

Habitat Management and Monitoring Plan

Site Name:	Castleton Sidings
Date:	12/03/2025
Version:	Version 1.0



Author:

Client:

enzygo

KELLEN
HOMES

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Version Control

The version control is used for updates to the content. Record the initial version and further version control details in this table each time the management plan is altered throughout the management and monitoring period.

Version	Issue Status	Prepared by / Date	Approved by / Date
Version 1.0		KT Smith – Assistant Ecologist 21/01/2025	Chris Schofield – Principal Ecologist 21/01/2025

Document Details

Provide ownership, copyright and licensing information within this table.

Authorship Details
KT Smith Assistant Ecologist MSc BSc (Hons) Enzygo Ltd. Manchester Office – Ducie House, Ducie Street, Manchester, M1 2JW

1. Project Background

Summarise the key aspects of your management plan in this section. Table PB-B01 can be extended to suit the specific needs of individual projects.

Site Overview PB-B01	
Project type	On-site
Development Name and Address	Castleton Ridings, Heywood Road, Rochdale
BNG Project Name and Address	Same as above
Author Organisation	KT Smith, Assistant Ecologist BSc (Hons), MSc – Enzygo Ltd.
Landowner	Kellen Homes Limited
Land Manager	Kellen Homes Limited
Responsible person/organisation for creating or enhancing the habitat	Kellen Homes Limited
Period covered by this management plan	12.03.2025 – 12.03.2055 Five year update 12.03.2030
Planning authority	Rochdale Borough Council
Planning reference (if applicable)	23/00431/HYBR
BNG register reference (if applicable)	N/A
Central OS grid reference	SD 87902 10133
Metric revision/title	Statutory Biodiversity Metric dated 10.05.24. Known as ‘Habitat Data’ and uploaded to planning portal 16.06.24.
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

Summary of Management Plan

Habitats to be Retained, Created and Enhanced PB-B02
No Habitats to be retained.
<u>Habitats to be enhanced:</u> - Other Woodland; Broadleaved (0.41ha of 1.4909ha) from Medium Distinctiveness, Fairly Poor to Moderate (target condition determined here, as not stated in BNG assessment (N/A, 2023)).(Identified as parcel one). - Ditch (0.085km of 0.085km) from Medium Distinctiveness, Poor Condition to Medium Distinctiveness, Good Condition
<u>Habitats to be created:</u> - Mixed Scrub (Four parcels totalling 1.21941ha) Medium Distinctiveness, Good Condition - Introduced Shrub (Two parcels totalling 0.2409ha) Low Distinctiveness, Condition Assessment N/A - Individual Tree - Urban Tree (0.0204ha) Medium Distinctiveness, Moderate Condition - Vegetated Garden (1.774ha) Low Distinctiveness, Condition Assessment N/A - Other Neutral Grassland (Three parcels totalling 0.2871ha) Medium Distinctiveness, Good Condition - Developed land; sealed surface (4.47ha) Very Low Distinctiveness, Condition Assessment N/A - Ponds (non-priority) (0.056ha) Medium Distinctiveness, Good Condition - Other Woodland; broadleaved (0.5611ha) Medium Distinctiveness, Good Condition. (Identified as parcel two). - Native Hedgerow (0.25km) Low Distinctiveness, Moderate Condition - Non-native and ornamental hedgerow (0.881km) Very Low Distinctiveness, Poor Condition All assessed as Low Strategic Significance in the BNG assessment (N/A, 2023).
Timescales for Actions PB-B03
Year 1 – creation and enhancement of all proposed habitats in the BNG assessment (N/A, 2023).
Years 1-30 – annual monitoring and adaptive management including the following: - Year 1 – annual wildflower cutting (wildflower and wetland wildflower areas, as indicated in Overall Landscape Layout (Ascerta, 2023c) between April - October. Years 2-30 – annual wildflower cutting and removal of arisings (or made into compost piles) between September-October. - Trimming of hedgerows and trees as required between January-February.

- Annual inspection of shrub and tree condition (i.e. to identify damaged, failing and/or diseased specimens) between January-April
- Replacement planting of any failed shrubs and trees between October-April
- Check to top up mulch and aerate soil as required between March-April and October-November
- Annual check for invasive flora across site between April-October (at the height of growing season when easiest to identify)
- Herbicide spot-treatment or hand removal of undesirable noxious weeds between April-October
- Check and removal of shrubs shading ponds, and check and control excessive emergent vegetation between October-February
- Check on pond condition to determine if remedial measures such as desilting or fish removal needed between August-September
- Check on hibernacula, rebuilding and/or cutting back vegetation as required between March-October
- Check of bird and bat boxes, with replacement if necessary. Clear out bird boxes (not bat boxes).

Monitoring Requirements PB-B04

Main monitoring requirements for this proposal will be during the habitat creation and establishment phase (years 1-5). Annual survey from years 1-30 will allow for monitoring to inform adaptive management.

Required Consents and Licences PB-B05

N/A

Funding PB-B06

Funding to be provided by the developer.

