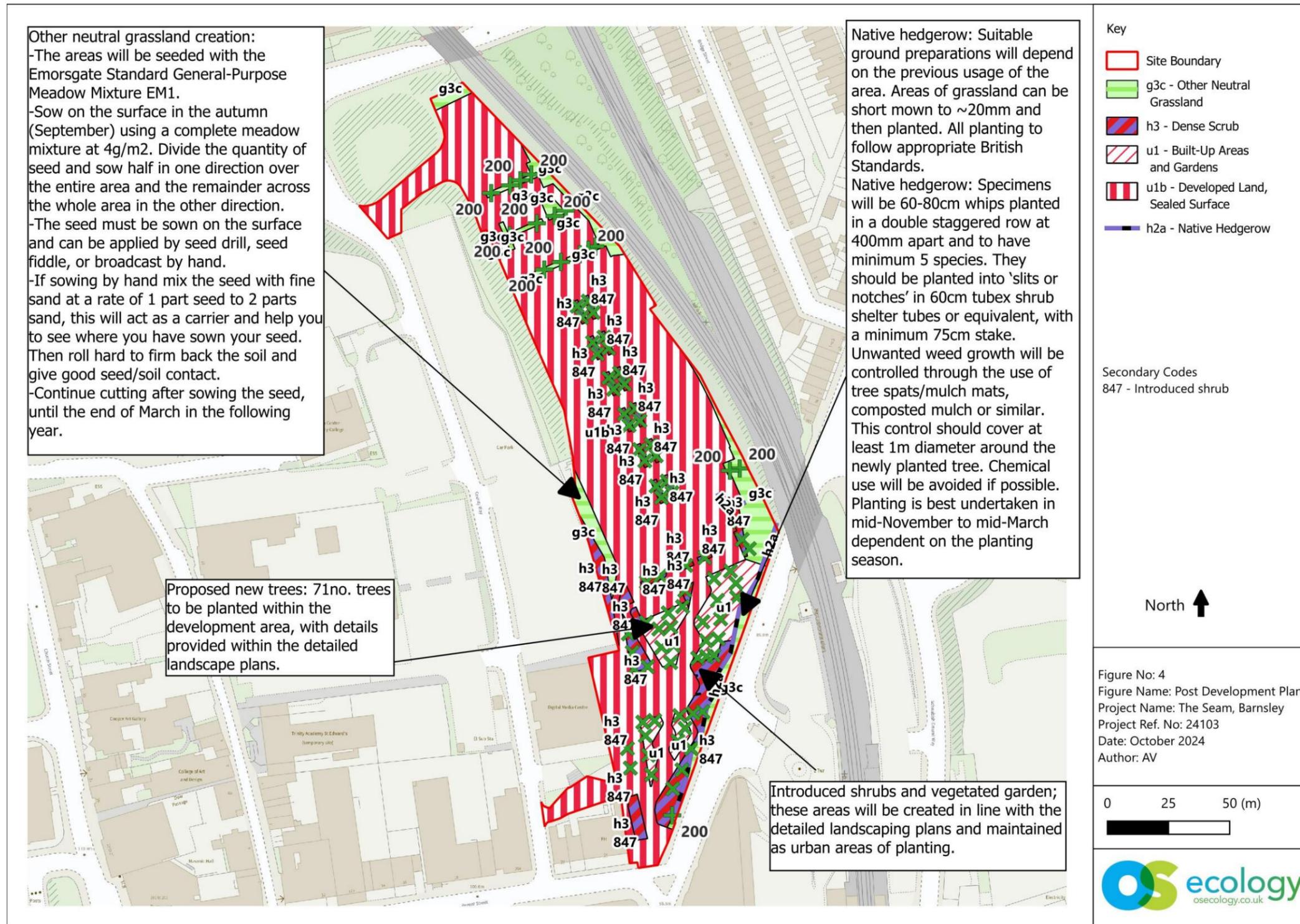
As above, these areas are to be fenced using either Heras Fencing or through posts and orange mesh netting in order to prevent access in line with the plan below.

Management requirements are included in the management section below.

