

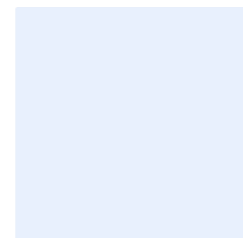
# Habitat Management and Monitoring Plan

<b>Site Name:</b>	Site at Woolley Colliery Road, Darton
<b>Date:</b>	21/05/2026
<b>Version:</b>	1.0



Author: Brooks Ecological Ltd

Client: Gleeson Homes Yorkshire & South Yorkshire



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## Version Control

Version	Issue Status	Prepared by / Date	Approved by / Date
1.0	FINAL	MJD 20/05/2026	MJD

## Document Details

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Registered in England Number 5351418

Brooks Ecological Ltd has prepared this report for the sole use of Gleeson Homes Yorkshire & South Yorkshire.

The information which we have prepared and provided is in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice.

The report is in accordance with the agreement under which our services were performed. No warranty, express or implied, is made as to the advice in this report or any other service provided by us. This report may not be relied upon by any other party except the person, company, agent or any third-party for whom the report is intended without the prior written permission of Brooks Ecological Ltd.

This report relies on a snapshot of the site at the date it was surveyed as a baseline; the conditions and the species recorded present, or likely absent, can change rapidly. Resurvey is recommended to any third-party seeking reliance on this report. The content of this report may, in part, be based upon information provided by others and on the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from any third-party has not been independently verified.

Implementation of this plan to achieve the target habitat types and conditions will be reliant upon professionally contracted services working in response to site conditions, feedback from monitoring, and a range of factors which are not possible to fully anticipate over the plan period. As such, management prescriptions are provided on the basis of best professional judgement and cannot guarantee success.

# 1. Project Background

Site Overview PB-B01	
<b>Project type</b>	On-site and Off-Site
<b>Development Name and Address</b>	Site at Woolley Colliery Road, Darton
<b>BNG Project Name and Address</b>	Site at Woolley Colliery Road, Darton
<b>Author Organisation</b>	Brooks Ecological Ltd.
<b>Landowner</b>	Gleeson Homes Yorkshire & South Yorkshire
<b>Land Manager</b>	Gleeson Homes Yorkshire & South Yorkshire
<b>Responsible person/organisation for creating or enhancing the habitat</b>	Gleeson Homes Yorkshire & South Yorkshire – 8 George Mann Road, The Lock, Leeds, LS10 1DJ
<b>Period covered by this management plan</b>	2026 - 2057
<b>Planning authority</b>	Barnsley Council
<b>Planning reference (if applicable)</b>	Ref – 2024/0867
<b>BNG register reference (if applicable)</b>	TBC
<b>Central OS grid reference</b>	SE 31071 10742
<b>Metric revision/title</b>	Statutory Defra Metric v1.0.3
<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
<p>The onsite areas within the red line boundary will be substantially cleared of existing ground cover except for some boundary areas of woodland and grassland that will be retained and enhanced.</p> <p>Blue line land comprises a mix of secondary habitats which will have long term interest for the retention, enhancement and creation of various habitat types including other neutral grassland, scrub, woodland, and more significant habitats such as reed bed and open mosaic habitat.</p>
Timescales for Actions PB-B03
<p>Development planned for commencement in 2026. The HMMP covers a 30-year period from completion of created and established habitats estimated to be 2027 – 2057.</p> <p>Planting will be carried out following hard landscaping works. Establishment of new habitats to the target conditions will take between 10 – 15 years depending on type.</p>
Monitoring Requirements PB-B04
<p>Monitoring will be carried out by a suitably qualified and experienced surveyor during the growing season May – August with reports produced in years 1, 2, 3, 4, 5, 10, 20, 30</p>
Required Consents and Licences PB-B05
<p>HMMP planning condition discharge for planning Condition 10</p>
Funding PB-B06
<p>Gleeson Homes Yorkshire &amp; South Yorkshire</p>
Legal Agreement PB-B07
<p>S106 agreement and planning permission</p>



HMMP Red Line Boundary

- Red Line Boundary
- Blue Line Boundary

Produced by Brook Ecological Ltd.





### HMMP Site Context Plan

- Red Line Boundary
- Blue Line Boundary
- Local Authority Areas
- Habitat Networks (Combined) (England) © Natural England
- Ancient Semi Natural Woodland
- Lowland dry acid grassland
- Lowland fens
- Lowland heathland
- Lowland meadows
- Traditional orchards
- SSSI
- Restorable Habitat
- Other Priority Habitats - NEZ
- Other Priority Habitats -NEX
- Network Enhancement Zone 1
- Network Enhancement Zone 2
- Network Expansion Zone
- National Character Areas England
- Nottinghamshire, Derbyshire and Yorkshire Coalfield
- Yorkshire Southern Pennine Fringe
- OpenStreetMap

(c) Government Open Data

Produced by Brook Ecological Ltd.



1:50000 @ A3

## Phasing strategy

Will the proposed work measures be delivered in phases? PB-B08 Yes:  No:

The large north parcel will be classed as phase 1 build. The smaller southern parcel will be built as phase 2 afterwards. Habitats requirements to suit this phasing.

## Roles and Responsibilities

### Ecologist or Other Professional Responsible for HMMP PB-B09

Name or Initials		Micah Duckworth		
Organisation		Brooks Ecological Ltd		
Responsibility	Start Date:	May 2026	End Date:	May 2026
Brooks Ecological has been commissioned to produce the Ecological studies, Biodiversity Net Gain Calculations and HMMP.				
Statement of Competency				
Micah Duckworth is a Biodiversity Manager at Brooks Ecological. He is a full member of CIEEM and has over 10 years' experience of Ecological Assessment and Habitat Management and Monitoring.				

### Landowner or Land Manager PB-B10

Name or Initials				
Organisation		Gleeson Homes Yorkshire & South Yorkshire		
Responsibility	Start Date:	2026	End Date:	2057
Legal owners				
Statement of Competency				
Limited company				

### Management Organisation(s) Responsible for Implementing the HMMP PB-B11

Name or Initials		Kenny Mawson (Technical Director)		
Organisation		Gleeson Homes Yorkshire & South Yorkshire		
Responsibility	Start Date:	2026	End Date:	2057
Statement of Competency				
LPA or Responsible Body for Reviewing HMMP PB-B12				
Name or Initials				
Organisation		Barnsley Council		
Responsibility	Start Date:	2026	End Date:	2057

## Land Use Summary

### Overview of Baseline Site Use PB-B13

The Site encompasses part of the former Woolley Colliery, which has been left un-remediated and unmanaged since the pit's closure. At the time of survey the site supported a mix of semi-natural habitats including neutral grassland, reedbed, mixed scrub, broadleaved woodland and open mosaic habitats.

Baseline ecology is assessed in Preliminary Ecological Appraisal Report, Brooks Ecological, ER-8088-01 November 2024. This report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in November 2024, as well as information collected during previous walkover surveys of the Site in May 2022 and July 2023. A suite of detailed ecological surveys was completed in 2022, to support of an outline planning application. Further surveys in 2024 - 2025 have provided updating information and further detail on the species and habitats present.

### Overview of Proposed Site Use PB-B14

Development is proposed for the erection of 114 dwellings, with associated landscaping, open space and infrastructure, at Woolley Colliery Road, Darton.

Biodiversity Net Gain Assessment including Metric summaries are provided in report by Brooks Ecological, Biodiversity Net Gain Assessment ER-8088-02B, July 2025

Biodiversity Metric Calculations are provided in spreadsheet BM-8088-02 The Statutory Biodiversity Metric Calculation Tool.

Landscape plans relevant to proposed planting of soft landscaped areas with the red line development area are detailed in plans Detailed Landscape Proposals Drawing Nos. 4101 1/2/3, Rosetta Landscape Design, Sept 2024.

An Ecological Design Strategy (EDS) and Biodiversity Management Plan ER-8088-03C, Nov 2025, has been produced to identify habitat management and biodiversity enhancements within the blue line land.

## Site Context Photos PB-F03



Typical neutral grassland



Typical scrub



Typical woodland interior



**HMMP Habitats Baseline Plan**

**HABITATS**

-  Developed land; sealed surface
  -  Mixed scrub
  -  Modified grassland
  -  Open mosaic habitats on previously developed land
  -  Other lowland acid grassland
  -  Other neutral grassland
  -  Other woodland; broadleaved
  -  Reedbeds
  -  Vacant or derelict land
  -  Bare ground
  -  Red Line Boundary
  -  Blue Line Boundary
- Google Satellite



## Site Baseline, Environmental Information and Associated Impacts Checklist PB-T01

Consider the Baseline and Environmental Information listed below. These are likely to be appropriate factors informing your proposals and project design. They can provide the reviewer with important contextual information for the management prescriptions provided later in this document. Use your professional judgement to determine which factors are relevant to your specific project.

Please use the check box to indicate which are included in your plan. For any not included, provide brief reasons why the factor is not relevant to your project using your professional judgement. Where this information is provided elsewhere, you can reference existing reports and, or, plans that have informed your decisions.

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 type="checkbox"/>	Preliminary Ecological Appraisal Report, Brooks Ecological, ER-8088-01 Nov 2024. Proposals will not impact on any designated sites. The Site lies within the outermost IRZ for the Seckar Wood and Denby Grange Colliery Sites of Special Scientific Interest (SSSIs), but does not fall into any of the highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.
<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 type="checkbox"/>	PEAR, ER-8088-01 Nov 2024. EDS/ Biodiversity Management Plan ER-8088-03C, Nov 2025, A full suite of detailed Ecological studies were undertaken at the Site, including an initial Preliminary Ecological Appraisal and Biodiversity Net Gain Assessment, along with various notable and protected species studies, collecting baseline information on badger, invertebrates, bats and reptiles. A summary of the potential impact on each important ecological features is provided in the EDS, along with the mitigation proposed. Residual impacts following the proposed mitigation set out in the EDS and carried forward in this HMMP are assessed to be negligible to moderate positive throughout.
<b>Invasive Non-Native Species (INNS)</b>	Are any INNS present onsite that could affect the proposals?	<input type="checkbox"/>	Preliminary Ecological Appraisal Report, Brooks Ecological, ER-8088-01 Nov 2024. INNS have not been identified on site.
<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"/>	Preliminary Ecological Appraisal Report, Brooks Ecological, ER-8088-01 Nov 2024. A desk study was completed as part of the PEA which assessed records of protected and notable species / sites. Mitigation plans for invertebrates and common lizard are set out in the EDS/ Biodiversity Management Plan ER-8088-03C, Nov 2025.
<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 type="checkbox"/>	Preliminary Ecological Appraisal Report, Brooks Ecological, ER-8088-01 and Biodiversity Net Gain Assessment, Brooks Ecological, ER-8088-02B Habitat baseline is presented in the above reports.
<b>Public Access</b>	Has public access, or proposals to allow public access, influenced your management prescriptions? If so, how?	<input type="checkbox"/>	Public access is thoroughly assessed though the Design and Access Statement, PRA Architecture Nov 2024.
<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 habitat provided in the HMMP is considered to be resilient to the levels of climate change expected over the next 30 years (the plan period). These being broadly rises in average temperature of 2 degrees Celsius and of average rainfall of 14%. These changes being within the tolerances of the species and habitats proposed.
<b>Geology and Topography</b>	Any geological or topographical constraints or opportunities?	<input type="checkbox"/>	Geology and topography are not anticipated to be an issue for habitat management here. Habitats proposed are ubiquitous and make use of a wide range of native plants. Species rich seed mixes are used for grassland seeded, which increases the chances of establishment. Tree and shrub mixes use species known to be growing or appropriate to the local area.

<b>Agricultural Land Status</b>	Does the site support any land favourable for agricultural management? Could this affect the proposals?	<input type="checkbox"/>	The Site and surrounding landscape is not agricultural
<b>Soils and Substrates</b>	Do soils and substrates present any constraints or opportunities?	<input type="checkbox"/>	Soils and substrates are not anticipated to be a constraint for habitat management here. Where development requiring soft landscaping is required, plans will ensure correct soils are retained or imported for this purpose to BS standards. The disturbed and diverse soils within wider blue like land of the former colliery presents an opportunity to enhance the various grassland, scrub and woodland types and extend the area of the higher value open mosaic habitat type which is regionally scarce.
<b>Contaminated Land</b>	If there is any contaminated land, will this present any constraints?	<input type="checkbox"/>	As a former colliery the land has been subject to ground investigation and contamination surveys presented as part of the planning process. Contaminated land is not considered to be a constraint here in terms of the intended habitat creation and management targets.
<b>Hydrology and Drainage</b>	Will the site hydrology present any constraints or opportunities?	<input type="checkbox"/>	Hydrology and drainage are not anticipated to be a significant issue for habitat management here. The proposed habitats are diverse in nature, offering resilience to variation in ground water and rainwater availability, and will all establish under the current hydrological conditions.
<b>Flood Risk Zones</b>	Is the site within a flood risk zone? Will that present any site management risks?	<input type="checkbox"/>	Flood risk has been assessed by HBL HBL Ref: 10701-HBL-XX-XX-RP-D-0001 REV.P02 Summarised on p.30 of their report. Flood risk is low overall and not considered to be of significance to the habitat management over 30 years.
<b>Landscape Character and Designations</b>	Does the landscape character of the site present any constraints or opportunities?	<input type="checkbox"/>	No issues from landscape character beyond those considered through the planning process.
<b>Historic Land Use</b>	Does the historic land use present any constraints or opportunities?	<input type="checkbox"/>	No constraints arising from historic land use. Previous use provides opportunity to increase habitat value and biodiversity particularly in blue line off-site areas.
<b>Historic Environment and Earth Heritage</b>	Are there any historic environment designations? What are the implications for your plan?	<input type="checkbox"/>	Historic designations are not considered relevant to the proposed habitat plan beyond any considerations assessed through the planning approval process.
<b>Other – please specify</b>	Any other details - for example underground services or overhead powerlines, which may impact habitat management.	<input type="checkbox"/>	

## 2. Planned Management Activities

### Management Plan Aims and Objectives PM-B01

#### Aims

The Habitat Management and Monitoring Plan (HMMP) aims to ensure that the Site:

- Contributes effectively to BNG targets
- Provides useful habitat and resources for local wildlife
- Provides semi-natural habitat which can contribute to local eco-system services such as pollinator support, shade provision, water retention and pollution control.
- Newly created habitats comprising diverse grasslands, scrub, broadleaved woodland, reedbed and open mosaic habitat are successfully established and achieve the required condition over the relevant period.
- Habitats will provide valuable resources to local plants, birds, mammals, reptiles and invertebrates through planted and managed semi-natural vegetation within and around the site for a period of 30 years or more.