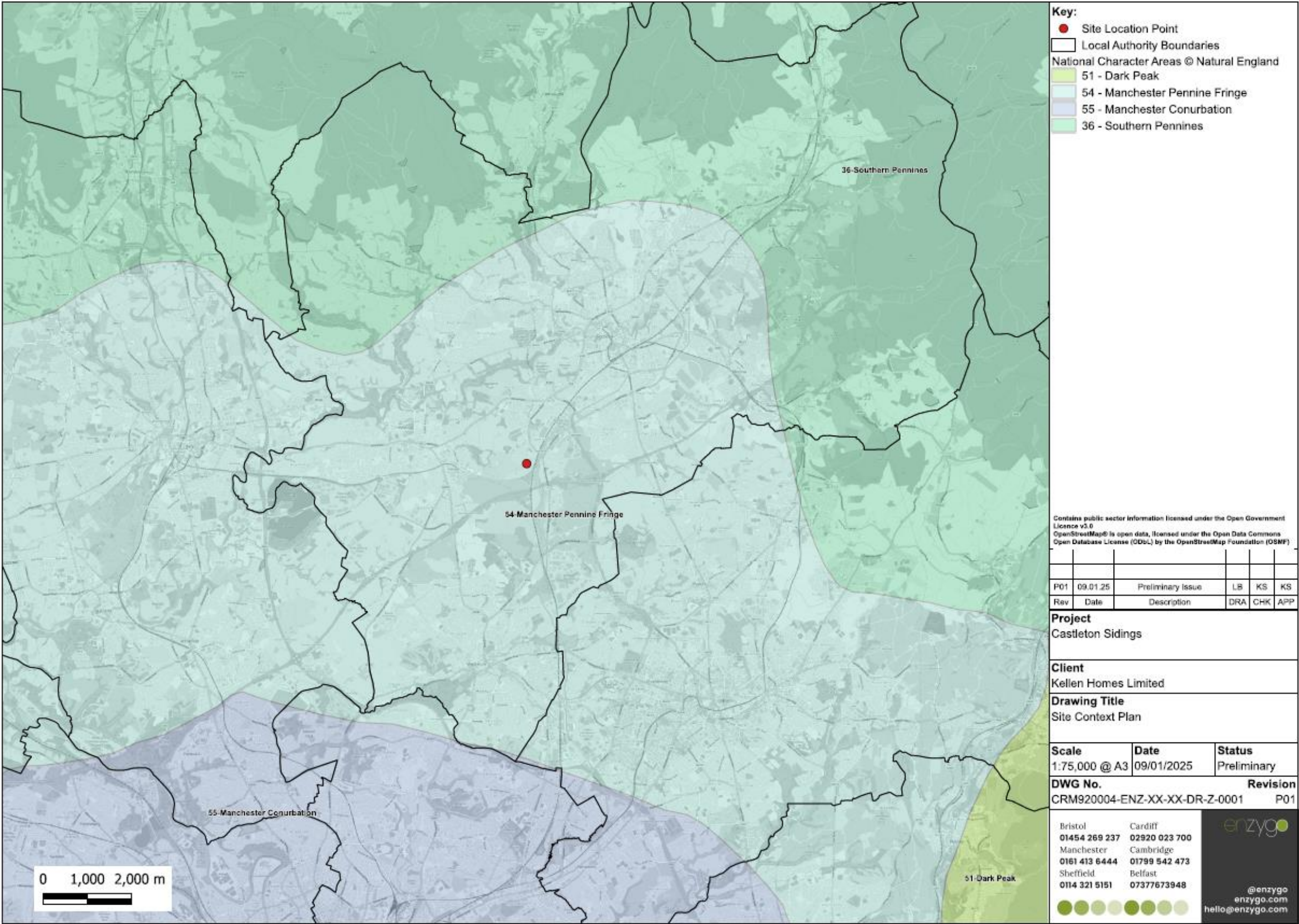
Legal Agreement PB-B07

To be provided by the developer.



Site Context Plan PB-F02

This plan should show the location of the site, including the LPA, boundary, national character area, and any relevant landscape scale policy or guidance information.



Phasing strategy

Will the proposed work measures be delivered in phases? PB-B08

Yes: ☐ No: ☒

Roles and Responsibilities

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

Ecologist or Other Professional Responsible for HMMP PB-B09

Name or Initials		KT Smith		
Organisation		Enzygo Ltd.		
Responsibility	Start Date:	12.03.2025	End Date:	12.03.2055

KT Smith produced this document for the proposed site, and subsequent reviews as needed.

Statement of Competency

KT Smith is an Assistant Ecologist, with a BSc (Hons) and MSc in Biodiversity and Conservation. KT has experience in Preliminary Ecological Appraisals and BNG assessments, as well as providing advice on ecological protection, enhancement and mitigation measures.

Landowner or Land Manager PB-B10

Name or Initials		Elanor Firth		
Organisation		Kellen Homes Limited		
Responsibility	Start Date:	12.03.2025	End Date:	12.03.2055

- Follow management plan to ensure target conditions of habitats are met, and all habitats (including those with no condition assessment applicable) are established and monitored (e.g. free of invasive non-native species and litter).

- Allow for annual monitoring surveys, following and implementing any changes made to the management plan following these surveys (adaptive management).

Statement of Competency

Previous experience in the above.

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

Name or Initials		Tony Clayton		
Organisation		Kellen Homes Limited		
Responsibility	Start Date:	12.03.2025	End Date:	12.03.2055

- Follow management plan to ensure target conditions of habitats are met, and all habitats (including those with no condition assessment applicable) are established and monitored (e.g. free of invasive non-native species and litter).

- Allow for annual monitoring surveys, following and implementing any changes made to the management plan following these surveys (adaptive management).

Statement of Competency

Construction director with previous experience in following management plans.
(Craig Higginson (Site Manager) and Paul Watt (Build Manager) will also be involved in implementing the HMMP).

LPA or Responsible Body for Reviewing HMMP PB-B12

Name or Initials		TBD		
Organisation		Rochdale Council		
Responsibility	Start Date:	12.03.2025	End Date:	12.03.2055

To review the HMMP.

[DOCUMENT TITLE]

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BIODIVERSITY NET GAIN - HABITAT MANAGEMENT AND MONITORING PLAN

Contents

Project Background

Planned Management Activities

Monitoring Schedule

Land Use Summary

Overview of Baseline Site Use PB-B13

The site comprises a disused railway sidings with of areas of hardstanding and bare ground encroached with grassland species. Semi-natural broadleaved woodland, species poor hedgerow and wet ditch border the northern site boundary, with scattered trees present throughout.

The BNG assessment (N/A, 2023) identified Mixed Scrub, Developed Land, Other Broadleaved Woodland, Modified grassland, Ditch and Native Hedgerow onsite.

Overview of Proposed Site Use PB-B14

The proposed development includes a residential development of 191 dwellings, including access, landscaping, open space together with erection of a substation and foul water pump station.

The BNG assessment (N/A, 2023) states Mixed Scrub, Introduced Shrub, Urban Tree, Vegetated Garden, Other Neutral Grassland, Developed Land, Pond (non-priority), Other Broadleaved Woodland, Native Hedgerow and Non-native and Ornamental Hedgerow are proposed to be created. The entire length of the existing Ditch, and a portion of the existing Other Broadleaved Woodland is to be enhanced.

Management regimes for the site include –

- Year 1 – annual wildflower cutting (wildflower and wetland wildflower areas, as indicated in Overall Landscape Layout (Ascerta, 2023c) between April - October. Years 2-30 – annual wildflower cutting and removal of arisings (or made into compost piles) between September-October.
- Trimming of hedgerows and trees as required between January-February.