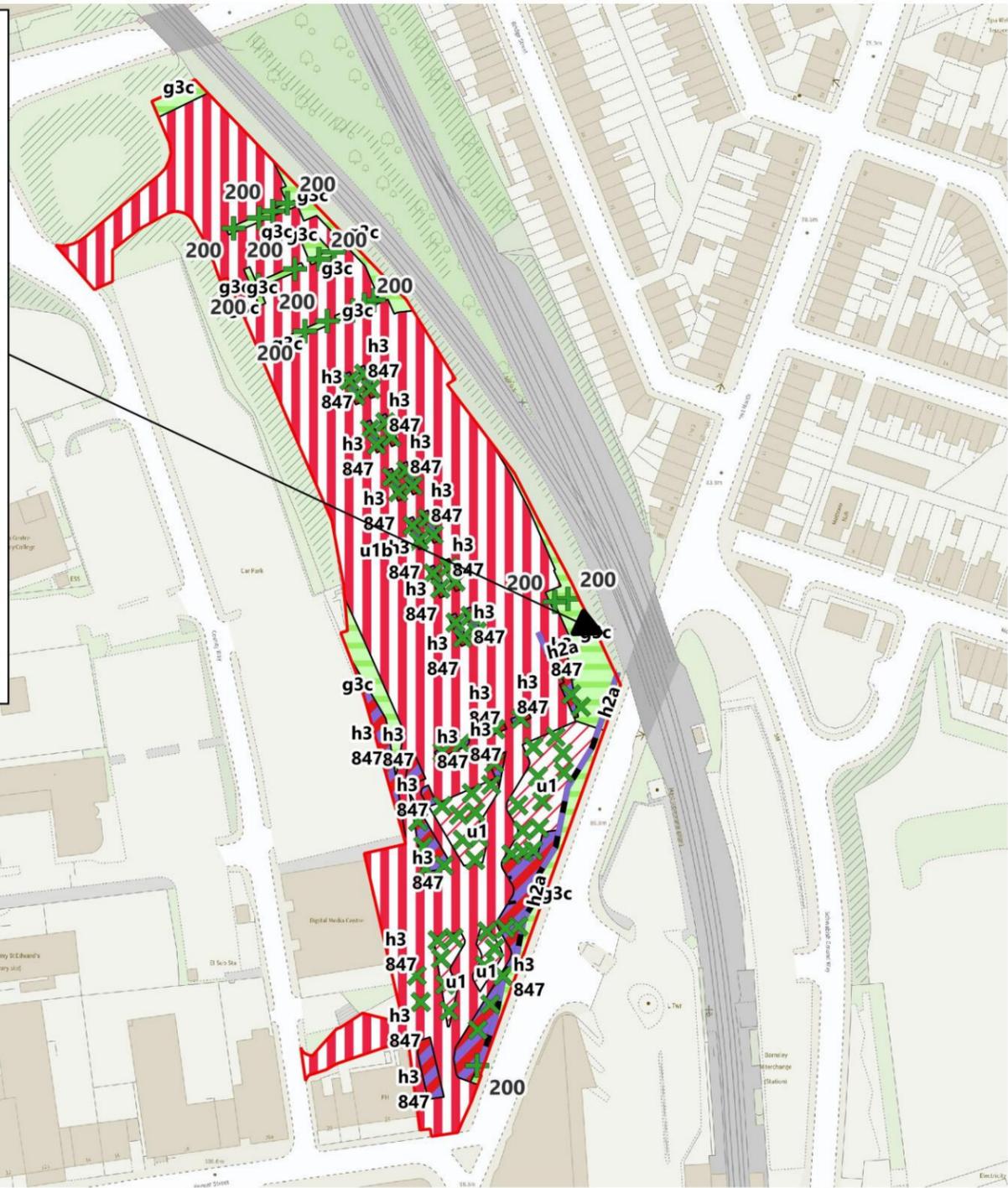
## Habitat Retention Plan PM-F01



# Creation, Enhancement and Management Targets and Prescriptions



**Other neutral grassland enhancement:**  
 The grassland is to be over-seeded with a suitable grassland mix containing neutral grassland indicator species.  
 Year 0  
**Diversity Enhancement**  
 The following methods are prescribed to achieve this:  
 Scarification and over-sowing of the grassland  
 -The grassland will initially be cut very short or grazed to a very short height <50mm, and the area then scarified (heavily raked using suitable machinery) to expose 50% bare soil. This is best done when the ground is dry.  
 -The field will be over-sown/seeded with the Emorsgate Standard General-Purpose Meadow Mixture EM3.  
 -Sow on the surface in the autumn (September) using a complete meadow mixture at 4g/m2. Divide the quantity of seed and sow half in one direction over the entire area and the remainder across the whole area in the other direction.  
 -The seed must be sown on the surface and can be applied by seed drill, seed fiddle, or broadcast by hand.  
 -If sowing by hand mix the seed with fine sand at a rate of 1 part seed to 2 parts sand, this will act as a carrier and help you to see where you have sown your seed. Then roll hard to firm back the soil and give good seed/soil contact.  
 -Continue cutting after sowing the seed, until the end of March in the following year.