#### Objectives

Objectives are set for features which qualify as '*significant*' under BNG guidelines; generally, those features classified as *medium* or above *distinctiveness*. On this site, the basins designed for sustainable drainage classified as low distinctiveness habitat have also been included since these are of a size and location which makes their status and condition a valuable contribution to the long term biodiversity value of the site overall.

- A variety of habitat types will be enhanced and created in moderate and good condition as set out in the following table PM-T01 on p.11.
- All habitat features will achieve and retain their intended target conditions within the 30-year plan.

### Principles Informed by Design Stage

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

Design of red and blue line habitat provision has considered a range of constraints and opportunities as summarised below. These are fully set out in the Ecological Design Strategy along with additional ecological enhancement which supplements the scope of BNG habitat provision in this HMMP.

#### Constraints

##### *Existing Habitats*

The Site supports a mix of 'medium and high distinctiveness' habitats, including grassland (mostly moderately diverse neutral, but with elements of acid and calcareous influence), scrub and deciduous woodland. Blue line land also supports reedbeds and areas of open mosaic habitat.

##### *Invertebrates*

The main Ecological Constraint is the Site's invertebrate assemblage, including four 'important' species, as identified during an Invertebrate Assessment undertaken by Conops Entomology Ltd in 2019. Based on the survey information collected and through consultation with the Local Planning Authority Ecologist, the Invertebrate interest is considered to be of County Importance. This is based on the presence of dingy skipper (*Erynnis tages*), small heath butterfly (*Coenonympha pamphilus*), small blue (*Cupido minimus*) and leaf beetle (*Longitarsis dorsalis*).

##### *Common Lizard*

A population of Common lizard present on Site (red and blue line land) as well as within the wider colliery to the north. These were most recently recorded in September 2024 by SLR.

##### *Bats*

Bat Activity surveys were undertaken in 2024. Common pipistrelle was the most frequently encountered bat species on Site (82%), associated primarily with edge habitat. Overall, activity was considered to be low, and the Sites importance to the local population was similarly considered low.

#### Opportunities

Habitat creation will seek to provide the specific conditions required for notable invertebrates to breed and expand on Site, such as the small blue, small heath and dingy skipper butterflies. This will include promoting the spread of larval food plants such as kidney vetch within calcareous grassland and common birds foot trefoil and fine grasses.

New woodland and scrub enhancement within areas of naturally dry and wet ground, will provide high value habitat for a wide range of faunal groups, providing food, shelter and improving connectivity through the landscape. Woodlands also provide eco-system services such as reducing flood risk and capturing carbon.

Areas of naturalistic wildflower meadow, sown and managed within areas of public space, can provide high value habitat for groups such as invertebrates, and create an impressive backdrop to the development.

## Habitat and Condition Targets PM-T01

This table presents a summary record of what you have agreed to deliver based on the biodiversity metric. These habitat condition targets form the basis of what the management plan is setting out to achieve. Include the relevant 'Area', 'Hedgerow', and 'Watercourse' types to be implemented and managed throughout the period of 30 years or more.

Objective number	Baseline Habitat Type	Target Habitat Type	Parcels Refs	Baseline Condition	Targeted Condition	Years to targeted completion	Comments	Target criteria
1	Mixed scrub Open mosaic habitats	Mixed Scrub Mixed Scrub	24,12,5,17 20	Poor Moderate	Good Good	10 10	Enhanced Enhanced	
2	Open mosaic habitats Open mosaic habitats Mixed Scrub	Open mosaic habitats Open mosaic habitats Open mosaic habitats	23,18,10,14,6,44 9,19,28,15 31,26,42	Moderate Fairly Good Poor	Good Good Good	4 3 10	Enhanced Enhanced Created	
3	Other neutral grassland Other neutral grassland	Other neutral grassland Other neutral grassland	4 3,27,37,33,16,30,25,22	Poor Moderate	Good Good	15 10	Enhanced Enhanced	
4	Bare Ground Other Woodland Broadleaved	Other Neutral Grassland Other Neutral Grassland	11 47,58,8,53	Poor Poor	Good Moderate	10 5	Created	
5	Other Woodland Broadleaved Other Woodland Broadleaved Other Woodland Broadleaved Mixed Scrub Other neutral grassland	Other Woodland Broadleaved Other Woodland Broadleaved Other Woodland Broadleaved Other Woodland Broadleaved Other Woodland Broadleaved	60 13,57,46 52,56,40,29,61,55 49,1,2,38,43,41,35,48,50 39,34	Moderate Moderate Poor Poor Moderate	Moderate Good Good Good Good	0 10 20 20 10	Retained Enhanced Enhanced Enhanced Enhanced	
6	Bare ground Other neutral grassland	Other Woodland Broadleaved Other Woodland Broadleaved	45,36 21	Poor Moderate	Good Moderate	30 15	Created Created	
7	Reedbeds Reedbeds	Reedbeds Reedbeds	51,32 54	Moderate Poor	Good Good	7 12	Enhanced Enhanced	
8	Various	Sustainable drainage system	7,59	Poor	Moderate	3	Created	
9	N/A	Urban trees	N/A	N/A	Moderate	27	Created	

### Habitat and Condition Targets Further Comments

## Habitat Retention

Provide a concise description of the habitats that are to be retained in their baseline condition. Habitats being retained may still require ongoing measures to maintain their baseline condition.

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

Retained and enhanced habitat areas are identified specifically in the table on p.11 and illustrated in the Habitats Retention Plan on p.14.

As shown in the plan, the majority of these areas are situated on the periphery or outside of the built construction zones comprising the phased housing areas to the north and south.

Protection of the retained areas will be substantially achieved through fencing to physically segregate areas from vehicle and pedestrian movement. An important exception to this is where site clearance and enabling works are being supervised to provide relocation of materials from the red line construction zone into the blue line habitat creation and enhancement areas. Translocation of any reptiles and other protected species will be carried out in conjunction with these works and coordinated and supervised with ecologist oversight.

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

Controls are specified in the Construction Environment Management Plan (CEMP: biodiversity) ER-8088-07, produced for construction phase of development. The CEMP makes provision for the following:

- Tree Protection Fencing
- Nesting birds
- Creation of invertebrate receptor habitat
- Translocation of notable invertebrates
- Reptile control—directional clearance
- Pre-commencement Survey—Badgers
- Sensitive Lighting Strategy
- ECoW monitoring and reporting



**HMMP Habitats Proposed Plan**

- Red Line Boundary
- Blue Line Boundary
- INDIVIDUAL TREES**
- ◆ Proposed Small Urban Tree
- HABITATS**
- Built linear features
- Developed land; sealed surface
- Mixed scrub
- Modified grassland
- Open mosaic habitats on previously developed land
- Other neutral grassland
- Other woodland; broadleaved
- Reedbeds
- Sustainable drainage system
- Vegetated garden

**Site A:**

Habitat	Species	Subt	No
250 Openland	28 250	MA23	753 08
251 Tallow	28 251	MA24	753 02
300 Grass	38 300	MA25	864 14
301 Moss	38 301	MA26	864 02
302 Roughland	38 302	MA27	864 10
303 Open	38 303	MA28	864 02
304 Moss	38 304	MA29	864 02
305 Mixed	38 305	MA30	864 02
306 Woodland	38 306	MA31	864 02
400 Open	48 250	MA32	1138 11
401 Roughland	48 251	MA33	1140 04
402 Moss	48 252	MA34	1138 11
403 Open	48 253	MA35	1138 02
<b>Total</b>			<b>72</b>

**Site B:**

Habitat	Species	Subt	No
250 Openland	28 250	MA23	753 10
251 Tallow	28 251	MA24	753 02
300 Grass	38 300	MA25	864 08
301 Moss	38 301	MA26	864 04
302 Roughland	38 302	MA27	864 04
303 Open	38 303	MA28	864 02
304 Moss	38 304	MA29	864 02
305 Mixed	38 305	MA30	864 02
306 Woodland	38 306	MA31	864 02
400 Open	48 250	MA32	1138 14
401 Roughland	48 251	MA33	1140 04
402 Moss	48 252	MA34	1138 12
403 Open	48 253	MA35	1138 02
<b>Total</b>			<b>42</b>

**Combined:**

Habitat	Species	Subt	No
250 Openland	28 250	MA23	753 18
251 Tallow	28 251	MA24	753 04
300 Grass	38 300	MA25	864 16
301 Moss	38 301	MA26	864 06
302 Roughland	38 302	MA27	864 14
303 Open	38 303	MA28	864 04
304 Moss	38 304	MA29	864 04
305 Mixed	38 305	MA30	864 04
306 Woodland	38 306	MA31	864 04
400 Open	48 250	MA32	1138 25
401 Roughland	48 251	MA33	1140 08
402 Moss	48 252	MA34	1138 23
403 Open	48 253	MA35	1138 04
<b>Total</b>			<b>114</b>

**PH**

Rev	By	Date
1	SM	17/11/25
2	SM	18/11/25
3	SM	24/11/25
4	SM	10/12/25

**PRA Architecture**  
 11 The Terrace, Levens Hall, York, YO30 6NF, T: 01904 60772  
 11 The Terrace, Levens Hall, York, YO30 6NF, T: 01904 60772







PROJECT: Woolley Colliery Road, Barnsley  
 TITLE: Proposed Site Layout  
 CLIENT: Gleeson  
 DATE: 31/07/24  
 SCALE: 1:500/A3  
 DRAWING: 1023 05  
 REVISION: 1

1:2500 @ A3





### HMMP Habitats Retention Plan

-  Red Line Boundary
-  Blue Line Boundary
- INDIVIDUAL TREES**
- Individual tree Retention
  -  Created
- HABITATS**
- Habitats Retention
  -  Enhanced
  -  Retained
  -  Lost



# Creation, Enhancement and Management Targets and Prescriptions

## Habitat Creation, Enhancement and Management Plan – all significant features included in this HMMP



### HMMP Habitats in HMMP

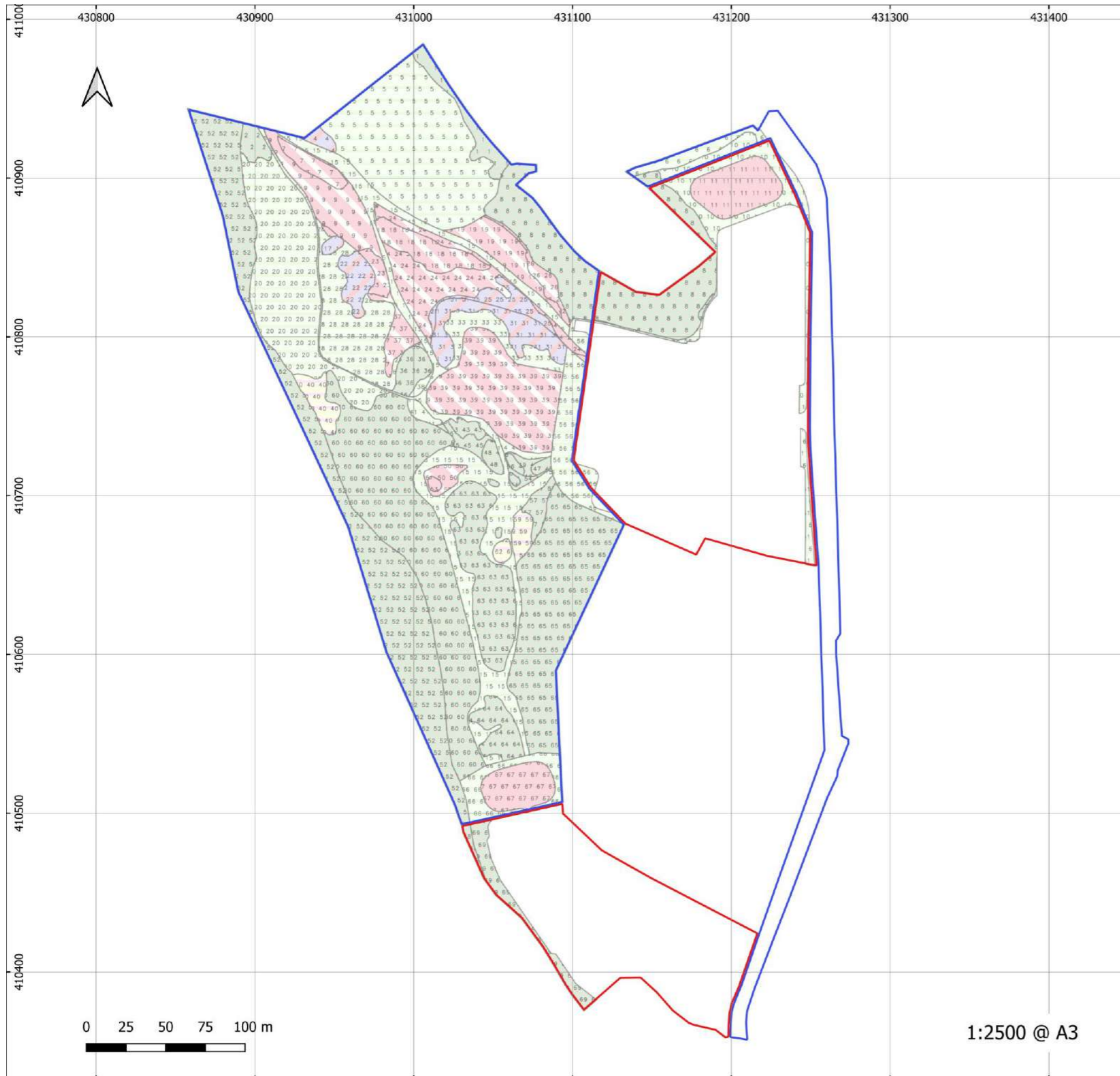
- Red Line Boundary
- Blue Line Boundary
- INDIVIDUAL TREES**
- ◆ Proposed Small Urban Tree
- Mixed scrub
- Open mosaic habitats on previously developed land
- Other neutral grassland
- Other woodland; broadleaved
- Reedbeds
- Sustainable drainage system

Habitats in this HMMP comprise typically those which are classified as Medium and above Distinctiveness.