- Annual inspection of shrub and tree condition (i.e. to identify damaged, failing and/or diseased specimens) between January-April
 - Replacement planting of any failed shrubs and trees between October-April
 - Check to top up mulch and aerate soil as required between March-April and October-November
 - Annual check for invasive flora across site between April-October (at the height of growing season when easiest to identify)
 - Herbicide spot-treatment or hand removal of undesirable noxious weeds between April-October
 - Check and removal of vegetation shading ponds, and check and control excessive emergent vegetation between October-February
 - Check on pond condition to determine if remedial measures such as desilting, fish removal or eradicating eutrophication needed between August-September
 - Check on ditch donation to determine if remedial measures as cutting back vegetation or eradicating eutrophication needed between August-September
 - Check on hibernacula, rebuilding and/or cutting back vegetation as required between March-October
- Check of bird and bat boxes, with replacement if necessary. Clear out bird boxes (not bat boxes).

Site Context Photos PB-F03

Please include two overview photographs of the site in its current form here. Include additional photographs in an appendix if needed. Tick if additional photographs are provided in the Appendices ☒ Reference: Ascerta. (2023a) Preliminary Ecological Appraisal – Castleton Sidings, Rochdale. St Helens. Uploaded to planning portal 16th June 2023.



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. For the templates for each heading see pages 3-20 of the Companion Document.

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
Statutory / Non-statutory Designated Sites	Will your proposals lead to direct or indirect effects on designated sites?	☒	Ascerta. (2023a) Preliminary Ecological Appraisal – Castleton Sidings, Rochdale. St Helens. Uploaded to planning portal 16 th June 2023. Redmore Environmental. (2023). Air Quality Assessment – Castle Sidings, Rochdale. Salford. Uploaded to planning portal 2 nd January 2024. Ep3. (2021). Habitat Regulations Assessment (HRA) – Castleton Sidings, Rochdale. Manchester. Uploaded to planning portal 2 nd January 2024.
Protected and Notable Species	Does the presence or proximity of specific species on or near your site present any constraints or opportunities to project design or management?	☒	Ascerta. (2023a) Preliminary Ecological Appraisal – Castleton Sidings, Rochdale. St Helens. Uploaded to planning portal 16 th June 2023.
Invasive Non-Native Species (INNS)	Are any INNS present onsite that could affect the proposals?	☒	Ascerta. (2023a) Preliminary Ecological Appraisal – Castleton Sidings, Rochdale. St Helens. Uploaded to planning portal 16 th June 2023.
Biological Records Plan - Sites and Species	Does the presence of designated sites or specific species on or near the site present any constraints or opportunities to proposals?	☐	
Baseline Habitats Survey	Is this current and important HMMP information located in a separate document? If so, provide details on where it is located.	☒	Author N/A. (2023) DEFRA Statutory Biodiversity Metric Calculation. Uploaded to planning portal 16 th June 2023 (as 'Habitat Data').
Public Access	Has public access, or proposals to allow public access, influenced your management prescriptions? If so, how?	☐	
Climate	Are local climate conditions and, or, climate change likely to impact the target habitat retention, creation or enhancement?	☐	
Geology and Topography	Any geological or topographical constraints or opportunities?	☐	
Agricultural Land Status	Does the site support any land favourable for agricultural management? Could this affect the proposals?	☐	
Soils and Substrates	Do soils and substrates present any constraints or opportunities?	☐	
Contaminated Land	If there is any contaminated land, will this present any constraints?	☐	
Hydrology and Drainage	Will the site hydrology present any constraints or opportunities?	☐	
Flood Risk Zones	Is the site within a flood risk zone? Will that present any site management risks?	☒	Townsend Water Engineering Ltd. (2023). Flood Risk Assessment for Development at Castleton Sidings, Rochdale, OL11 3BZ. Rev3. Uploaded to planning portal 16 th June 2023.
Landscape Character and Designations	Does the landscape character of the site present any constraints or opportunities?	☐	

Historic Land Use	Does the historic land use present any constraints or opportunities?	☐	
Historic Environment and Earth Heritage	Are there any historic environment designations? What are the implications for your plan?	☐	
Other – please specify	Any other details - for example underground services or overhead powerlines, which may impact habitat management.	☐	

1. Baseline and Environmental Information

Biological Records

Designated Sites (BI-T01)

Provide a concise summary of the designated features within the designated sites that could be affected by the project. Categorise any potential impacts from the project, whether positive, negative, or negligible, as determined by your professional judgement.

Site Name	Designation	Distance from Project Site	Potential Impact from Project
Rochdale Canal	Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC)	150m east at closest point	Negative

Summary of Designated Sites (BI-B01)

Details from Preliminary Ecological Appraisal (Ascerta, 2023a);

Statutory Sites

- Rochdale Canal SSSI/SAC 150m east
- Hopwood Woods Local Nature Reserve (LNR) 1.3km south

Non-statutory Sites

- Meadow by Heywood Cemetery Site of Biological Importance (SBI) 1.8km north west
- Rochdale Canal (Scowcroft to Warland) SBI 150m east
- Glade & Oaken Bank Woods SBI 1.6km south
- Hopwood Clough SBI 1.3km south
- Lords Wood SBI 1.7km south
- A627M by Tandle Hill SBI 1.5km east

A Habitat Regulation Assessment (HRA) was produced to assess if the proposed development would impact Rochdale Canal SSSI/SAC (e3p, 2021). All other sites were >1km from the site boundary and therefore considered not to be impacted during the construction phase.

This proposal also lies within the Impact Risk Zone for Rochdale Canal SSSI/SAC, with further consultation from Natural England will likely be required to proceed.

Constraints and Opportunities for Project (BI-B02)

N/A

HRA report (ep3, 2021) found no likely significant effects -

- During the construction phase (measured against reduction and/or fragmentation of species and habitat, disturbance, loss of individuals (flora) and changes to key elements of the site).
- During the operational phase (measured against reduction and/or fragmentation of species and habitat, disturbance, loss of individuals (flora) and changes to key elements of the site).

Air Quality Assessment (Redmore Environmental, 2023) found air quality impacts from the construction phase to be **not significant**. Annual mean NO2, PM10 and PM2.5 predicted as **negligible** at all receptor locations. Impacts of site operations considered as **not significant**. Therefore air quality factors were not considered a constraint to the development.