**Key**

- Site Boundary
- g3c - Other Neutral Grassland
- h3 - Dense Scrub
- u1 - Built-Up Areas and Gardens
- u1b - Developed Land, Sealed Surface
- h2a - Native Hedgerow

Secondary Codes  
 847 - Introduced shrub



Figure No: 5  
 Figure Name: Post Development Plan - enhancement  
 Project Name: The Seam, Barnsley  
 Project Ref. No: 24103  
 Date: October 2024  
 Author: AV



## Grassland (Medium, High, and Very High Distinctiveness)

### Creation, Enhancement and Management Summary (GH-T01)

Target Habitat		Other neutral grassland				
Condition Assessment Criteria	Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach	
Grassland enhancement in the east of the site.						
A	<p>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.</p> <p>Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</p>	Yes	Grassland to be enhanced to the east	N/A	<p>The grassland is to be over-seeded with a suitable grassland mix containing neutral grassland indicator species.</p> <p><b>Year 0</b></p> <p><u>Diversity Enhancement</u></p> <p>The following methods are prescribed to achieve this:</p> <p><u>Scarification and over-sowing of the grassland</u></p> <ul style="list-style-type: none"> <li>- The grassland will initially be cut very short or grazed to a very short height &lt;50mm, and the area then scarified (heavily raked using suitable machinery) to expose 50% bare soil. This is best done when the ground is dry.</li> <li>- The field will be over-sown/seeded with the Emorsgate Standard General-Purpose Meadow Mixture EM3.</li> <li>- Sow on the surface in the autumn (September) using a complete meadow mixture at 4g/m<sup>2</sup>. Divide the quantity of seed and sow half in one direction over the entire area and the remainder across the whole area in the other direction.</li> <li>- The seed must be sown on the surface and can be applied by seed drill, seed fiddle, or broadcast by hand.</li> <li>- If sowing by hand mix the seed with fine sand at a rate of 1 part seed to 2 parts sand, this will act as a carrier and help you to see where you have sown your seed. Then roll hard to firm back the soil and give good seed/soil contact.</li> <li>- Continue cutting after sowing the seed, until the end of March in the following year.</li> </ul>	<p>Habitats will be managed as per Action 2: A suitable mowing regime below. Further seeding/ to enhance diversity will be considered following future monitoring and will adhere to the methodology within the enhancement approach.</p> <p>Further possible management actions are considered in the Risk Register and Remedial Measures section below.</p>
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	N/A	N/A	N/A	N/A

C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	No	N/A	N/A	N/A	N/A
D	Cover of bracken <i>Pteridium aquilinum</i> less than 20% and cover of scrub (including bramble) less than 5%.	Yes	Grassland to the east	N/A	N/A	The presence of <5% scrub will be maintained through cuts as required, ensuring that scrub from off-site areas does not encroach onto the grassland.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area.  If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Yes	Grassland to the east	N/A	N/A	The presence of <5% sub-optimal species will be maintained through the management measures described in Section B above.  Further sub-optimal species removal will be considered following future monitoring and any invasive species removed.
F	There are 10 or more vascular plant species per m <sup>2</sup> present, including forbs that are characteristic of the habitat type.  Note – this criterion is essential for achieving Good condition for non-acid grassland types only.	No	N/A	N/A	N/A	N/A

Target Habitat		Other neutral grassland				
Condition Assessment Criteria	Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach	
Grassland creation across the site						
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.  Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Yes	Grassland across the site	<p>The areas will be seeded with the Emorsgate Standard General-Purpose Meadow Mixture EM1.</p> <ul style="list-style-type: none"> <li>- Sow on the surface in the autumn (September) using a complete meadow mixture at 4g/m<sup>2</sup>. Divide the quantity of seed and sow half in one direction over the entire area and the remainder across the whole area in the other direction.</li> <li>- The seed must be sown on the surface and can be applied by seed drill, seed fiddle, or broadcast by hand.</li> <li>- If sowing by hand mix the seed with fine sand at a rate of 1 part seed to 2 parts sand, this will act as a carrier and help you to see where you have sown your seed. Then roll hard to firm back the soil and give good seed/soil contact.</li> <li>- Continue cutting after sowing the seed, until the end of March in the following year.</li> </ul>	N/A	Habitats will be managed as per Action 2: A suitable mowing regime below. Further seeding to enhance diversity will be considered following future monitoring and will adhere to the methodology within the enhancement approach.  Further possible management actions are considered in the Risk Register and Remedial Measures section below.