Low Distinctiveness habitats are not generally included unless they make a significant contribution to the site unit value or comprise a significant area.

Sustainable Drainage Systems have been included in the HMMP on the basis that they cover a substantial area within the on and off site zones, and are located within and associated with areas of higher value habitat





### Polygon References Numbers

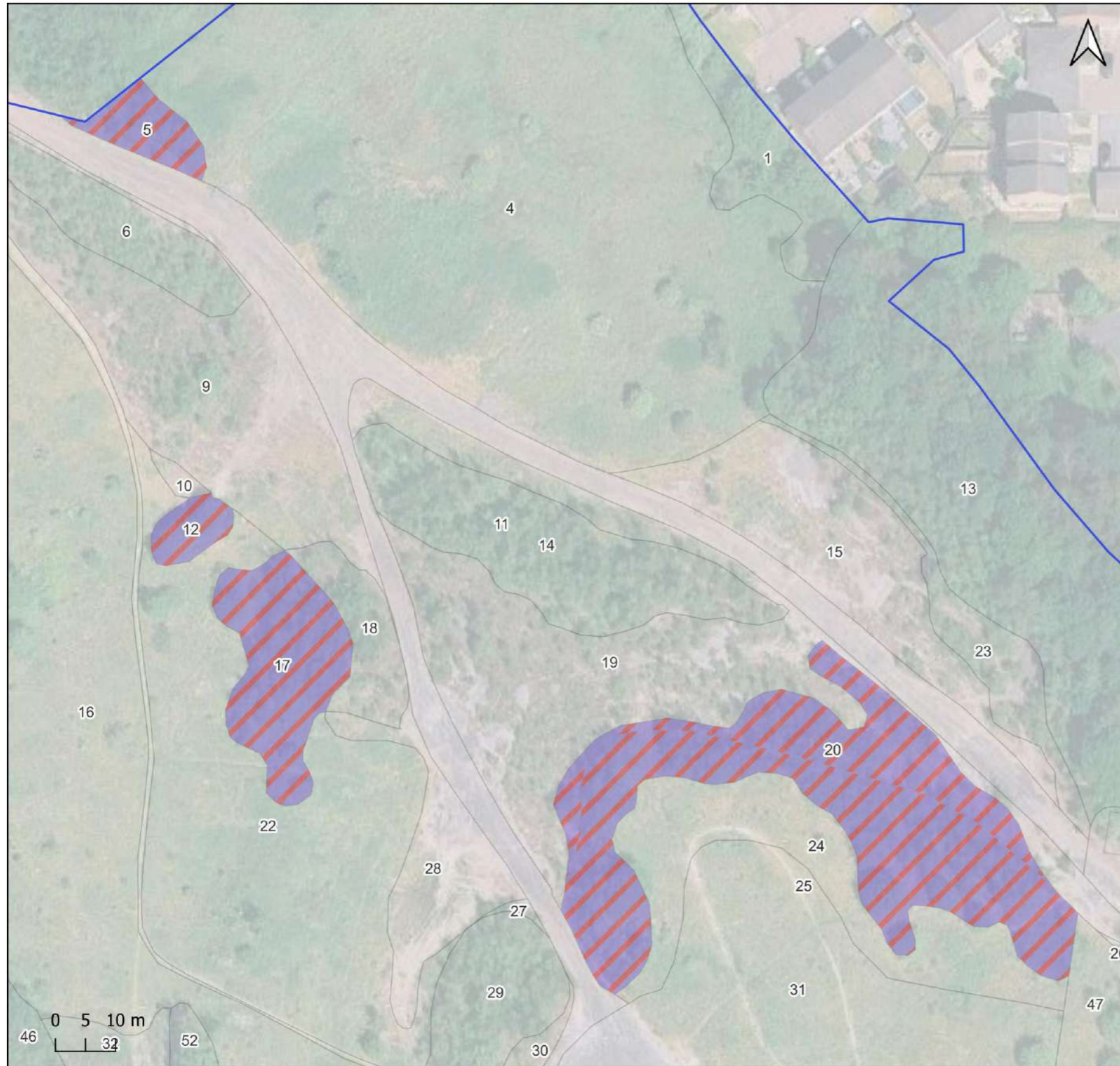
- ▭ Red Line Boundary
- ▭ Blue Line Boundary

1:2500 @ A3






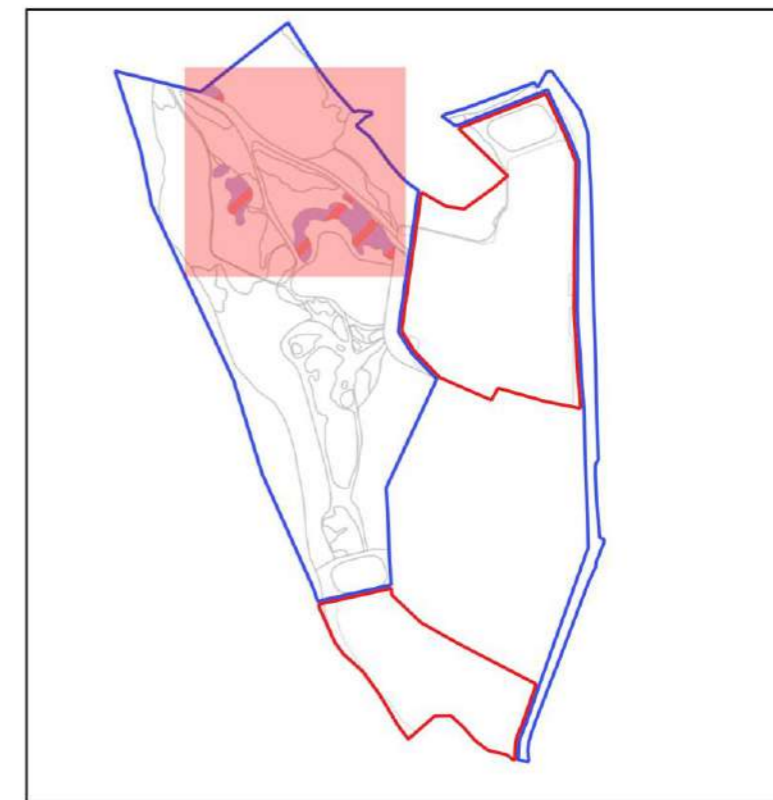
# Scrub

## Mixed scrub



## Specific Objective Areas

-  Blue Line Boundary
-  HMP Proposed habitat type
-  Mixed scrub



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

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 19. Scrub.

Target Habitat:		Objective 1: Mixed scrub enhanced to Good condition				
		Good: Passes 5 criteria				
Condition Assessment Criteria	Targeted ?	Relevant Features	Creation Approach	Enhancement Approach	Management Approach	
A	The parcel represents a good example of its habitat type – the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprising more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	YES	24,12,5,1,20		Interplanted species will be selected to ensure the correct diversity and percentage cover of native forbs and woody species as required.	In response to monitoring, cover and diversity of plant species present in the scrub will be modified through selective thinning or supplementary planting as required.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	YES	24,12,5,1,20		Initial thinning to stratify the scrub structure will target retention of mature individuals, reduction of dominant colonising birch and creation of open ground into which seedlings can colonise.	Interplanting and further thinning in response to monitoring of age class diversity.
C	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.	YES	24,12,5,1,20		Scrub is currently free of INNS. Where INNS are confirmed to be present in affected parcels, controls will be carried out under a bespoke method statement or management plan. INNS treatment will be completed before restoration with grassland seed mixes in the affected areas.	Ongoing controls to reduce cover of undesirable species where required in response to monitoring. Where presence of INNS is identified specialist advice and treatment should be sought to ensure compliance.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	YES	24,12,5,1,20		Scrub enhancement will follow a plan with thinning and planting stations designed to ensure scattered shrub and tree species sit within an open grassy / forb rich edge habitat.	Scrub enhancement will follow a plan with thinning and planting stations designed to ensure scattered shrub and tree species sit within an open grassy / forb rich edge habitat.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	YES	24,12,5,1,20		Scrub enhancement will follow a plan with thinning to target the creation of clearing, glades or rides.	Periodic thinning in response to monitoring of open grassy clearings, glades and edges.

## Additional Management Prescriptions (SC-B01)

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## Creation, Enhancement and Management Detailed

Refer to

Action	Relevant Parcels	Timing	Prescriptions
Stratification	24,12,5,1,20	Year 1 November to February, inclusive	Existing scrub comprises primarily of dense, uniform thickets of birch. These will be thinned out by 50% in the first year. Thinning will aim to remove any woodland canopy forming species, such as oak, ash or sycamore, and to reduce the amount of birch overall. The aim will be to open up areas so as to allow interplanting with a more diverse range of woody species  This work will be undertaken by a suitable arboriculture contractor, under the direction of a suitable experienced Ecologist.
Interplanting	24,12,5,1,20	Year 1 October to February	Once the scrub has been thinned, a mix of blossom species will be planted within these areas. This will include species given in the table on the following page. The species selected will benefit the Site's invertebrate interest, but will also provide a source of food for birds and small mammals.  Species will be planted as bare root whips. Only use stock with a local provenance, either from locally-collected seeds or bare-rooted whips (nursery-grown saplings) which should only be planted within the dormant season i.e. October to February..  All plants to be bareroot, protected with spiral rabbit guard secured with a cane. <ul style="list-style-type: none"> <li>• Plant randomly across the whole area as individuals and groups of 3 of the same species</li> <li>• Plant in clumps to create a natural appearance</li> <li>• Leave unplanted gaps, which will infill naturally</li> </ul>
Establishment	24,12,5,1,20	Years 1-5	Weed when seedlings and whips are establishing to remove competing vegetation.  Use wood chips to mulch a one metre radius around each plant to suppress weeds and help to retain soil moisture.
Ongoing Management	24,12,5,1,20	Year 5 onwards	Manage to maintain open grassy glades and rides through the scrub and prevent closed canopy formation. The following may be applied in response to monitoring conditions:  Cut 1/15th every year or 3/15ths every third year.  Cutting small patches will diversify scrub structure. Avoid cutting adjacent patches sequentially.  Cut between September and February, to avoid the bird breeding season. Leave berry-bearing scrub cutting until after Christmas so birds and mammals can eat the berries. Do not burn any cut material on site.  Carry out mowing or flailing annually in October and remove arisings to maintain scrub edges.

## Scrub Species List

- apples (*Malus domestica* agg.)
- blackthorn (*Prunus spinosa*)
- cherry plum (*Prunus cerasifera*)
- field maple (*Acer campestre*)
- hawthorn (*Crataegus monogyna*)
- plums (*Prunus domestica* agg.)
- rowan (*Sorbus aucuparia*)
- willows (*Salix* spp.)