Protected and Notable Species (BI-T02)

Provide a concise summary of the notable species records within the zone of influence of the project and any potential impacts from the project.

All data taken from Appendix 4 of the PEA report (Ascerta, 2023a).

Species	Dates	Conservation Status	Distance of Closest Record	Potential Impact from Project
Common Pipistrelle	N/A	Least Concern	Bat sign – approx. 0.5km east Roost – approx. 1km east	Negligible
Myotis	N/A	N/A	Roost – approx. 1.75km south	Negligible
Pipistrelle sp.	N/A	N/A	Bat sign – approx. 0.75km south east Roost – approx. 0.5km north	Negligible
Bat sp.	N/A	N/A	Bat sign – approx. 1km south east	Negligible
Daubenton’s Bat	N/A	Least Concern	Bat sign – approx. 0.5km north east	Negligible
Noctule Bat	N/A	Least Concern	Bat sign – approx. 0.5km north east	Negligible
Soprano Pipistrelle	N/A	Least Concern	Bat sign – approx. 1km north east	Negligible
Great Crested Newt	N/A	Least Concern	Approx. 1km south west	Negligible
Water Vole	N/A	Least Concern	Individual – approx. 1.75km south	Negligible
Barn Owl	N/A	Least Concern	Approx. 1km south west	Negligible
Hobby	N/A	Least Concern	Approx. 1.9km south east	Negligible

Kingfisher	N/A	Least Concern	Approx 1.8km south west	Negligible
Little Ringed Plover	N/A	Least Concern	Approx 0.1km north east	Negligible
Otter	N/A	Near Threatened	Approx. 1km north east	Negligible
Peregrine	N/A	Least Concern	Approx. 0.4km north west	Negligible
Floating Water Plantain	N/A	Least Concern	Approx 0.4 south east	Negligible

Summary of Protected and Notable Species (BI-B03)

Please see previous.

Constraints and Opportunities for Project (BI-B04)

The PEA report (Ascerta, 2023a) recommended the following to ensure the development posed no impact to any notable species within the project’s search area:

- Nesting bird survey if vegetation removal undertaken.
- Presence of an ECoW for pruning and/or removal of 2 x Goat Willow trees within woodland bordering the northern site boundary possessing PRFs and assessed as of low bat roost potential.
- Production of an invasive species management plan due to the invasive non-native species Cotoneaster being identified during the site walkover. Ad updated invasive species check was also recommended, due to the site walkover occurring outside the optimal period for flora identification.

Additionally, the following surveys have been completed:

- Breeding Bird survey (EP3, 2021). A total of 36 species found, including 1 Schedule 1 species and 13 Birds of Conservation Concerns, with four territories recorded onsite (Bullfinch, Dunnock, Song Thrush and Willow Warbler).
- Bat Transact survey (Rachel Hacking, 2021). Low levels of bat activity were recorded, with Common Pipistrelle along the northern woodland belt and Noctule bats recorded foraging over the site.
- GCN eDNA (EP3, 2021), updated (Ascerta, 2023a). Five ponds within 250m of the site confirmed GCN absence (EP3, 2021). The onsite ditch was assessed as of **Poor** habitat suitability for GCN breeding (Ascerta, 2023a). The ditch network within the golf course was assessed as of **Below Average**, and the pond within the golf course was assessed as of **Poor** (Ascerta 2023b).
- Reptile Survey (EP3, 2021) and updated by Ascerta according to response from Ascerta in December 2023, following comments from Greater Manchester Ecology Unit (GMEU) on the PEA and HRA (Ascerta, 2023b).

Baseline and Environmental Information

Baseline Habitats Survey

Ecologist responsible for baseline surveys (BI-T03)	
Name or Initials	Liz Kenyon BSc (Hons) and Lizzie Atkinson MSc CIEEM.
Organisation	Ascerta
Survey Date	16th March 2023
Statement of Competency	
The Preliminary Ecological Appraisal Report confirms the assessment involved the collection and review of data from a desk study and field survey, along with assessment of the value of the habitats following CIEEM guidelines.	
Survey conditions and limitations	

During the survey, weather conditions were recorded to ensure optimal surveying conditions according to guidelines. The site visit was undertaken in March. Although this within the sub-optimal time of year for phase 1 habitat surveys, sufficient vegetation was present to enable habitat identification. It is not considered a limit to the conclusions of the report based on the habitats found within the site and the works proposed.

Habitat Degradation

Are there any signs or evidence that the baseline habitats have been purposefully degraded since 30 th January 2020? (BI-B05)
No
If habitats have been purposefully degraded, provide details of how this has been accounted for (BI-B06)
No

Baseline Habitat Descriptions and Condition

Use the following tables to provide details of the relevant baseline habitats information. Provide a concise overview of the justification for the condition chosen for each parcel(s) in the appropriate column.

Habitats (BI-T04)

Parcel Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha)
N/A	Mixed Scrub	No	No	Medium distinctiveness and Poor condition. Low strategic significance.	Poor	3.496
N/A	Developed Land; Sealed Surface	No	No	Very Low distinctiveness and no condition assessment applicable. Low strategic significance.	N/A	2.5184
N/A	Other Woodland; broadleaved	No	No	Medium distinctiveness and Fairly Poor condition. Low strategic significance.	Fairly Poor	1.4909
N/A	Modified Grassland	No	No	Low distinctiveness and Poor condition. Low strategic significance.	Poor	1.05638

Hedgerows (BI-T05)