B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	N/A	N/A	N/A	N/A
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	No	N/A	N/A	N/A	N/A
D	Cover of bracken <i>Pteridium aquilinum</i> less than 20% and cover of scrub (including bramble) less than 5%.	Yes	Grassland across the site	N/A	N/A	The presence of <5% scrub will be maintained through cuts as required, ensuring that scrub from off-site areas does not encroach onto the grassland.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area.  If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Yes	Grassland across the site	N/A	N/A	The presence of <5% sub-optimal species will be maintained through the management measures described in Section B above.  Further sub-optimal species removal will be considered following future monitoring and any invasive species removed.
F	There are 10 or more vascular plant species per m <sup>2</sup> present, including forbs that are characteristic of the habitat type.  Note – this criterion is essential for achieving Good condition for non-acid grassland types only.	No	N/A	N/A	N/A	N/A

## Grassland (Medium, High, and Very High Distinctiveness)

### Creation and Management Detailed Methods (GH-T02)

Action	Relevant Parcels	Timing	Prescriptions
<b>Creation</b>			
<b>Action 1:</b> Sowing of a suitable grassland seed-mix	Grassland across the site other than that to be enhanced	<p><b>Year 0-Creation Action</b></p> <p>Ideal-September</p> <p>General-Autumn or Spring but can be sown at other times of the year if there is sufficient warmth and moisture</p>	<p>The following methods are prescribed to achieve this:</p> <ul style="list-style-type: none"> <li>- Following suitable ground preparation, Emorsgate Standard General-Purpose Meadow Mixture EM1 will be sown into a pre-prepared seed bed. To prepare a seed bed, the soil will then be harrowed or raked to produce a fine tilth and then rolled to produce a level firm surface.</li> <li>- Sow on the surface in the autumn (September) using a complete meadow mixture at 4g/m<sup>2</sup>. Divide the quantity of seed and sow half in one direction over the entire area and the remainder across the whole area in the other direction.</li> <li>- The seed must be sown on the surface and can be applied by seed drill, seed fiddle, or broadcast by hand.</li> <li>- If sowing by hand mix the seed with fine sand at a rate of 1 part seed to 2 parts sand, this will act as a carrier and help you to see where you have sown your seed. Then roll hard to firm back the soil and give good seed/soil contact.</li> </ul>
<b>Enhancement</b>			

<b>Action 2:</b> Sowing of a suitable grassland seed-mix	Grassland to be enhanced	<b>Year 0-Creation Action</b>  Ideal-September  General-Autumn or Spring but can be sown at other times of the year if there is sufficient warmth and moisture	The following methods are prescribed to achieve this:  <ul style="list-style-type: none"> <li>- Following suitable ground preparation, Emorsgate Standard General-Purpose Meadow Mixture EM1 will be sown into a pre-prepared seed bed. To prepare a seed bed, the soil will then be harrowed or raked to produce a fine tilth and then rolled to produce a level firm surface.</li> <li>- Sow on the surface in the autumn (September) using a complete meadow mixture at 4g/m<sup>2</sup>. Divide the quantity of seed and sow half in one direction over the entire area and the remainder across the whole area in the other direction.</li> <li>- The seed must be sown on the surface and can be applied by seed drill, seed fiddle, or broadcast by hand.</li> </ul> If sowing by hand mix the seed with fine sand at a rate of 1 part seed to 2 parts sand, this will act as a carrier and help you to see where you have sown your seed. Then roll hard to firm back the soil and give good seed/soil contact.
<b>Management</b>			
<b>Action 3:</b> A suitable mowing regime	All grassland (both enhanced and retained)	<b>Years 1-30 Management Action</b>  Annual cut to be undertaken in late August/September  2 aftermath cuts will then be undertaken over the autumn/winter until the next March to mimic aftermath grazing	The following methods are prescribed to achieve this:  <ul style="list-style-type: none"> <li>- The grassland will be subject to an annual cut to be undertaken in late July/August, after the bird nesting season and once the majority of wildflower species have set seed. Arising will be left in situ for several days to allow seed drop before removal.</li> <li>- The sward will be cut to a height of ~7cm.</li> <li>- All arisings will be removed from the site once dried</li> <li>- 1-2 aftermath cuts will then be undertaken over the autumn/winter until the next March to mimic aftermath grazing.</li> <li>- A mown strip will be retained through the year to encourage walkers to keep to the path.</li> </ul>
<b>Maintenance</b>			
<b>Remedial Action 4:</b> Removal of sub-optimal species to achieve <5% cover	All grassland (both enhanced and retained)	<b>As needed for remedial work Years 1-30 of Management</b>  April – October	Ideally achieved through Action 2, if required for remedial works following future monitoring, the following methods are prescribed to achieve this:  <ul style="list-style-type: none"> <li>- Species indicative of sub-optimal condition will be removed through ideally hand pulling or if required spot treatment. If required, the use of Glyphosate weed killer will be applied directly to actively growing weeds (April – October). The use of glyphosate weed killers will damage and/or kill plants which come in contact with the chemical, therefore spray drift will be minimised and operations carried out by suitably trained individuals.</li> <li>- Species indicative of sub-optimal condition for this habitat type include: creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, and cow parsley <i>Anthriscus sylvestris</i>.</li> </ul> <p><b>Criteria E sub-optimal species &lt;5% should be qualified using professional judgement.</b></p> <p><b>Species including <i>Ranunculus repens</i> and <i>Trifolium repens</i> which are listed as sub-optimal indicators within the BNG C/A criteria, are also constant species in medium distinctiveness mesotrophic grassland communities and their removal by chemical or mechanical means to meet a &lt;5% threshold would likely be highly damaging.</b></p> <p><b>This criteria should preferably target invasive species, injurious weeds and ruderal species which are not constant species of the target NVC classification and which an abundance of is often related to a specific problem such as nutrient enrichment and/or disturbance.</b></p>
<b>Remedial Action 5:</b> Maintenance of <5% scrub	All grassland (both enhanced and retained)	<b>As needed for remedial work Years 1-30 of Management</b>  1st September and 28th February (inclusive) to avoid the nesting bird season	Ideally achieved through Action 2, if required for remedial works following future monitoring, the following methods are prescribed to achieve this:  <ul style="list-style-type: none"> <li>- Scrub encroachment into the grassland is apparent. Sections of scattered scrub along the western boundary will be removed now before the long-term management of the site begins.</li> <li>- Use tools according to the size of the task and access/resource limitations. Suitable tools range from hand tools – such as bow saws, mattocks, chainsaws and brush cutters – to tractor-mounted flails.</li> <li>- Felled sections will be removed from site</li> </ul>