## Other Supporting Information

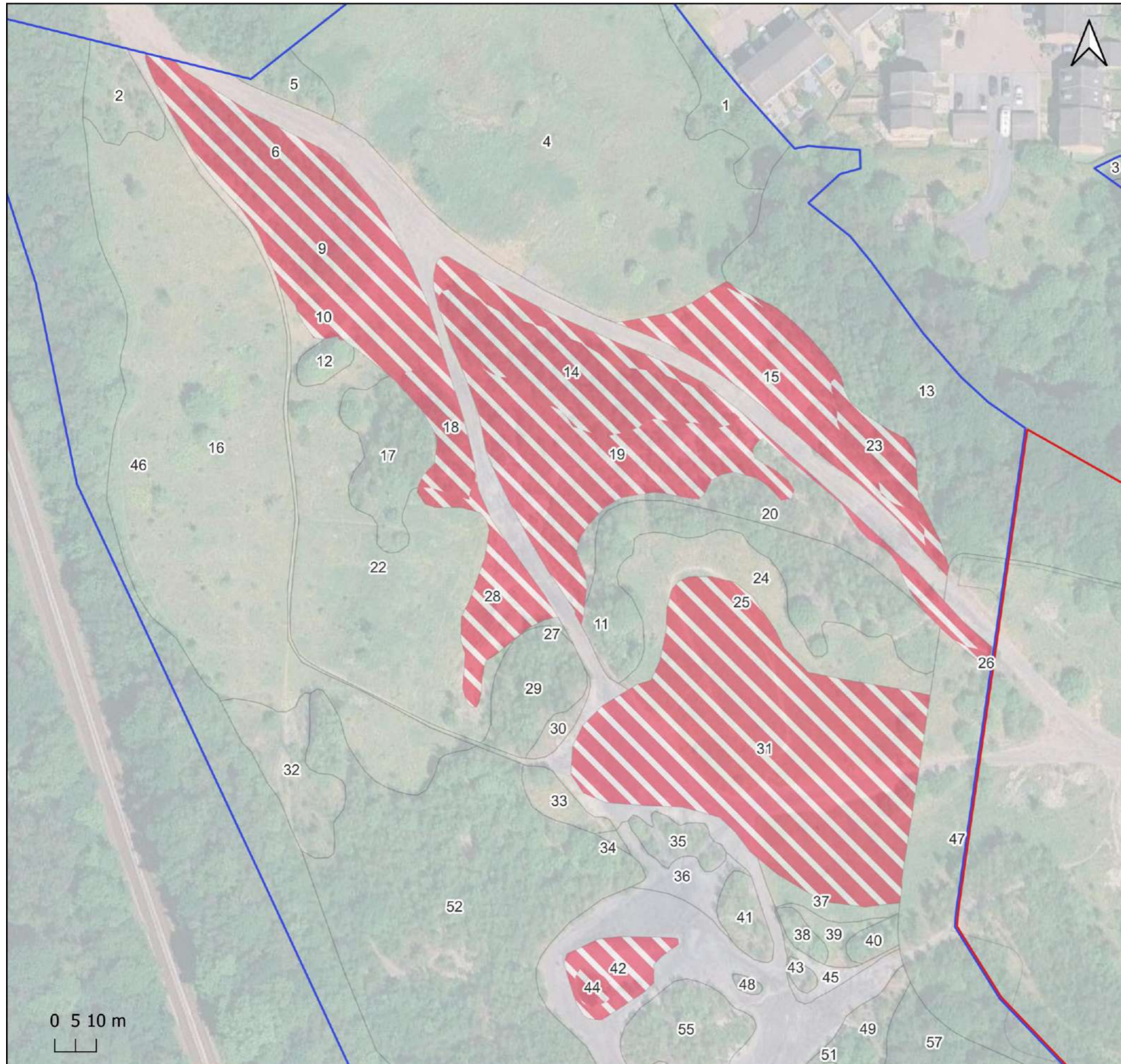
### Supporting Information (SC-B02)

Please use this space to provide any additional information where relevant.

## What Does Success Look Like?

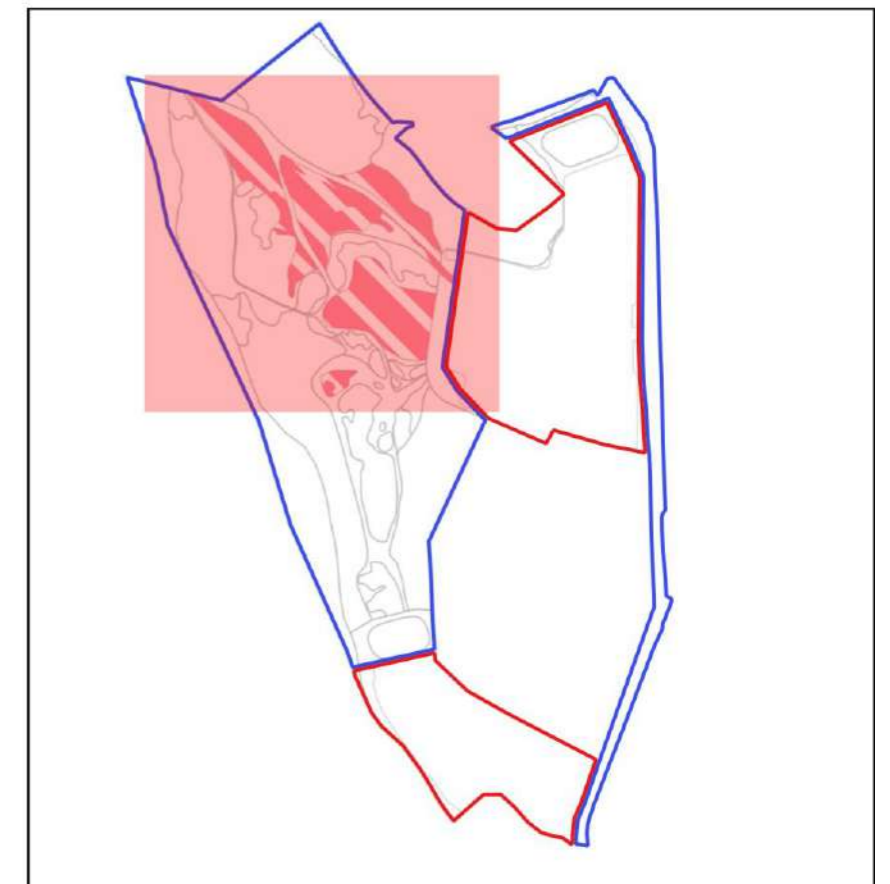


## Open mosaic habitats on previously developed land



## Specific Objective Areas

- Red Line Boundary
- Blue Line Boundary
- HMMP Proposed habitat type
- Open mosaic habitats on previously developed land



## Urban

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

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 22. Urban

Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
<b>Target Habitat:</b> <b>Objective 2: Open Mosaic Habitat on previously developed land Created and Enhanced to Good condition</b> Good: Passes all 3 core criteria; AND Meets the requirements for Good condition within criterion C; AND Passes all additional criteria relevant to specific habitat type (Group E)						
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	YES	23,18,10,14,6,44,9,19,28,15,31,26,42		Scraped vegetation and supplementary soiling from locally recovered areas in the red line land to diversify ground conditions and substrate composition.	Scrapes will be created throughout this area on a periodic basis. The Ground would be compacted to impede permeability, creating temporal pools.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	YES	23,18,10,14,6,44,9,19,28,15,31,26,42		Planted species are established from an appropriate seed mix	Overseeding with the target seed mix in response to monitoring
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of total vegetated area.  <b>Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than &lt;5% cover).</b>	YES	23,18,10,14,6,44,9,19,28,15,31,26,42		No INNS identified during baseline surveys.	Monitoring to assess cover of INNS or undesirable species cover with remediation applied to control these in response to monitoring reports.
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools. (only applicable to Open mosaic on previously developed land habitat type)	YES	23,18,10,14,6,44,9,19,28,15,31,26,42		Formation of a structurally diverse substrate through a sensitive and targeted mechanical scrape of areas to be enhanced.	Scrapes will be created throughout this area on a periodic basis.

## Additional Management Prescriptions (UR-B01)

Further detail from works agreed with ground works contractors.

Areas with black borders below are areas to be enhanced through removal of small trees and scrub

Areas with purple border are to be scraped and receive substrate enhancement from material recovered from the red line land. This to include a boulder field in the area indicated by yellow crosses as a receptor site and long term habitat for common lizard.



## Urban

### Creation, Enhancement and Management Detailed Methods (UR-T02)

Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Parcels	Timing	Prescriptions
Preparation (existing areas to be enhanced)	6,9,10,14,15, 18, 19 , 23, 28, 44	Year 1 Winter dormant period	Scrub and small trees from these areas will be cleared and used to create log piles elsewhere on Site.
Preparation (enhanced from existing grassy scrub)	25, 31 42	During site clearance in red line zone.	Patches within the uniform grassland will be scraped away to reveal the thin, poor subsoils, and new extraneous material from within the red line land brought into these areas to create a varied topography.
Sowing	All OMPD parcels	Late autumn / early spring following preparation works	A mosaic of fine-leaved grasses and a range of flowering plants are required to fulfil the requirements of the open mosaics. It is likely that a commercially sourced seed mixture may not be suitable, but a bespoke mix should be specified to include the species listed on the following page. Seed will either be broadcast by hand or by approved lightweight machinery at c. 40kg/ha.
Sward Management	All OMPD parcels	Annually September and April	Areas will be subject to regular disturbance, to ensure the sward remains low and that bare ground comprises approximately 50% of the habitat mosaic. This will involve a single cut and heavy scarification in September and another cut and scarification in April each year. Annual monitoring will be undertaken by the ECoW, which will dictate the need for remedial actions (i.e. an increase or decrease in disturbance levels).
Scrape management	All OMPD parcels	5 yearly or in response to monitoring	Scrapes will be created throughout this area on a periodic basis. The level and extent of these scrapes will be decided on the ground in response to monitoring reports. Ground would be compacted to impede permeability, creating temporal pools.

## Urban Species Lists (UR-T03)

Species for Open mosaic enhancement:

A mosaic of fine-leaved grasses and a range of flowering plants are required to fulfil the requirements of the open mosaics. It is likely that a commercially sourced seed mixture may not be suitable, but a bespoke mix should be specified to include the following species:

- common bird's-foot trefoil (*Lotus corniculatus*)
- hawkbits (*Leontodon* spp.)
- hawkweeds (*Hieracium* spp.)
- kidney vetch (*Anthyllis vulneraria*)
- labiates (*Lamiaceae*)
- meadow vetchling (*Lathyrus pratensis*)
- mignonettes (*Reseda* spp.)
- other trefoils (*Fabaceae*)
- other vetches (*Vicia* spp.)
- red clover (*Trifolium pratense*)
- St. John's wort (*Hieracium* spp.)
- wild carrot (*Daucus carota*)

## Other Supporting Information

### Supporting Information (UR-B02)

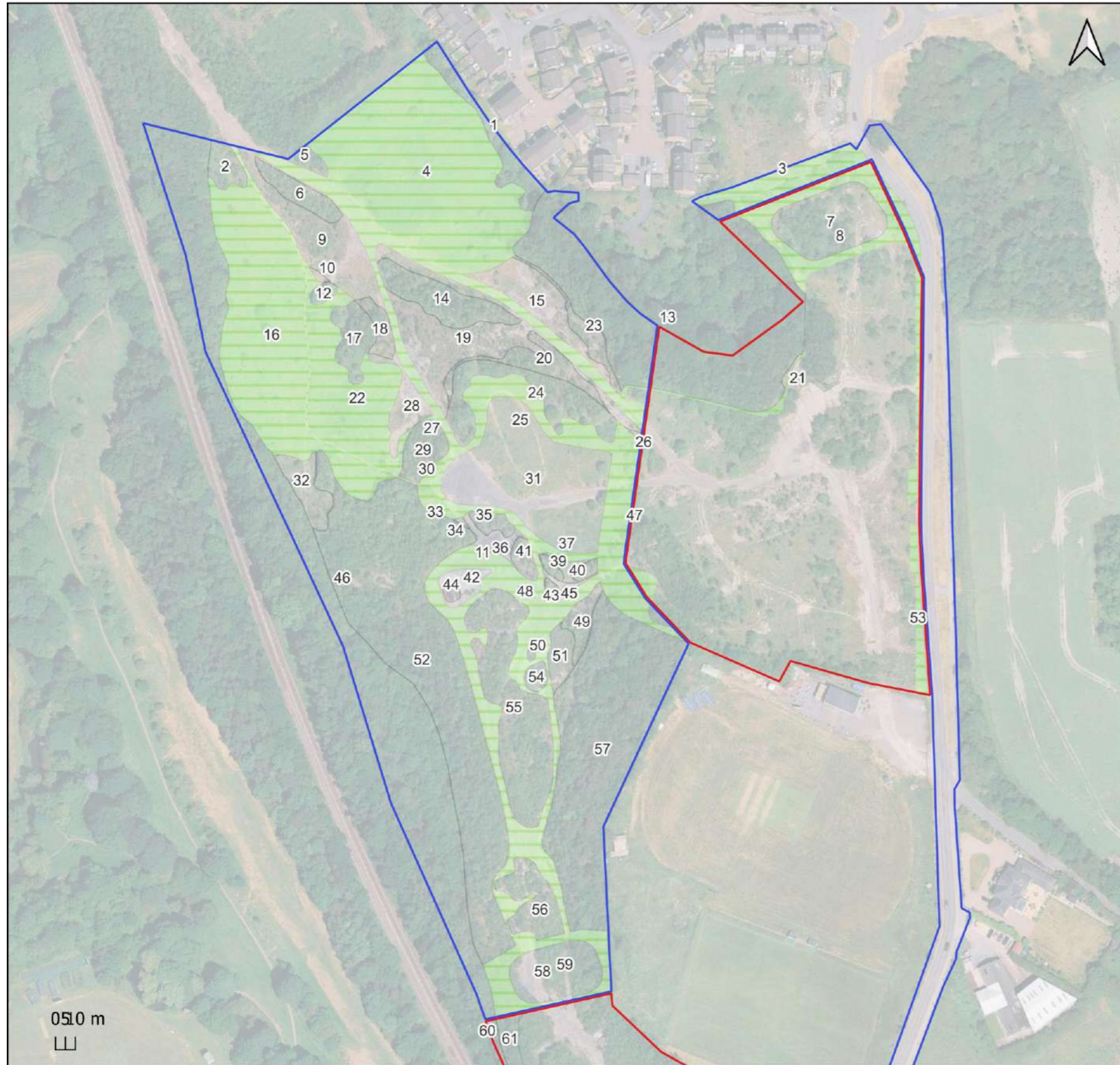
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## What Does Success Look Like? (UR-F01)