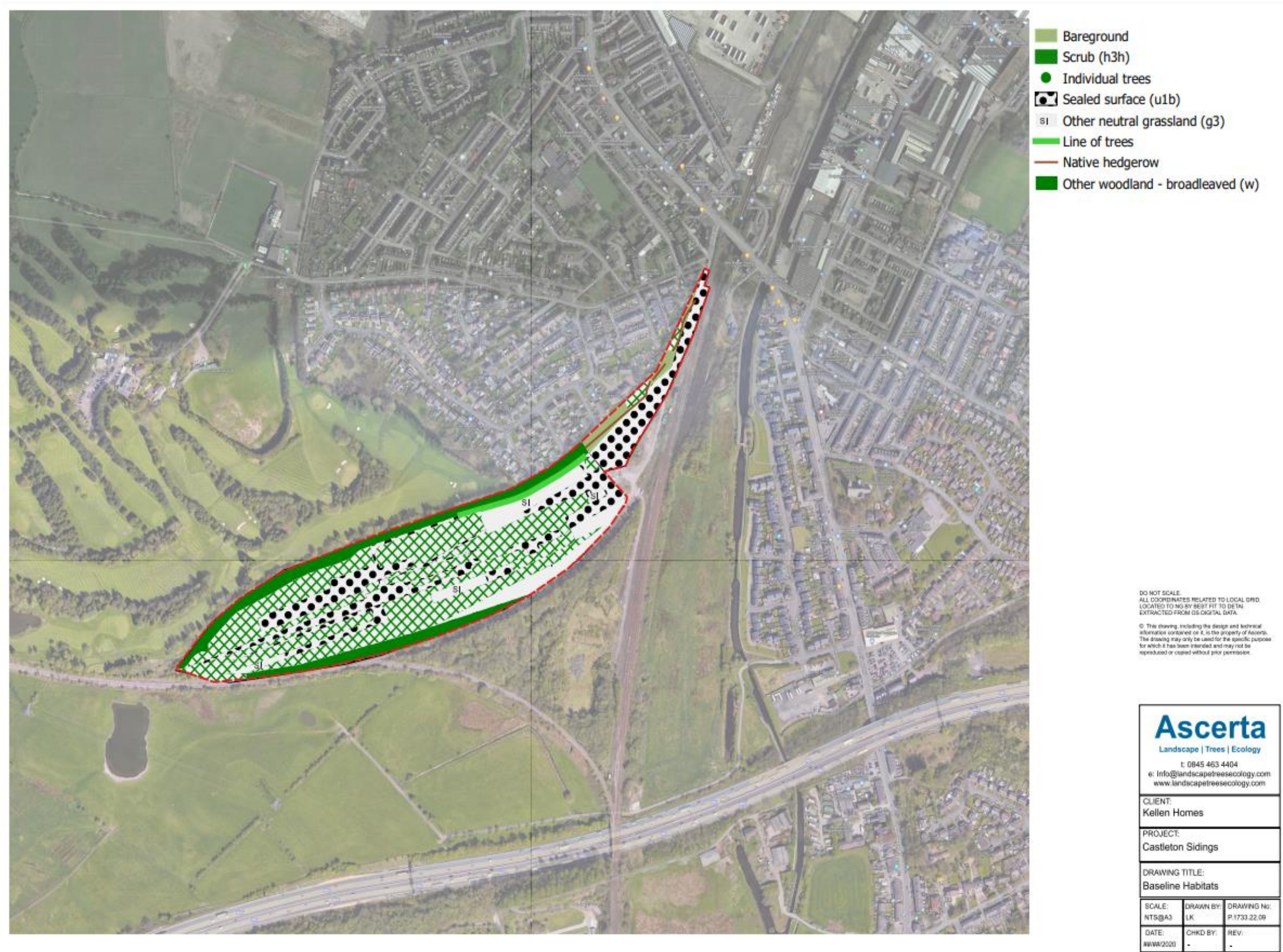
Feature Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha)
N/A	Native Hedgerow	No	No	Low distinctiveness and Moderate Condition. Low strategic significance.	Moderate	0.205km

Watercourses (BI-T06)

Feature Refs	Habitat Type and Code	Irreplaceable	Priority	Description and condition justification	Condition	Area ha
N/A	Ditch	No	No	Medium distinctiveness and Poor Condition. Low strategic significance.	Poor	0.085ha

Potential Constraints and Opportunities for Project (BI-B08)

N/A



Baseline Distinctiveness and Condition Plan (BI-F03)

Habitat	Distinctiveness	Condition
Mixed Scrub	Medium distinctiveness	Poor condition
Developed Land; Sealed Surface	Very Low distinctiveness	N/A
Other Woodland; broadleaved	Medium distinctiveness	Fairly Poor condition
Modified Grassland	Low distinctiveness	Poor condition

Baseline Habitats Photos (BI-F04)

Provide a range of photographs representative of the baseline. Add additional pages for photos as

Required. Reference - Ascerta. (2023a) Preliminary Ecological Appraisal – Castleton Sidings, Rochdale. St Helens.
Uploaded to planning portal 16th June 2023.





Flood Risk Zones

Summary of Flood Risk Information (EI-B19)

All information from Townsend Water Engineering Ltd. (2023). Flood Risk Assessment for Development at Castleton Sidings, Rochdale, OL11 3BZ. Rev3. (Uploaded to planning portal 16th June 2023).

Existing site is within Flood zone 1 and therefore has a 0.1% chance of flooding (1 in 1000-year event plus climate change). This suggests the site is at low risk of flooding.

Also is predominantly at very low risk of surface flooding (<0.1% chance of flooding each year). However, there are some areas at a high risk of surface water flooding. The site layout has taken this into account, with no housing placed within these areas.

Development classed as ‘More vulnerable’ under the NPPF vulnerability classification.

Flooding from reservoirs and canals considered low, even considering Rochdale Canal which is 260m east of the site.

Low risk of flooding from groundwater and sewers.

Potential Impact on Project (EI-B20)

Areas of increased risk of surface water flooding are to be developed as public open space or road (developed land; sealed surface). Surface water flooding will be mitigated through including new drainage systems.

2. Planned Management Activities

Provide the site-wide aims and objectives. These should consider the Project Background information section outlined above as well as the outcomes of the Metric.

Management Plan Aims and Objectives PM-B01

The proposed site use includes a residential development, including access, landscaping, open space together with erection of a substation and foul water pump station. Post development habitat types have been based on site end-use, including public access and resident use, and informed by the Overall Landscape Layout (Ascerta, 2023c).

The aims of this HMMP are –

- Ensure creation of new habitats that provide foraging and refuge sources for local fauna, as well as providing connectivity to the wider landscape.
- Management of grassland, pond, scrub, shrub, woodland and trees to allow for a wider range of flora onsite.
- Effective monitoring and management of created habitats to ensure target conditions are met within the timeframes set within the metric (with annual monitoring to allow for this).

Principles Informed by Design Stage

The project's BNG target(s) should be set and documented early in the design process. Outline how background and baseline information influenced key design principles for the project from an early stage. This can provide useful context for the proposed retention, creation and enhancement measures.