## Individual Trees

### Creation and Management Summary (UT-T01)

Target Habitat:		Urban Tree				
Condition Assessment Criteria		Targeted	Relevant Features	Creation Approach	Enhancement Approach	Management Approach
A	The tree is a native species (or more than 70% within the block are native species).	Yes	All trees	<b>Year 0</b> See action 1 below.	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
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).	Yes	All trees	Automatic pass	N/A	Automatic pass
C	The tree is mature (or more than 50% within the block are mature).	No	N/A			
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.	No	N/A			
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No	N/A			
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	No	N/A			

## Individual Trees

### Creation and Management Detailed Methods (UT-T02)

Action	Relevant Features	Timing	Prescriptions
<b>Creation</b>			
<b>Action 1:</b> Planting of suitable native urban trees	All trees to be planted	<b>Year 0-Creation Action</b> Bare-root trees should be planted during the dormant season. Container-grown trees can be planted all year round.	The following methods are prescribed to achieve this:  - Following suitable ground preparation, tree and shrub species should be planted as per the recommended guidance for extra heavy std., heavy std trees etc. Indicative example shown below:

			<ul style="list-style-type: none"> <li>○ Extra heavy standard, heavy standard tree and feathered tree planting in grassed or planted areas. Tree pits as per BS 8545:2014. To include single tubular guard, 1.6m timber stake, 600mm above ground and 1000mm below ground and 1No.tie with spacing device positioned 25mm maximum from the top of the post.</li> <li>○ Unwanted weed growth will be controlled through the use of tree spats/mulch mats, composted mulch or similar. This control should cover at least 1m diameter around the newly planted tree. Chemical use will be avoided if possible.</li> </ul>
<b>Enhancement</b>	N/A		
<b>Management - Generally low interventionist other than maintenance</b>			
<b>Remedial Action 2:</b> Maintenance of newly planted urban trees	All trees to be planted	<b>As needed for remedial work Years 1-30 of Management</b>  Bare-root trees should be planted during the dormant season.  Container-grown trees can be planted all year round.	<p>Ideally achieved through Action 1, if required for remedial works following future monitoring, the following methods are prescribed to achieve this:</p> <ul style="list-style-type: none"> <li>- Dead, dying and diseased wood and suckers will be removed to promote healthy growth, a natural shape and to avoid health and safety concerns.</li> <li>- Dead, missing, dying or defective plants will be replaced annually.</li> <li>- All tree stakes, ties and guards will be adjusted/ replaced/removed as required until anchorage has been achieved. This will be done annually.</li> <li>- Rabbit/deer protection will be maintained until no longer needed. This will be checked annually.</li> <li>- Weed-free ground will be maintained with the use of translocated, non-residual herbicides, in order to avoid competition for water and nutrients. This will be done four times a year. In relation to the removal of weeds, the intention is to reduce competition to the planted trees and shrubs that may slow their establishment and development.</li> <li>- If required, a slow release fertiliser (4:19:10) will be spread annually in early March in the first three years after planting.</li> <li>- Immediately following planting, trees should be watered thoroughly. Following this, and with regard to prevailing weather conditions, newly planted trees should be watered regularly during periods of dry weather. If the tree pit has been specified with an irrigation pipe, this should be used as the primary method of watering. If no irrigation pipe is specified, the square metre of ground around the tree/shrub should be soaked to field capacity (refer to BS 8545:2014 for further detail) by surface watering. Watering frequency is more important than quantity to prevent the root ball of the newly planted tree from drying out.</li> <li>- Trees are maintained upright and adjustments will be made following strong winds.</li> <li>- Berries and fruits to be retained, and not pruned, during the winter months. However, if it is proven that this asset is contributing negatively to an area, either by making the pavement slippery and dangerous or by encouraging anti-social behaviour then action to be taken to deal with these issues.</li> <li>- Once established, an annual review of the tree canopy to ensure trees are not blocking light or touching buildings.</li> </ul>
<b>Management Action 3:</b> Maintenance of all trees on site	All trees on site including those to be retained	<b>Between October and February (outside of the nesting bird season)</b>	<ul style="list-style-type: none"> <li>- Dead, dying and diseased wood and suckers will be removed to promote healthy growth, a natural shape and to avoid health and safety concerns.</li> <li>- Dead, missing, dying or defective plants will be replaced.</li> <li>- Ground cover beneath the trees will be maintained in line with the grassland management above.</li> <li>- Berries and fruits to be retained, and not pruned, during the winter months. However, if it is proven that this asset is contributing negatively to an area, either by making the pavement slippery and dangerous or by encouraging anti-social behaviour then action to be taken to deal with these issues.</li> <li>- An annual review of the tree canopies to ensure trees are not causing problems with adjacent properties.</li> </ul>