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

## Other neutral grassland



## Specific Objective Areas

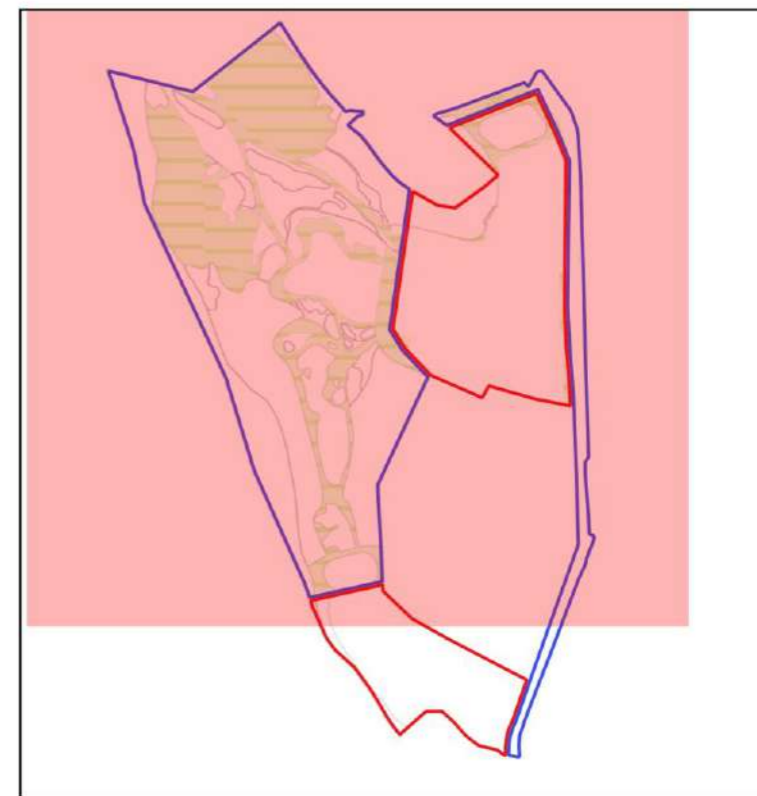
- Red Line Boundary
- Blue Line Boundary
- HMMP Proposed habitat type
- Other neutral grassland

### Objective 3:

Other Neutral Grassland Enhanced to Good Condition

### Objective 4:

Other Neutral Grassland Created in Good Condition



Target Habitat			Objective 3: Other Neutral Grassland Enhanced to Good Condition			
Target Habitat			Objective 4: Other Neutral Grassland Created to Moderate Condition			
Target condition requirements			Good: Passes 5 or 6 criteria, including essential criterion A and additional criterion F.			
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
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	4,3,27,37,3 3,16,30,25, 22  11,47,58,8, 53	Use of a species rich meadow seed mix which is well matched to site soil type will ensure a sufficient diversity and successful establishment of target species appropriate to the site conditions.	Overseeding with a species rich meadow seed mix which is well matched to site soil type will ensure a sufficient diversity and successful establishment of target species appropriate to the site conditions.	A mowing regime will be adopted as prescribed to ensure successful establishment and maintenance.
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.	YES	4,3,27,37,3 3,16,30,25, 22  11,47,58,8, 53	Following establishment, a varied mowing regime which targets 20% – 30% areas < 7cm	Implement annual mowing regime which targets 20% – 30% areas < 7cm	Implement annual mowing regime which targets 20% – 30% areas < 7cm
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	YES	4,3,27,37,3 3,16,30,25, 22  11,47,58,8, 53	Following initial creation works, ground conditions will be monitored through the establishment period and bare ground cover monitored to identify the need for interventions that increase bare ground cover through localised scrapes or other means.	bare ground cover monitored to identify the need for interventions that increase bare ground cover through localised scrapes or other means.	Monitoring will identify the need for interventions that increase bare ground cover through localised scrapes or other means.
D	Cover of bracken Pteridium aquilinum less than 20% and cover of scrub (including bramble) less than 5%.	YES	4,3,27,37,3 3,16,30,25, 22  11,47,58,8, 53	Meadow grassland created from bare weed free soil conditions.	Cover of existing grassland in Parcel 2 will be maintained free from encroaching scrub.	Ongoing controls to reduce cover where required in response to monitoring.
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	4,3,27,37,3 3,16,30,25, 22  11,47,58,8, 53	Following initial creation works, ground conditions will be monitored through the establishment period and weed species monitored to identify the need for controls	Protection and weeding of existing grassland to ensure sward is free from suboptimal species and undamaged.	Monitoring will identify the need for weeding or sward protection
F	There are 10 or more vascular plant species per m2 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.	YES	4,3,27,37,3 3,16,30,25, 22  11,47,58,8, 53	Use of a species rich meadow seed mix which is well matched to site soil type will ensure a sufficient diversity and successful establishment of target species appropriate to the site conditions.	Use of a species rich meadow seed mix which is well matched to site soil type will ensure a sufficient diversity and successful establishment of target species appropriate to the site conditions.	A mowing regime will be adopted as prescribed to ensure successful establishment and maintenance. Scrub management to prevent encroachment of undesirable sp.

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

### Creation, Enhancement and Management Detailed Methods

Refer to Landscape Plans for grassland areas with the red line land

Action	Relevant Parcels	Timing	Prescriptions
Preparation (retained grassland— BLUE LINE)	3,4,16,22,25,27,30,33,37	Year 1	This covers grassland retained within the Blue line area.  Grassland to be cut hard (10-20mm cutting height) and scarified in October, with all cuttings/ thatch to be collected and removed. Aim will be to create 50% bare ground to vegetation ratio.  All young scrub within this area to be flail mown or cut using hand tools (depending on size). Some larger scrub will be retained to provide edge habitat.
Preparation (new soils—RED LINE)	8,11,47,53,58	Year 1	This covers any 'made ground areas', where habitat and soils have been removed during construction, and are re-instated as part of landscaping operation. This covers land within the red line boundary.  No more than 5cm of topsoil will be spread over the subsoil profile. Spread using back actor, spread and firmed. Not driven over and compacted.  IMPERATIVE: all soil handling and spreading to be supervised and sanctioned by ECoW- failure is very likely if not.
Meadow seeding	3,4,16,22,25,27,30,33,37 8,11,47,53,58	Year 1 Autumn or Year 2 Spring	Retained grassland that does not currently support yellow rattle will be seeded with this species.  Sowing all areas where species diversity is currently low: Seed according to supplier's instructions. Seed will either be broadcast by hand or by approved lightweight machinery at c. 40kg/ha.  If soils have been spread before September, any weed growth that has established in the meantime will be sprayed off with an approved herbicide and a seedbed be re-prepared.  Following seeding, the area will be lightly rolled to incorporate the seed with the growing substrate.
Establishment  Newly created and enhanced grassland types	4,16,22,25,27,30,33,37 8,11,47,53,58	Year 1-2	Five cuts, collect arisings and remove from Site.  Use a weed wipe three times in year 1 to kill off weeds - spear thistle, creeping thistle, broad-leaved dock, clustered dock, wood dock, curled dock, nettle, ragwort, and others, according to ECoW recommendations. Operatives must be proven competent in weed identification.
Establishment  Retained grassland	3	Year 1-2	Up to two cuts, once in September and again in October if required. Collect and remove arisings - store onsite in rot pile. Continue to spot treat competitive weed species each year until under control according to monitoring results.
Maintenance  Road verges around residential development	8,11,47,53,58	Year 2 onwards	Cut once per month during the growing season, leave for 5 weeks in June. Arisings may be left to rot in situ unless condition is deteriorating.
Maintenance  Land within the blue line	3,4,16,22,25,27,30,33,37	Year 2 onwards	Two cuts, once in August and again in October—remove arisings. Continue to spot treat competitive weed species each year until under control according to monitoring results.  Scrub Management: Scrub will be flail mown or removed using hand tools from within the grassland areas.

## Grassland (Medium, High, and Very High Distinctiveness) Species Lists (GH-T03)

The following seed mix will be used: Emorsgate *EM2 - General Purpose Meadow mix*

### Wild flowers – 15%

- 0.60% *Achillea millefolium* – Yarrow
- 1.50% *Betonica officinalis* – Betony
- 2.25% *Centaurea nigra* – Common Knapweed
- 0.75% *Daucus carota* – Wild Carrot
- 0.75% *Galium album* – Hedge Bedstraw
- 0.90% *Galium verum* – Lady’s Bedstraw
- 0.30% *Geranium pratense* – Meadow Crane’s-bill
- 1.50% *Leucanthemum vulgare* – Oxeye Daisy
- 0.45% *Medicago lupulina* – Black Medick
- 0.75% *Primula veris* – Cowslip
- 1.50% *Prunella vulgaris* – Selfheal
- 1.50% *Ranunculus acris* – Meadow Buttercup
- 0.60% *Silene dioica* – Red Champion
- 1.20% *Silene vulgaris* – Bladder Champion
- 0.45% *Vicia cracca* – Tufted Vetch

### Grasses – 85%

- 8.50% *Agrostis capillaris* – Common Bent
- 29.75% *Cynosurus cristatus* – Crested Dogstail
- 25.50% *Festuca rubra* – Red Fescue
- 4.25% *Phleum bertolonii* – Smaller Cat’s-tail
- 17.00% *Poa pratensis* – Smooth-stalked Meadow-grass

## Other Supporting Information

### Supporting Information (GH-B02)



## What Does Success Look Like? (GH-F01)



# Habitat Creation, Enhancement and Management Plan – significant features in this HMMP

## Other woodland; broadleaved



## Specific Objective Areas

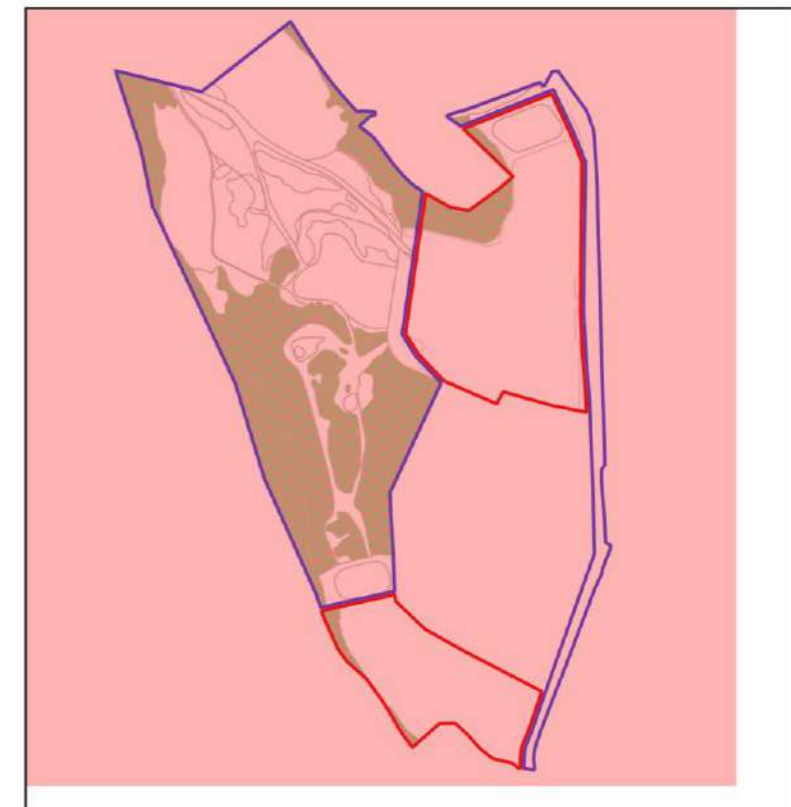
- Red Line Boundary
- Blue Line Boundary
- HMMP Proposed habitat type
- Other woodland; broadleaved

### Objective 5:

Other Woodland; Broadleaved Retained in Moderate and Enhanced to Good Condition

### Objective 6:

Other Woodland; Broadleaved Created in Moderate and Good Condition



Target Habitat: Other woodland; broadleaved			Objective 5: Other Woodland; Broadleaved Retained in Moderate (parcel 60) and Enhanced to Good Condition (all other parcels)					
Target condition requirements:			Moderate: Total score 26 to 32		Good: Total score >32 (33 to 39)			
Condition Assessment Criteria			Baseline W1	Baseline W2	Target Score	Creation Approach	Enhancement Approach	Management Approach
A	Age distribution of trees	Three age classes present	2	1	2	N/A	Thinning and Planting will establish a new age class of tree species over time.	Periodic thinning to maintain 2+ age classes
		Two age classes present						
		One age class present						
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland	3	3	3	N/A	Not targeted.	N/A
		Evidence of significant browsing pressure is present in 40% or less of whole woodland						
		Evidence of significant browsing pressure is present in 40% or more of whole woodland						
C	Invasive plant species	No invasive species present in woodland	3	3	3	N/A	Not targeted	N/A
		Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover						
		Rhododendron or laurel present, or other invasive species) 10% cover						
D	Number of native trees species	Five or more native tree or shrub species found across woodland parcel	3	1	3	N/A	Planting to increase tree species richness	Beating up of planting failures
		Three to four native tree or shrub species found across woodland parcel						
		Two or less native tree or shrub species present across woodland parcel						
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understorey shrubs are native	3	3	3	N/A	Removal of all non-native species. Replanting to then introduce new native species such as oak, hazel and blackthorn	Monitoring for establishment. Replanting if any failures in first years.
		50 – 80% of canopy trees and 50-80% of understorey shrubs are native						
		<50% of canopy trees and <50% understorey shrubs are native						
F	Open space within woodland	10-20% of woodland has areas of temporary open space. Unless woodland <10ha in which case 0-20% temporary open space is permitted.	3	1	3	N/A	Thinning to create open space where required	Perioding thinning in response to monitoring
		21-40% of woodland has areas of temporary open space						
		<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.						