Design Principles Informed by Baseline Information PM-B02

The proposed design considered end-use requirements as a residential development. The BNG baseline assessment determined opportunities for enhancement, whilst considering surrounding land use, flood risk and with no notable potential or protected or priority species deemed to be using the site.

Additionally, all baseline habitats were determined to be of low strategic significance (N/A, 2023).

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.

Baseline Habitat Type	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
Other Broadleaved Woodland	Other Broadleaved Woodland	1 – enhanced habitat	Fairly Poor	Not given in BNG assessment (N/A, 2023). Selected here as ‘Moderate’.	30 Years	Will require a condition assessment total of 26 to 32 points. Will likely earn the following: - Two age-classes present (two points – criteria A. Considering the existing trees present and additional tree planting as indicated in the Overall Landscape Layout (Ascerta, 2023c) - No significant browsing damage evident in woodland (three points – criteria B) - No invasive species present in woodland (three points – criteria C) - Five or more native tree or shrub species found across woodland parcel (three points – criteria D) >80% cover of canopy trees and >80% of understory shrubs are native (three points – criteria E) 10-20% of woodland has areas of temporary open space. (Unless woodland is <10ha, in which case 0-20% temporary open space is permitted. (three points – criteria F) - One or two classes only present in woodland (two points – criteria G) - Tree mortality 10% or less, no pests or diseases and no crown dieback (three points- criteria H) - No recognisable woodland NVC plant community at ground layer present (one point – criteria I) - One storey across all survey plots (one point – criteria J) - No veteran trees in woodland (one points – criteria K) - Less than 25% if all survey plots within the woodland parcel have deadwood, such as	0.41ha of existing 1.4909ha to be enhanced. Moderate target condition deemed appropriate here given long-term management with public use of the site as a residential development.

						standing and fallen deadwood, large dead branches, and/or stems, stubs and stumps, or an abundance of small cavities (one point – criteria L) No nutrient enrichment or damaged ground evident (three points – criteria M) This will provide a total of 28 points.	
Ditch	Ditch		Poor	Good	30 Years	Will require all eight condition assessment criteria to be passed. - Ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution (criteria A). - A range of emergent, submerged and floating-leaved plants are present. As a guide, >10 species of emergent, floating or submerged plants present in a 20m ditch length (criteria B). - There is less than 10% cover of filamentous algae and/or duckweed <i>Lemna</i> spp. (there are signs of eutrophication) (criteria C). - A fringe of aquatic marginal vegetation is present along more than 75% of the ditch (criteria D). - Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities (criteria E). - Sufficient water levels are maintained – as a guide a minimum summer depth of approximately 50cm in minor ditches and 1m in main drains (criteria F). - Less than 10% of the ditch is heavily shaded (criteria G). - There is an absence of non-native plant and animal species (criteria H).	Entire length of ditch (0.085km) to be enhanced.
	Mixed Scrub		-	Good	30 Years	To pass all five condition assessment criteria: The parcel represents a good example of its habitat type – the appearance and composition of the vegetation closely matches its UKHAB	Newly created habitat as proposed in Overall Landscape Layout (Ascerta, 2023d).

						description (where in its natural range) (criteria A). - At least 80% of scrub is native - There are at least three native woody species - No single species comprises more than 75% of the cover (except Hazel, Common Juniper, Sea Buckthorn or Box, which can be up to 100% cover) • Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present (criteria B). • There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover (criteria C). • The scrub has a well developed edge with scattered scrub and tall grassland and/or forbs present between the scrub and adjacent habitat (criteria D). • There are clearings, glades or rides present within the scrub, providing sheltered edges (criteria E).	
	Urban Tree		-	Moderate	30 Years	To pass three or four condition criteria: • The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide (individual trees automatically pass this criterion) (criteria B). • 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 (criteria D). • Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark (criteria E). • More than 20% of the tree category area is oversailing vegetation beneath (criteria F).	

	Pond (non-priority)		-	Good	30 Years	Will require all nine criteria for non-woodland ponds to be passed to reach target condition: • The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock (criteria A). • There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10m from the pond edge its entire perimeter (criteria B). • Less than 10% of the water surface is covered with duckweed <i>Lemna</i> spp. of filamentous algae (criteria C). • The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework (criteria D). • Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework (criteria E). • There is an absence of listed non-native plant and animal species (criteria F). • The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities (criteria G).	Assessed as a non-woodland pond, due to location and surrounding habitats indicated on Overall Landscape Layout (Ascerta, 2023d).
	Other Neutral Grassland		-	Good	30 Years	Non-acid grassland type and will therefore be required to pass 5-6 criteria, including essential criteria A and additional criteria F: • 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 (criteria A). • Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed (criteria B). • Cover of bare ground is between 1-5%, including localised areas, for example, rabbit warrens (criteria C).	

						• Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5% (criteria D). • 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 management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed (criteria E). • There are 10 or more vascular plant species per m² present, including forbs that are characteristic of the habitat type (criteria F).	
	Other Broadleaved Woodland	2 – created habitat	-	Good	30 Years	Target condition of Good requires a minimum total score of 32 points out of 39 to be met. • Two age classes present (two points - criteria A) • No significant browsing damage evidence in woodland (three points – criteria B) • No invasive species present in woodland (three points – criteria C) • Five or more native tree or shrub species found across woodland parcel (three points – criteria D) • >80% of canopy trees and >80% canopy shrubs are native (three points – criteria E) • Due to size of woodland (<10ha), 0-20% of temporary open space present. (three points – criteria F) • Three classes present (three points – criteria G) • Tree mortality 10% or less, no pests or diseases and no crown dieback (three points – criteria H) • No recognisable woodland NVC plant community at ground layer present (one point – criteria I)	

						• Two storeys across all survey plots (two points – criteria J) • No veteran trees present in woodland (one point – criteria K) • Between 25-50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps or an abundance of small cavities (two points – criteria L) • No nutrient enrichment or damaged ground evidence (three points – criteria M) This will provide a total of 32 points.	
	Native Hedgerow			Moderate	30 Years	Assessed as hedgerow without trees, as indicated in the Overall Landscape Layout (Ascerta, 2023d). To meet target condition of Moderate, no more than four failures in total and does not fail both attributes in more than one functional group. Criteria likely to fail: • Undisturbed ground and perennial vegetation (criteria C1) • Nutrient enriched perennial vegetation (criteria C2) (Criteria likely to pass: A1, A2, B1, B2, D1 and D2).	