# Hedgerow

## Creation and Management Summary (HD-T01)

Target Hedgerow Type:		h2a - Native Hedgerow				
Condition Assessment Criteria		Targeted?	Relevant Features	Creation Approach	Enhancement Approach	Management Approach
A1	Height >1.5m average along length.	Yes	Hab 10	<b>Year 0</b> See action 1 below.	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
A2	Width >1.5m average along length.	Yes	Hab 10	<b>Year 0</b> See action 1 below.	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
B1	Gap – hedge base Gap between ground and base of canopy <0.5m for >90% of length.	Yes	Hab 10	<b>Year 0</b> See action 1 below.	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
B2	Gap – hedgerow canopy continuity Gaps make up <10% of total length; and no canopy gaps >5m.	Yes	Hab 10	<b>Year 0</b> See action 1 below.	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
C1	Undisturbed ground and perennial vegetation >1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: <ul style="list-style-type: none"> <li>measured from outer edge of hedgerow, and</li> <li>is present on one side of the hedge (at least)</li> </ul>	No	N/A			
C2	Nutrient-enriched perennial vegetation Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Yes	Hab 10	N/A	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
D1	Invasive and neophyte species >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently introduced species.	Yes	Hab 10	N/A	N/A	<b>Years 1-30 Management</b> See action 2 below and maintenance measures.
D2	Current damage	No	N/A			

	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.		
E1	Tree class (applicable to hedgerows with trees only) There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient), and there is on average at least one mature, ancient or veteran tree present per 20 – 50m of hedgerow.	No	N/A
E2	E2. Tree health (applicable to hedgerows with trees only) At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	No	N/A

## Hedgerow

### Creation and Management Methods (HD-T02).

Action	Relevant Features	Timing	Prescriptions
<b>Creation</b>			
<b>Action 1:</b> Planting of a native hedgerow	All new native hedgerows	<b>Year 0-Creation Action</b> Planting is best undertaken in mid-autumn to late winter, during periods when the soil is easily workable	The following methods are prescribed to achieve this: <ul style="list-style-type: none"> <li>- Following suitable ground preparation, planting will be 60-80cm whips planted in a double staggered row at 400mm apart and to have minimum 5 species. They should be planted into 'slits or notches' in 60cm tubex shrub shelter tubes or equivalent, with a minimum 75cm stake.</li> <li>- Unwanted weed growth will be controlled through the use of tree spats/mulch mats, composted mulch or similar. This control should cover at least 1m diameter around the newly planted tree. Chemical use will be avoided if possible.</li> <li>- Light-loving shrubs, such as blackthorn will be planted at the edges of the scrub, shrubs which enjoy shade, such as hazel will be planted towards the centre.</li> <li>- Planting is best undertaken in mid-autumn to late winter, during periods when the soil is easily workable.</li> </ul>
<b>Enhancement</b>	N/A		
<b>Management</b>			
<b>Action 2:</b> Cutting regime of native hedgerow	All new native hedgerows	<b>Years 2-30 Management Action</b>	After planting a hedgerow, wait at least two years before starting significant trimming or management to allow the young plants to establish a strong root system and grow properly. Once established the following methods are prescribed to achieve this:

			<ul style="list-style-type: none"> <li>- Hedgerows will be cut on a cycle of one third of total hedgerow length cut each year with all arisings removed. The end hedgerow height will be approximately 2-3m and &gt;1,5m with with an 'A' shape.'</li> <li>- Cuts to be undertaken between 1st September and 28th February (inclusive) to avoid the nesting bird season.</li> </ul>
<b>Maintenance</b>			
<b>Remedial Action 3:</b> Maintenance of newly planted shrubs	All new native hedgerows	<b>As needed for remedial work Years 1-30 of Management</b>  Replacement planting is best undertaken in mid-autumn to late winter, during periods when the soil is easily workable	Ideally achieved through Action 1, if required for remedial works following future monitoring, the following methods are prescribed to achieve this: <ul style="list-style-type: none"> <li>- Replace dead, weak or diseased specimens with like-for-like specimens</li> <li>- If necessary, remove invasive non-native species and/or ruderal vegetation and pernicious weeds to ensure that saplings and young trees are not outcompeted (as below).</li> <li>- Prior to year 5 any damaged tree guards/shelter will be replaced as necessary. Post year 5 check and remove guards annually as soon as they split and before they start to disintegrate (usually after 5-10 years).</li> <li>- If applying mulch, this will be applied to the base of hedgerow shrubs once or twice a year (as required) to minimise weeds and retain soil moisture.</li> <li>- Newly planted hedgerow shrub will be watered during dry periods as required to maintain soil moisture.</li> <li>- Review any signs of damage/ grazing/browsing.</li> </ul>
<b>Remedial Action 4:</b> Removal of sub-optimal ground flora species (Nutrient-enriched perennial vegetation)	All new native hedgerows	<b>As needed for remedial work Years 1-30 of Management</b>  April – October	If required for remedial works following future monitoring, the following methods are prescribed to achieve this: <ul style="list-style-type: none"> <li>- Species indicative of sub-optimal condition will be removed through ideally hand pulling or, if required, spot treatment. If required, the use of Glyphosate weed killer will be applied directly to actively growing weeds (April – October). The use of glyphosate weed killers will damage and/or kill plants which come in contact with the chemical, therefore spray drift will be minimised and operations carried out by suitably trained individuals.</li> <li>- Species indicative of sub-optimal condition for this habitat type include: curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i> and cleavers <i>Gallium aparine</i>.</li> </ul> <p><b>Sub-optimal species should be qualified using professional judgement and removal should not be targeted unless considered strictly necessary.</b></p>

## Habitat Creation and Management – Risk Register and Remedial Measures PM-T02

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
April 2025	Other Neutral Grassland	Neutral grassland indicator species introduced to the site fail to establish.	Abundance and diversity of forb species, characteristic of other neutral grassland habitats does not establish.	Time is required to allow species in the seed base to establish. Should the diversity not be as required, further scarification, overseeding and additional plug planting will be added as necessary.
April 2025	Other Neutral Grassland	Impact of climate change on proposals	Other neutral grassland species fail to establish/ die out.	Flexibility in management will be undertaken in response to increasing fluctuations in seasonal growing conditions. Timings of cuts and/or remedial measures will be assessed annually.
April 2025	Other Neutral Grassland	Injurious weeds establish	Species such as <i>Urtica dioica</i> , <i>Cirsium arvense</i> , and <i>Senecio jacobaea</i> dominate	The management plan will be updated to include further methods of control.
April 2025	Other Neutral Grassland	Diversity enhancement measures are unsuccessful	75% of species within over-sown mix not recorded during years 1-10	Further scarification, overseeding and plug planting required to enhance diversity.
April 2025	Other Neutral Grassland	Legumes and clover species begin to dominate the sward	White clover is Dominant (DAFOR) scale across the site and is D in all monitoring quadrats.	Further scarification, overseeding and plug planting required to enhance diversity. Timings of cuts and/or remedial measures will be assessed annually. Consider application of Nitrogen
April 2025	All habitats	Invasive species establish on site	Invasive Schedule 9 species are recorded during monitoring work	Invasive Schedule 9 species are removed in line with best practice guidance
April 2025	Hedgerow and tree planting	Habitat creation planting measures are unsuccessful	Tree and shrub planting is a failure	Further tree and shrub planting is undertaken with consideration for the reason for failure i.e. underwatered

## 4. Monitoring Schedule

### Monitoring Strategy

#### Provide details of the monitoring strategy to encourage successful implementation of the management plan (MS-B01)

Monitoring of the habitats will be undertaken in the following years following commencement of management:

- Year 0 (initial enhancement year)
- Year 1
- Year 3
- Year 5
- Every 5 years thereafter for 30 years in total.

This will be done as part of a 30-year plan to ensure the BNG metric ensures a net gain for the 30-year period.

The site owner or an appointed contractor will be responsible for ensuring that the proposals are monitored by a suitably qualified ecologist and findings reported to Barnsley MBC.

The condition of the habitat will be assessed based on the applicable DEFRA condition assessment document at the time of the issue of this document and a report will be produced to be submitted to the local authority based on or using the DEFRA monitoring report template. This will include an assessment of the current habitat condition and any recommendations regarding management.