G	Woodland regeneration	All three classes present in woodland; trees 4-7cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth						
		One or two classes only present in woodland	2	1	2	N/A	Not targeted.	N/A
		No classes or coppice regrowth present in woodland						
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback						
		11% to 25% mortality and/or crown dieback or low risk pest or disease present	3	3	3	N/A	Not targeted.	N/A
		Greater than 25% tree mortality and or any high risk pest or disease present						
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.						
		Recognisable NVC plant community at ground layer present	1	1	2	N/A	Seeding ground flora with EW1 mix	Monitor and replace failures
		No recognisable NVC plant community at ground layer present.						
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland.						
		Two storeys across all survey plots	2	1	3	N/A	Selective thinning to ensure light penetration to all layers supports regeneration of ground, field, shrub and canopy.	N/A
		One or less storey across all survey plots						
K	Veteran trees	Two or more veteran per hectare						
		One veteran tree per hectare	1	1	2	N/A	Veteran features (rot, damage, hollows, fungus) to be encouraged in mature trees where opportunity exists	N/A
		No veteran trees present in woodland						
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems and stumps, or an abundance of small cavities.						
		Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	1	1	3	N/A	Selective thinning of non-native trees with cut timber retained to increase the amount fallen deadwood. Selected trees to be ring barked as standing deadwood monoliths.	Monitor and assess need to increase
		Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.						
M	Woodland disturbance	No nutrient enrichment or damaged ground evident						
		Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground	3	3	3	N/A	Not targeted.	N/A
		More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground						
Totals			30	23	35			

Target Habitat:			Objective 6: Other Woodland; Broadleaved Created in Moderate and Good Condition				
Target condition requirements			Moderate: Total score 26 to 32      Good: Total score >32 (33 to 39)				
Condition Assessment Criteria			Target Score	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
A	Age distribution of trees	Three age classes present	2	All new	All planting to occur at same time – uniform age class expected in first 20 years.	N/A	Periodic thinning and supplementary planting to allow natural regeneration in 20 – 30 years.
		Two age classes present					
		One age class present					
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland	3	All new	Some level of rabbit and deer grazing expected. Trees planted in guards to ensure establishment.	N/A	Select thin and weak or damaged/ diseased specimens.
		Evidence of significant browsing pressure is present in 40% or less of whole woodland					
		Evidence of significant browsing pressure is present in 40% or more of whole woodland					
C	Invasive plant species	No invasive species present in woodland	3	All new	No INNS will be planted. No sources of infection present in immediately surrounding landscape. Risk of INNS occurring is low.	N/A	Monitoring for INNNS. Remedial actions taken if detected.
		Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover					
		Rhododendron or laurel present, or other invasive species) 10% cover					
D	Number of native trees species	Five or more native tree or shrub species found across woodland parcel	3	All new	Wide range of tree species planted.	N/A	Monitoring for establishment. Replanting is any failures in first years.
		Three to four native tree or shrub species found across woodland parcel					
		Two or less native tree or shrub species present across woodland parcel					
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understorey shrubs are native	3	All new	Wide range of tree species planted.	N/A	Monitoring for establishment. Replanting is any failures in first years.
		50 – 80% of canopy trees and 50-80% of understorey shrubs are native					
		<50% of canopy trees and <50% understorey shrubs are native					

F	Open space within woodland	10-20% of woodland has areas of temporary open space. Unless woodland <10ha in which case 0-20% temporary open space is permitted.	3	All new	Small woodland. Achieved by default.	N/A	Small woodland. Achieved by default
		21-40% of woodland has areas of temporary open space					
		<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.					
G	Woodland regeneration	All three classes present in woodland; trees 4-7cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth	2	All new	All planting to occur at same time – uniform age class expected in initial planting phase. First phase regeneration anticipated by Year 15	N/A	Monitoring to support and inform sapling and seedling regeneration.
		One or two classes only present in woodland					
		No classes or coppice regrowth present in woodland					
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	2	All new	Some mortality to be expected.	N/A	Replanting will take place as and when required.
		11% to 25% mortality and/or crown dieback or low risk pest or disease present					
		Greater than 25% tree mortality and or any high risk pest or disease present					
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	2	All new	Seeding ground flora with EW1 mix	N/A	Monitor and replace failures
		Recognisable NVC plant community at ground layer present					
		No recognisable NVC plant community at ground layer present.					
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland.	2	All new	All planting to occur at same time. Young canopy with viable ground and field layer emergent by Year 15	N/A	Monitoring to inform need for thinning and / or ground flora enhancement once canopy begins to close.
		Two storeys across all survey plots					
		One of less storey across all survey plots					
K	Veteran trees	Two of more veteran per hectare	2	All new	Veteran features on maturing trees to be encouraged in mature trees where opportunity exists over time	N/A	Veteran features on maturing trees to be encouraged in mature trees where opportunity exists over time
		One veteran tree per hectare					
		No veteran trees present in woodland					

L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems and stumps, or an abundance of small cavities.	3	All new	Dead wood from thinning of existing woodland and scrub introduced	N/A	Dead wood from thinning of existing woodland and scrub introduced
		Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stumps and stumps, or an abundance of small cavities.					
		Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stumps and stumps, or an abundance of small cavities.					
M	Woodland disturbance	No nutrient enrichment or damaged ground evident	3	All new	Limits to ground damage achieved through vehicle or pedestrian access controls. Nutrient enrichment from grazing or run-off not considered a risk in this context.	N/A	Monitor and modify controls as required.
		Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground					
		More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground					
			33				

**Additional Management Prescriptions (WO-B01)**

## Woodland

### Creation, Enhancement and Management Detailed Methods (WO-T02)

Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Parcels	Timing	Prescriptions
Stratification of birch scrub	All	Year 1 November to February inclusive.	<p>Thinning to create open areas and diversify species.</p> <p>The aim will be to steer the existing dense birch scrub into a well-structured and diverse broadleaved woodland.</p> <p>Areas currently comprising of dense, uniform-aged birch scrub will be thinned out by 50% in the first year. This work will be undertaken by a suitable arboriculture contractor, under the direction of a suitable experienced Ecologist.</p> <p>The aim will be to open up areas so as to allow underplanting with a more diverse range of woody species.</p> <p>All arisings from thinning will be retained within the woodland areas to increase dead wood percentage. Brash will be stacked to create dead wood habitat, larger stems and branches will be cut to ground in large sections which are too heavy to be lifted by public foragers.</p>
Woodland species planting	All	Year 1 October - February	<p>Planting (understory / canopy species) :</p> <p>Once the birch scrub has been thinned, a mix of species will be planted within and both the scrub and existing woodland areas.</p> <p>These will be planted as bare root whips during the dormant period</p> <p>Seeding:</p> <p>Once the understory has been planted with whips , the woodland floor and area designated as 'Woodland Glade' will be seeded with Emorsgate Seed mix EW1—Woodland Mix. This will be sown according to the suppliers instructions.</p>
Establishment	All	Years 1-5	<ul style="list-style-type: none"> <li>• Weed when seedlings and whips are establishing to remove competing vegetation.</li> <li>• Use wood chips to mulch a one metre radius around each plant to suppress weeds and help to retain soil moisture.</li> <li>• Use herbicides only if there are no alternative methods of control. Spraying up to a one-metre radius around each plant will suppress weed competition. Avoid spraying wildflowers as they are important for nectar-feeding. Use a product that only controls grasses. It is legally required to comply with all statutory regulations when using herbicides.</li> </ul> <p>Shrubs are vulnerable to rabbits during establishment and must be protected with spiral guards or tubes. Larger scrub areas should be fenced off to protect them from rabbits and/or deer as required, using a 1.2m high timber post and wire, stock proof fencing with rabbit netting attached and buried 300mm below ground and turned out to deter burrowing rabbits getting under the fence.</p>
Beating up in response to monitoring	All	Year 2 – 5 October - February	Monitor woodland establishment in spring April – May to plan for replacement of failures or further seeding in the following autumn / early spring.
Selective thinning	All	Year 5 / 10 October - Feb	Repeat selective thinning and dead wood provision as set out for Year 1.

## Woodland Species Lists (WO-T03)

a mix of species will be planted within and both the scrub and existing woodland areas. This will include:

- oak (*Quercus* spp.)
- hazel (*Corylus avellana*)
- blackthorn (*Prunus spinosa*)
- field maple (*Acer campestre*)
- hawthorn (*Crataegus monogyna*)
- rowan (*Sorbus aucuparia*)

Emorsgate Seed mix *EW1—Woodland Mix*:

### Wild Flowers 20%

- 1.00% *Alliaria petiolata* – Garlic Mustard
- 1.00% *Allium ursinum* – Ramsons
- 0.50% *Angelica sylvestris* – Wild Angelica
- 0.40% *Arctium minus* – Lesser Burdock
- 4.00% *Digitalis purpurea* – Foxglove
- 0.10% *Eupatorium cannabinum* – Hemp-agrimony
- 0.80% *Filipendula ulmaria* – Meadowsweet
- 1.60% *Galium album* – Hedge Bedstraw
- 0.40% *Geum rivale* – Water Avens
- 4.00% *Hyacinthoides non-scripta* – Bluebell
- 0.20% *Iris foetidissima* – Gladdon
- 1.60% *Prunella vulgaris* – Selfheal
- 0.40% *Ranunculus acris* – Meadow Buttercup
- 3.00% *Silene dioica* – Red Campion
- 1.00% *Vicia cracca* – Tufted Vetch

### Grasses 80%

- 4.80% *Agrostis capillaris* – Common Bent
- 28.00% *Cynosurus cristatus* – Crested Dogstail
- 6.00% *Dactylis glomerata* – Cocksfoot
- 1.60% *Deschampsia cespitosa* – Tufted Hair-grass (w)
- 20.00% *Festuca rubra* – Red Fescue
- 9.60% *Holcus lanatus* – Yorkshire Fog
- 6.00% *Poa nemoralis* – Wood Meadow-grass
- 4.00% *Poa trivialis* – Rough-stalked Meadow-grass

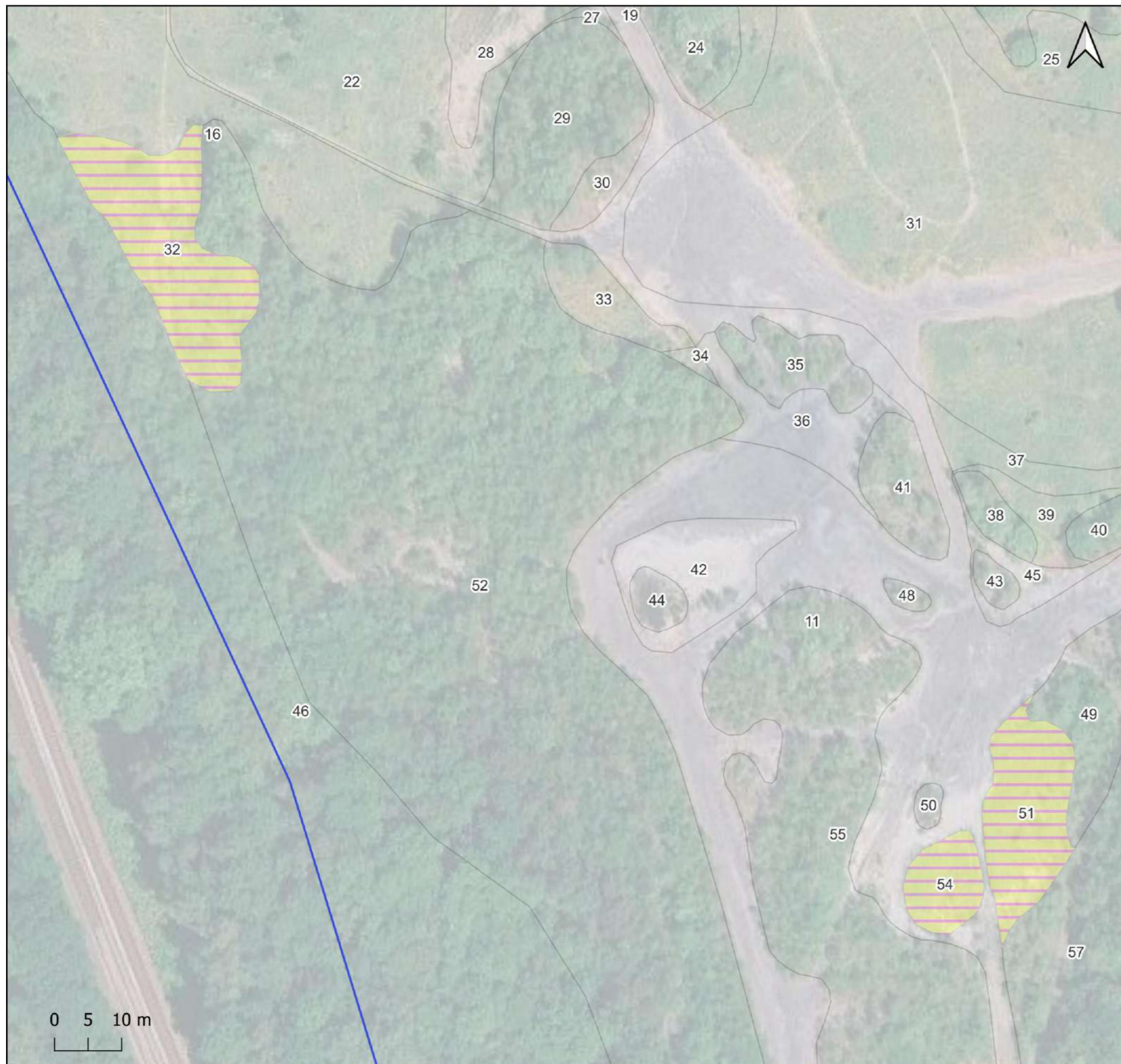
## Supporting Information (WO-B02)