Habitat and Condition Targets Further Comments

N/A

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.

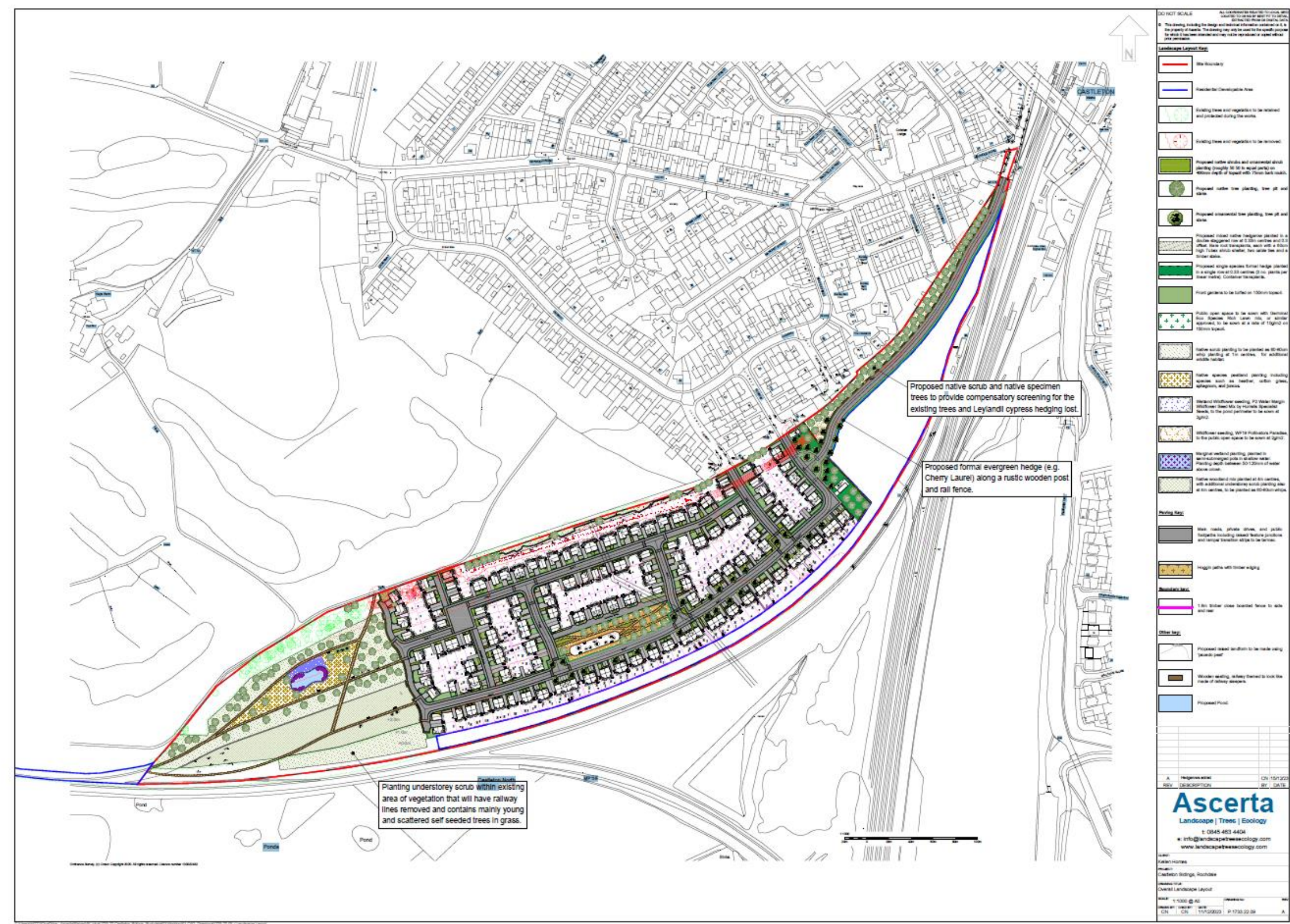
Measures to be Implemented to Protect Retained Habitats PM-03
No habitats to be retained, according to the BNG assessment (Ascerta, 2023d).
Specification of Protective Measures to be Used PM-04
N/A – see PM-03.

Habitat Retention Plan PM-F01

Provide a plan with the locations of habitats to be retained (including whether to be protected and, or, enhanced) and those to be created under this HMMP. Include parcel references if needed. Tick box if any additional plans are provided in the Appendices ☐ . Reference: **PEA report (Ascerta, 2023a) to show ditch and broadleaved woodland to be enhanced.**



Reference: Overall Landscape Layout (Ascerta, 2023d) to show habitats to be created.



Creation, Enhancement and Management Targets and Prescriptions

Creation, Enhancement and Management Summary (GH-T01)

Provide details of the approach to delivering each of the targeted condition criteria and habitat.

Target Habitat				Other neutral grassland. Good condition, Medium distinctiveness. Inclusive of wetland wildflower and wildflower meadow seeding, as indicated on the Overall Landscape Layout (Ascerta, 2023d) as most appropriate habitat type. New habitat to be created.		
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		Sowing of appropriate seed mix. - For wetland wildflower areas – P2 Water Margin Wildflower Seed Mix by Hurrells Specialist Seeds (as indicated on Overall Landscape Layout (Ascerta, 2023d). - For wildflower meadow areas – WF19 Pollinators Paradise (as indicated by Overall Landscape Layout (Ascerta, 2023d) by Germinal Amenity.		Mowing regimen, with cuttings removed. Annual monitoring survey, with changes to management plan as required. To improve establishment - pulling of noxious and non-native invasive species if identified following annual monitoring survey. Water during prolonged periods of dry weather. Remove litter and debris.
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		Year 1 – annual wildflower cutting and removal of arising (or made into compost piles) between April-October Years 2-30 - annual wildflower cutting and removal of arisings (or made into compost piles) between September-October.		Mowing regimen, with cuttings removed. Annual monitoring survey, with changes to management plan as required.
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes		Sow seed mix across planned area evenly and thoroughly.		Sowing of additional seeds and/or plug planting to cover areas of bare ground.
D	Cover of bracken <i>Pteridium aquilinum</i> less than 20% and cover of scrub (including bramble) less than 5%.	Yes		Existing turf and therefore any existing bracken and scrub will be removed prior to sowing seed mix.		Following monitoring surveys, cut back bracken and scrub as required. Mowing of meadow/wetland area will also help reduce any cover of bracken and/or scrub.
E	Combined cover of species indicative of suboptimal condition and physical damage	Yes		Whilst no invasive non-native species (INNS) were identified during the BNG site		Survey for introduction of any INNS every year. If identified, introduced removal via

	(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.			walkover, best practice procedures should be followed to ensure these species are not introduced.		pulling or considering consulting a specialist. Annual monitoring survey, with changes to management plan as required e.g. water during prolonged periods of dry weather. Remove litter and debris.
F	There are 10 or more vascular plant species per m ² 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		Sow appropriate seed mixture.		Sowing of additional seeds and/or plug planting to improve flora diversity with appropriate vascular plants representative of habitat type. Reassess mowing regimen and ensure cuttings are removed through adaptive management.