### Monitoring Methods and Intervals MS-T01

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Other neutral grassland	<p>To be undertaken on all areas of Other neutral grassland</p> <ul style="list-style-type: none"> <li>- Using the applicable DEFRA condition assessment document at the time and as per the UK Habitat Survey methodology a 'W' transect route will be walked across these areas.</li> <li>- A minimum of 5 quadrat sampling points will be identified along this 'W' route.</li> <li>- A species list with DAFOR coverage will be collected along the entire 'W' to aid in estimation of whether the site is a good representation of Other neutral grassland as well as periodic drop disc sampling for sward height, estimations of scrub/bracken cover and cover of bare ground.</li> <li>- The quadrats will be 2 x 2m and within each quadrat the following will be identified:               <ul style="list-style-type: none"> <li>o Drop disc sampling for sward height.</li> <li>o Estimate percentage cover of bare ground.</li> <li>o Estimate percentage cover of scrub/bracken.</li> <li>o Species list with DOMIN cover of vascular plant species to allow for:                   <ul style="list-style-type: none"> <li>▪ Estimate cover of negative indicator species</li> <li>▪ NVC classification if necessary</li> <li>▪ Estimate of whether the quadrat is a good representation of Other neutral grassland.</li> </ul> </li> </ul> </li> </ul>	<p>Years 0, 1,2, 3, 4 and 5, and then every 5 years thereafter for 30 years in total</p> <p>Surveys to be completed between May and August</p>

	<ul style="list-style-type: none"> <li>○ Number of species/m<sup>2</sup> will be collected in a 1 x 1m quadrat at the north west quadrant of the 2 x 2m quadrat.</li> <li>○ Photo(s) of the habitat.</li> </ul>	
Urban Tree	<p>To be undertaken on all Urban trees</p> <ul style="list-style-type: none"> <li>- Using the applicable DEFRA condition assessment document at the time, each tree will need to be inspected individually.</li> <li>- At each tree record: <ul style="list-style-type: none"> <li>○ The tree species, recoding whether it is a native species.</li> <li>○ The age class of the tree.</li> <li>○ Any evidence of adverse impacts from human activities.</li> <li>○ The presence of natural ecological niches.</li> <li>○ The percentages of the tree canopy oversailing vegetation beneath.</li> </ul> </li> </ul> <p>Photo(s) of the habitat.</p>	Years 0, 1, 3, and 5, and then every 5 years thereafter for 30 years in total
Hedgerow	<p>To be undertaken on all hedgerows</p> <ul style="list-style-type: none"> <li>- If the hedge is 30m or less in length, then survey the whole hedge. If the hedge is between 30-100m then survey the central 30m. If the hedge is between 100-200m long, then divide it in two and survey the central 30m of the two sections. If the hedge is over 200m, divide it into three sections and survey the central 30m of each of the thirds. <ul style="list-style-type: none"> <li>○ In the 30m representative sample(s) measure the width, height base canopy and gap continuity.</li> <li>○ Record the woody species present within the 30m representative sample to DAFOR level.</li> </ul> </li> <li>- Using the applicable DEFRA condition assessment document at the time, record the woody species present along the whole length of hedgerow to DAFOR level.</li> <li>- Record gap continuity and indications of damage along the whole length of hedgerow.</li> <li>- Measure the width of the undisturbed ground and vegetation adjacent to the whole length of hedgerow.</li> <li>- Conduct at least five 2 x 2m quadrats of the undisturbed ground and vegetation along the whole length of hedgerow and within each quadrat the following will be identified: <ul style="list-style-type: none"> <li>○ DAFOR of ground flora to estimate cover of negative indicator species and presence of invasive and neophyte species.</li> </ul> </li> </ul>	<p>Years 0, 1, 3, and 5, and then every 5 years thereafter for 30 years in total</p> <p>Surveys to be completed between May and August</p>

## Monitoring Reports

### Monitoring Report Schedule MS-T02

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
Barnsley MBC	Barnsley MBC

Provide details of when the monitoring surveys and reports will be undertaken and submitted. You can extend the table and adjust according to your required schedule.

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
Years 0, 1, 3, and 5, and then every 5 years thereafter for 30 years in total	November	TBC-Dependant on Barnsley MBC	Report on results of creation, and management.

## Adaptive Management

### Summary of Adaptive Management Approaches (MS-B02)

The habitat monitoring will be undertaken by suitably qualified botanical surveyors and the findings reported to the relevant stakeholders – Barnsley MBC. Potential risk factors have been recorded in PM-T0 as well as remedial actions.

Further risk factors may be recorded following future surveys and/or maybe notified by the landowner/ site contractors at which point this plan can be adjusted and suitable remedial measures found.

Both the new risk factors and the remedial actions will be reported and agreed with the stakeholders involved and any new remedial actions will be monitored for their success. The process will then begin again should further risk factors be identified following evaluation of the action.