## What Does Success Look Like? (WO-F01)



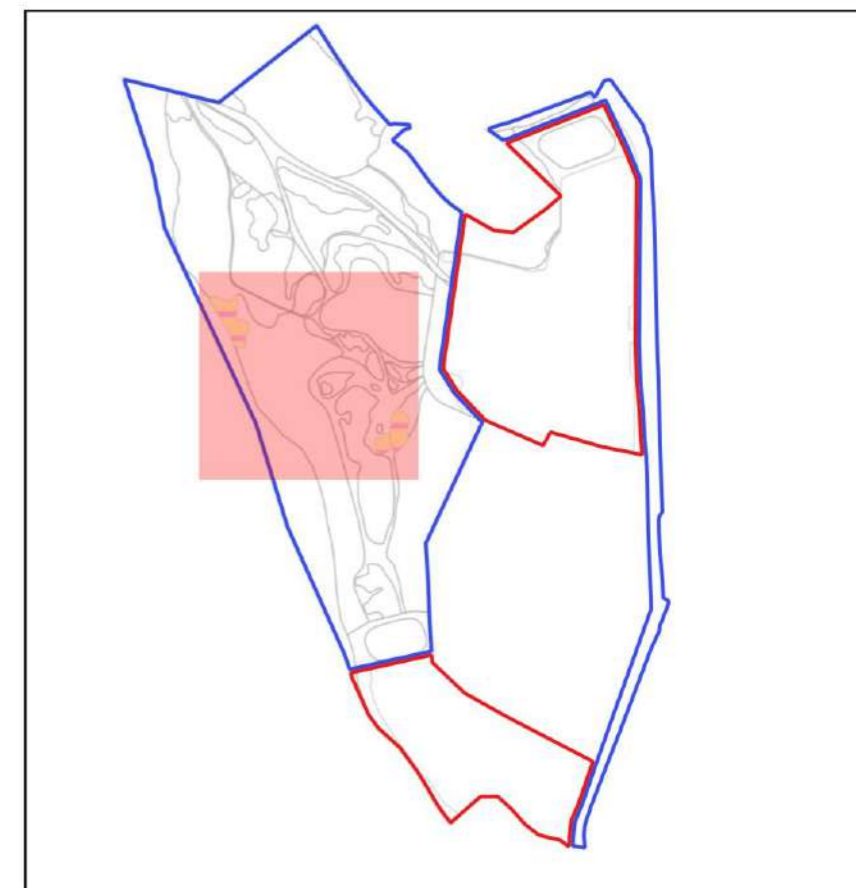
Examples of woodland with richer vegetation, diverse structure and dead wood present.

# Reedbeds



# Specific Objective Areas

- Blue Line Boundary
- HMMP Proposed habitat type
- Reedbeds



## Wetland

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

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 23. Wetland

Target Habitat:		Objective 7: Reedbeds enhanced from Poor and Moderate to Good condition				
		Good: Passes 5 or 6 core criteria, including criterion A				
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
A	The water table is at, or near the surface throughout the year – this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above.  <b>Note - this criterion is essential for achieving Good condition.</b>	YES	32,51,54	N/A	Control to dominant vegetation to ensure open water.	Monitoring of water levels with interventions as required.
B	The parcel represents a good example of its specific habitat type – the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present.	YES	32,51,54	N/A	Already achieved in baseline	
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	YES	32,51,54	N/A	Water supply to reedbeds is groundwater of good quality.	Pollution monitoring following establishment
D	Cover of scrub and scattered trees are less than 10%.	YES	32,51,54	N/A	Thinning of scrub and trees in immediate and surrounding areas	
E	Cover of bare ground is less than 5%.	YES	32,51,54	N/A	Already achieved in baseline	
F	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.	YES	32,51,54	N/A	Already achieved in baseline	
I	The reedbed has a diverse structure with between 60 and 80% reeds <i>Phragmites australis</i> . Other areas may include open water (at least 10%), species-rich fen and or wet woodland.  (only applicable to Reedbed habitat type)	YES	32,51,54		Diversify vegetation structure through cutting of reeds to target % cover.	Periodic reed cutting to maintain >10% open water.

### Additional Management Prescriptions (WE-B01)

## Wetland

### Creation, Enhancement and Management Detailed Methods (WE-T02)

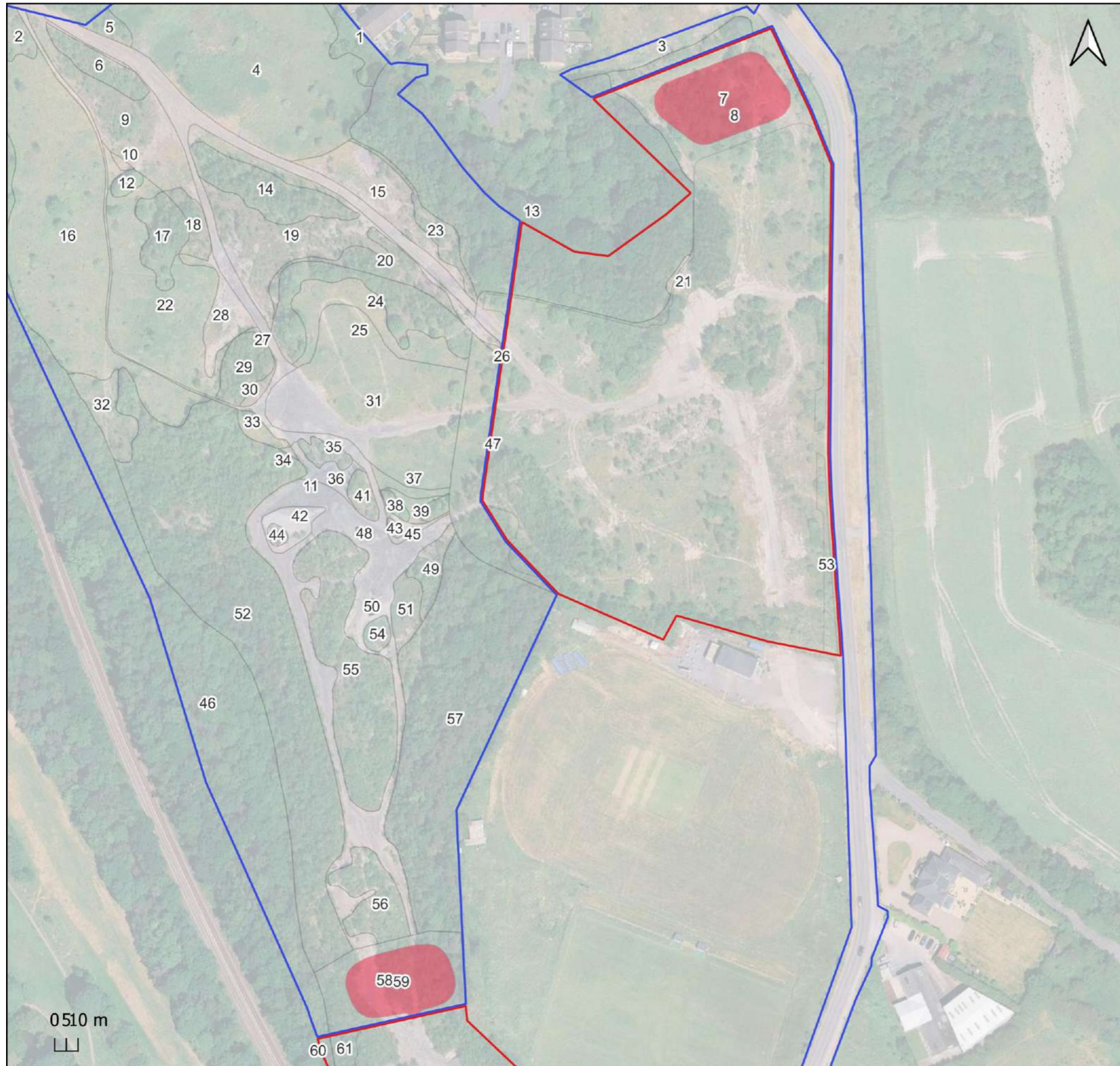
Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Parcels	Timing	Prescriptions
Water table and supply controls	32,51,54	Year 1	Water supply and water table management of the reedbeds assessed to review any controls that ensure clean supply and water recharge to maintain levels required for healthy reed bed maintenance.
Scrub and tree removal	32,51,54	Year 1 – Nov to Feb	In association with thinning of birch in surrounding areas, birch and other scrub and trees will be carried out to reduce cover to < 10%.
Emergent vegetation control	32,51,54	Year 1 – Nov to Jan	Initial cutting and uprooting of reeds ( <i>Phragmites australis</i> ) and other emergent aquatic or marginal vegetation to establish an open water habitat in at least 10% of the reed beds.  Hand cutting by operators is preferable to mechanical clearance in order to reduce wildlife disturbance.

### What Does Success Look Like? (WE-F01)

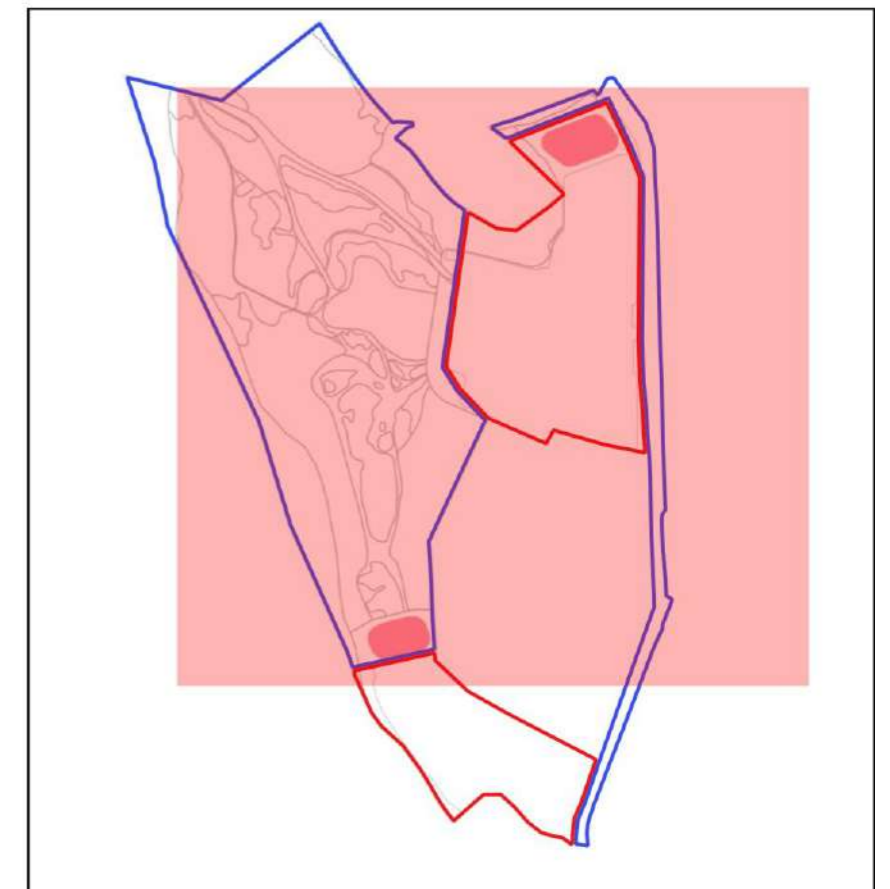


## Sustainable drainage system



## Specific Objective Areas

- Red Line Boundary
- Blue Line Boundary
- HMMP Proposed habitat type
- Sustainable drainage system



## Urban

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

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 22. Urban

Target Habitat:		Objective 8: Sustainable Drainage System Created in Moderate condition				
		Moderate: Passes 3 or 4 of 5 criteria; OR Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C				
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.					
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	YES	7,59	Seeding the basins with appropriate mixes that provide a variety of flowering species suited to wet substrates.	N/A	Vegetation management to support a diverse grassy and herbaceous sward using selective timing of cutting.
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of total vegetated area.  <b>Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than &lt;5% cover).</b>	YES	7,59	No INNS present during initial surveys and made substrate will be prepared to control and manage emergent weed species.	N/A	Ongoing monitoring for INNS and undesirable species with controls in response to findings.
D1	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS:  - At least four early successional communities (a) to (i);  Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.  (only applicable to Open mosaic on previously developed land habitat type)					
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife.  (only applicable to Bioswale and SUDS habitat types)	YES	7,59	Seeding the basins with appropriate mixes that provide a variety of flowering species suited to wet substrates.	N/A	Vegetation management to support a diverse grassy and herbaceous sward using selective timing of cutting.
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.  (only applicable to Bioswale and SUDS habitat types)	YES	7,59	Seeding the basins with appropriate mixes that provide a variety of flowering species suited to wet substrates.	N/A	Vegetation management to support a diverse grassy and herbaceous sward suited to wetland conditions

## Urban

### Creation, Enhancement and Management Detailed Methods (UR-T02)

Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Parcels	Timing	Prescriptions
Ground preparation	7,59	Year 1	SUDS basins will be formed to required engineered specification. Basin bottoms to be created with a varied rough profile which allow for seasonal puddling and variation in moisture levels.
Preparation	7,59	Year 1	<p>This covers both SUDS basin areas, where habitat and soils have been removed during construction, and are re-instated as part of landscaping operation.</p> <p>No more than 5cm of topsoil will be spread over the subsoil profile. Spread using back actor, spread and firmed. Not driven over and compacted.</p> <p>IMPERATIVE: all soil handling and spreading to be supervised and sanctioned by ECoW- failure is very likely if not.</p>
Seeding	7,59	Year 1 Autumn or Year 2 Spring	<p>Seed with mixes as below dependent on localised moisture levels:</p> <ul style="list-style-type: none"> <li>• Emorsgate EM8 - Wet Meadow Mixture – dryer margins</li> <li>• Emorsgate EP1 'Pond Edge Mix' – wetter scrapes and seasonally wet area</li> </ul> <p>Seed according to supplier's instructions. Seed will either be broadcast by hand or by approved lightweight machinery at c. 40kg/ha.</p> <p>If soils have been spread before September, any weed growth that has established in the meantime will be sprayed off with an approved herbicide and a seedbed be re-prepared.</p> <p>Following seeding, the area will be lightly rolled to incorporate the seed with the growing substrate.</p>
Establishment Newly created and enhanced grassland types	7,59	Year 1-2	<p>Five cuts, collect arisings and remove from Site.</p> <p>Use a weed wipe three times in year 1 to kill off weeds - spear thistle, creeping thistle, broad-leaved dock, clustered dock, wood dock, curled dock, nettle, ragwort, and others, according to ECoW recommendations. Operatives must be proven competent in weed identification.</p>
Maintenance Land within the blue line	7,59	Year 2 onwards	<p>Two cuts, once in August and again in October—remove arisings. Continue to spot treat competitive weed species each year until under control according to monitoring results.</p> <p>Scrub Management: Scrub will be flail mown or removed using hand tools from within the grassland areas.</p>

## Urban Species Lists (UR-T03)

Species list for the sustainable drainage basins

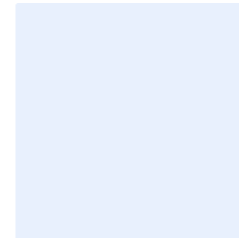
- Emorsgate EM8 - Wet Meadow Mixture – dryer margins
- Emorsgate EP1 'Pond Edge Mix' – wetter scrapes and seasonally wet area

## Other Supporting Information

### Supporting Information (UR-B02)

Seed mixes specifies are a combination of EM8 as proposed in the EDA plan and EP1 specified in the Landscape Specifications.

## What Does Success Look Like? (UR-F01)



# Individual Trees



## Objective 9:

Urban Trees Created in Moderate Condition

- Red Line Boundary
- Blue Line Boundary
- INDIVIDUAL TREES**
- ◆ Proposed Small Urban Tree



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

Target Habitat:		Objective 9: Planted Urban trees Created in Moderate Condition				
Condition targets		Moderate : Passes 3 or 4 criteria				
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	Native trees specified in planting schedule	N/a	Replace failed trees with like-for-like 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).	YES	All Trees	N/a	N/a	N/a
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.	YES	All Trees	Trees allowed to grow undisturbed and unimpacted.	N/a	Trees allowed to grow undisturbed and unimpacted.
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	

### Additional Management Prescriptions (UT-B01)

From Landscape masterplan:

Trees: All tree planting should conform to BS8545:2014. Standard trees to be planted in pits 800x800x450mm or dimensions of rootball, whichever is greater. Heavy and Extra Heavy Standard trees to be planted in pits 1000x1000x600mm or dimensions of rootball, whichever is greater. Alginure soil improver and 150g Enmag (or, equivalent) to be incorporated into the soil of all new tree pits. Trees to be planted centrally within a tree pit. Tree stakes shall be of hazel, chestnut or other approved timber. They shall be round, rough sawn, straight, free from projections, large or edge knots and other defects and be pointed at the lower end. They shall be strong enough not to split when driven into the ground and when ties are nailed to them (both initially and when adjusted). For Feathered trees use 2Nr stakes (1.4m by 75mm) to be driven into ground 800mm, leaving 600mm above ground. For Selected Standard Trees 2Nr stakes (1.7m by 100mm) and cross bar are required; stakes to be driven 900mm below ground leaving 800mm above ground. For Heavy/ Extra Heavy trees use 2Nr stakes (2.2m x 100mm) with a 400x100x15mm cross bar. Stakes to be driven into ground 1m leaving 1.2m above ground. Tree ties: All tree ties to be Green-Tech Holdfast Natural Tree Ties. Natural tree tie is made entirely of natural fibres and is fully bio-degradable. A spacer by formed using the Natural tree tie itself. It will not strangle the tree and will bio-degrade as the tree establishes itself.

## Individual Trees

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

Refer to Landscape Plans, Smeedan Foreman Drawing No SF 3140 LL01 Landscaping Plan Rev D

Action	Relevant Features	Timing	Prescriptions
Planting	All new trees	Year 1	According to standard landscape prescriptions including tree supports, weed control.
Replacement of failures	All new trees	As required from monitoring	Like for like replacement of failed trees based on monitoring reports.

## Individual Trees Species Lists (UT-T03)

Planted according to landscape schedule in as reproduced below

Planting Schedule

### Proposed Trees

Nr	Code	Tree Name	Specification	Girth	Height
8 -	Ac	Acer campestre	RB :Standard	8-10cm	1.8-2.0m
8 -	Al	Amelanchier lamarckii	RB :Standard	8-10cm	1.8-2.0m
18 -	Bpe	Betula pendula	RB :Light Standard	8-10cm	1.8-2.0m
4 -	MJD	Malus 'John Downie'	RB :Standard	8-10cm	1.8-2.0m
17 -	Pa	Prunus avium	RB :Standard	8-10cm	1.8-2.0m
6 -	Pp	Prunus padus	RB :Standard	8-10cm	1.8-2.0m
10 -	Qr	Quercus robur	RB :Standard	8-10cm	1.8-2.0m
11 -	SaJR	Sorbus aucuparia 'Joseph Rock'	RB :Standard	8-10cm	1.8-2.0m
24 -	Sar	Sorbus aria	RB :Standard	8-10cm	1.8-2.0m
5 -	Sau	Sorbus aucuparia	RB :Standard	8-10cm	1.8-2.0m
10 -	Tc	Tilia cordata	RB :Standard	8-10cm	1.8-2.0m

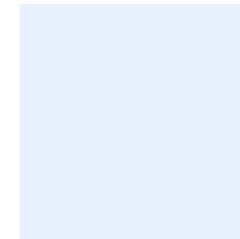
Total :121 -

## What Does Success Look Like? (UT-F01)



## Other Supporting Information

### Supporting Information (UT-B02)



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

Provide a site-wide risk register associated with creating, enhancing and, or, managing each habitat type. Consider your approach to delivering the BNG targets in case the management prescriptions do not deliver as expected.

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
April 2026	Scrub	Failure of newly planted woody species	10%+ Planted whips fail due to drought or other factors	Remedial care during adverse weather conditions during the establishment phase. Replacement of failures on like for like basis.
April 2026	Open Mosaic habitat on previously developed land	Failure to establish early successional plant communities	Vegetation cover is dominated by > 40% of a single species	Remedial scrapes to re-establish structural diversity followed by re-seeding of target species.
April 2026	Other neutral grassland and SUDS basins	Seeded grassland and basins fails to establish	Species diversity below required spp./m	Weeding including remedial scarification of substrate to create minimum 20% bare ground Ensure re-seeding at required density and composition.
	"	Seeded grassland fails condition due to over dominant weed cover.	Perennial weed cover > 30% over 50% area	Test soils for nutrient load prior to seeding to ensure low nutrient status. Removal of weeds should they arise through digging or herbicide wipe.
April 2026	Other Woodland; Broadleaved	Newly planted trees failing to establish 10% of targeted number of newly planted trees found to be dead during years 1-10.	Plant a larger number of trees initially as contingency against some losses in the early years.	Undertake a second round of planting, replacing failed specimens on a like-for-like basis
April 2026	Reedbeds	Lack of open water	Reed or other emergent vegetation cover >80%	Vegetation removal including localised dredging if required to re-establish reedbed profile and open water conditions.
April 2026	Urban trees	Failure of newly planted standards	Individual tree failure	Monitoring to identify failed trees in Year 1 – 5 and replace like-for-like.

### 3. Monitoring Schedule

To deliver BNG, a robust strategy is critical to monitor successes and challenges. Routine monitoring informs progress and facilitates the required management plan updates at set intervals.

#### Monitoring Strategy

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

The site will be visited during the growing season when plant identification and presence of seasonally visible plant species can be optimally reported.

Monitoring will be carried out by a suitably qualified ecological surveyor by a walkover survey of the site, recording conditions of each included habitat against the target condition criteria. Photographs and species lists will be used to support assessment where appropriate. Use of GPS to locate and map reported issues will allow remedial works to be effectively targeted.

At Year 5, the overall plan will be reviewed in response to findings over the first five years of monitoring and plan objectives and prescriptions revised to ensure delivery of target unit values is ensured.

#### Monitoring Methods and Intervals MS-T01

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Urban trees	Walkover survey of site to assess standard tree health and viability. Identify individuals in need of replacement or requiring intervention to ensure success.	Years 1, 2, 3, 4, 5, 10, 20, 30
Scrub	Walkover survey to assess balance of trees cover to open grassy habitat, species composition and canopy development	Years 1, 2, 3, 4, 5, 10, 20, 30
Open Mosaic habitat on previously developed land	Walkover survey with particular focus on establishment in early successional plant communities.	Years 1, 2, 3, 4, 5, 10, 20, 30
Other neutral grassland and SUDS basins	To be undertaken on all created grassland. Check progress towards UK Habitats target grassland type. Estimate percentage of undesirable weed species and damage Collect a botanical species list across grassland to check against target species list	Years 1, 2, 3, 4, 5, 10, 20, 30 Surveys to be completed between May and August
Other Woodland; Broadleaved	Walkover survey to assess woodland structure and plant communities in each structural layer.	Years 1, 2, 3, 4, 5, 10, 20, 30
Reedbeds	Walkover survey to assess reed percentage cover, open water cover and water condition; Plant community establishment and use of reedbeds by specialist wetland fauna should be noted.	Years 1, 2, 3, 4, 5, 10, 20, 30
Urban trees	Walkover survey of site to assess standard tree health and viability. Identify individuals in need of replacement or requiring intervention to ensure success.	Years 1, 2, 3, 4, 5, 10, 20, 30

## Monitoring Reports

Following completion of habitat creation and initial enhancement works, a monitoring report will be produced for the LPA. Each habitat type comprising the BNG project will be reviewed. The Natural England Monitoring Report template will be used for this purpose.

### Monitoring Report Schedule MS-T02

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
Gleeson Homes Yorkshire & South Yorkshire	Barnsley Council

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
Y1	September	September or October	Report on results of initial habitat retention, and creation measures.
Y3	September	September or October	Report on results of habitat retention, and creation measures against time to target conditions.
Y5	September	September or October	Report on results of habitat retention, and creation measures against time to target conditions. <b>Carry out first review of the plan.</b>
Y10	September	September or October	Report on results of habitat retention, and creation measures against time to target conditions. <b>Review and modify plan if required.</b>
Y15	September	September or October	Report on results of habitat retention, and creation measures against time to target conditions. <b>Review and modify plan if required.</b>
Y20	September	September or October	Report on results of habitat retention, and creation measures against time to target conditions. <b>Review and modify plan if required.</b>
Y30	September	September or October	Report on results of habitat retention, and creation measures against time to target conditions. <b>Review and modify plan if required.</b>

## Adaptive Management

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

Observations from site management and monitoring will be used to inform adaptive management, with the management plan objectives and prescriptions reviewed and updated on a 5 yearly basis.

Regular robust monitoring, and reporting to Barnsley Council will identify issues early on. Reporting will be used to make conscious decisions to implement effective actions. If the BNG objectives are affected by external factors, decisions on changes to the management prescriptions and targets will be agreed with Rushcliffe Borough Council. Following the review, any changes in this management plan and schedule will be recorded and updated.

## Condition 10

The development shall not commence until a Habitat Management and Monitoring Plan (the HMMP) prepared in accordance with the approved Biodiversity Gain Plan has been submitted to and approved by the Local Planning Authority. The HMMP shall include a non-technical summary;

- b) the roles and responsibilities of the people or organisation(s) delivering the [HMMP];
- c) the planned habitat creation and enhancement works to create or improve habitat to achieve the biodiversity net gain in accordance with the approved Biodiversity Gain Plan;
- d) the management measures to maintain habitat in accordance with the approved Biodiversity Gain Plan for a period of 30 years from the completion of development; and
- e) the monitoring methodology and frequency in respect of the created or enhanced habitat to be submitted to the local planning authority, and approved in writing by, the local planning authority.
- f) A timetable for implementation and completion of creation and enhancement works.
- g) Notice in writing shall be given to the Council within 10 working days of the implementation of the HMMP
- h) Notice in writing shall be given within 10 working days of the completion of the habitat creation and enhancement works as set out in the HMMP and a completion report, evidencing the completed habitat enhancements, has been submitted to, and approved in writing by the Local Planning Authority.
- i) Thereafter the created and/or enhanced habitat specified in the approved [HMMP] shall be managed and maintained in accordance with the approved [HMMP] for a period of 30 years following the completion of the development.

Reason: To ensure the development delivers a biodiversity net gain on site in accordance with Local Plan Policy BIO1 and Schedule 7A of the Town and Country Planning Act 1990

Our work (or that of another ecologist) is likely to have related solely to ecological issues.

Although these are the primary factors determining the potential of the site to deliver Biodiversity Units, the HMMP process requires us to consider a broader range of potential factors / constraints and it will now be necessary to assess information on (though not limited to) the following factors:

- Land tenure and public access
- Climate
- Geology / topography