Additional Management Prescriptions (GH-B01)

N/A.

Grassland (Medium, High, and Very High Distinctiveness)

Creation, Enhancement and Management Detailed Methods (GH-T02)

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

Action	Relevant Parcels	Timing	Prescriptions
Site preparation		TBD	Remove all building rubble carefully. Ensure subsoil areas are free from compaction.
Topsoil		TBD	Ensure topsoil clear of weeds, roots, sticks, stones >50mm and other extraneous material. Shortfall of topsoil will require importing from elsewhere. Minimum depth of 150mm for grass areas.
Preparatory herbicide		TBD	Weeds are allowed to grow and treated with up to three glyphosate applications prior to cultivation during the fallow period.
Seed mix sowing		TBD	Clear all vegetation. Sow seeds at 2g per m^2.
Establishment		TBD	Keep watered until it is established.
Mowing		TBD	Year 1 – annual wildflower cutting and removal of arising (or made into compost piles) between April-October Years 2-30 - annual wildflower cutting and removal of arisings (or made into compost piles) between September-October.
Litter		TBC	Litter to be removed on each visit.
Replacement		TBC	One year after sowing, check for defects (i.e. areas that has not established) and resow.
Monitoring		TBC	Monitor during annual survey, assess against condition criteria and offer remedial measures if required.

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

Provide a detailed species list for the habitat to be created

Wildflower Meadow area – WF19 Pollinators Paradise by Germinal Amenity (as indicated on Overall Landscape Layout (Ascerta, 2023d).

Common Name	Scientific Name	Abundance / %	Comments
Purple Coneflower	Echinacea	5%	
Rudbeckia	Rudbeckia Hirta	5%	
Lance-leaved Coreopsis	Coreopsis lanceolata	4%	
Cosmos (“sensational mix”)	Cosmos (“sensational mix”)	2%	
Yellow Prairie Coneflower	Ratibida pinnata	3%	
Smooth Blue Aster	Symphyotrichum laeve	2%	
Foxglove	Digitalis purpurea	2%	
Dotted Gayfeather	Liatris punctata	1%	
Shasta Daisy	Leucanthemum x superbum	10%	
Corn Poppy	Papaver rhoeas	10%	
Common Vetch	Vicia sativa	7%	
Yarrow	Achillea millefolium	5%	
White Clover	Trifolium repens	5%	
Birdsfoot Trefoil	Lotus corniculatus	9%	
Calendula Art Shades		7%	
Nigella Oxford Blue		5%	
Corncockle	Agrostemma githago	11%	
Evening Primrose	Oenothera biennis	2%	
Oxeye Sunflower	Heliopsis helianthoides	2%	
Red Clover	Trifolium pratense	2%	

Phacelia	Phacelia tanacetifolia	1%	
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Wetland Wildflower area – P2 Water Margin Wildflower Seed Mix by Hurrells Specialist Seeds (as indicated on Overall Landscape Layout (Ascerta, 2023d).

Common Name	Scientific Name	Abundance / %	Comments
Corn Chamomile	Anthemis arvensis	N/A	Part of ‘AC1 Cornfield Annual Wildflower Seed Mix 100%’ by Hurrells Specialist Seeds included in this seed mix.
Corn Cockle	Agrostemma githago	N/A	Part of ‘AC1 Cornfield Annual Wildflower Seed Mix 100%’ by Hurrells Specialist Seeds included in this seed mix.
Corn Marigold	Glebionis segetum	N/A	Part of ‘AC1 Cornfield Annual Wildflower Seed Mix 100%’ by Hurrells Specialist Seeds included in this seed mix.
Corn Poppy	Papaver rhoeas	N/A	Part of ‘AC1 Cornfield Annual Wildflower Seed Mix 100%’ by Hurrells Specialist Seeds included in this seed mix.
Cornflower	Centaurea cyanus	N/A	Part of ‘AC1 Cornfield Annual Wildflower Seed Mix 100%’ by Hurrells Specialist Seeds included in this seed mix.
Betony	Stachys officianlis	N/A	
Birdsfoot Trefoil	Lotus corniculatus	N/A	
Common Knapweed	Centaurea nigra	N/A	
Common Meadow Rue	Thalictrum flavum	N/A	
Devils Bit scabious	Succisa pratensis	N/A	
Greater Birdsfoot Trefoil	Lotus pedunculatus	N/A	
Gypsywort	Lycopus europaeus	N/A	
Hemp Agrimony	Eupatorium cannabinum	N/A	
Ladys Bedstraw	Galium verum	N/A	

Meadow Buttercup	Ranunculus acris	N/A	
Meadowsweet	Filipendula ulmaria	N/A	
Oxeye Daisy	Leucanthemum vulgare	N/A	
Purple Loosestrife	Lythrum salicaria	N/A	
Ragged Robin	Silene flos-cuculi	N/A	
Red Campion	Silene dioica	N/A	
Ribwort Plantain	Plantago lanceolata	N/A	
Salad Burnet	Sanguisorba minor	N/A	
Selfheal	Prunella vulgaris	N/A	
Sneezewort	Achillea ptarmica	N/A	
Square Stalked St Johns Wort	Hypericum tetrapterum	N/A	
Tufted Vetch	Vicia cracca	N/A	
Water Avens	Geum rivale	N/A	
Wild Angelica	Angelica sylvestris	N/A	
Yarrow	Achillea millefolium	N/A	
Yellow Flag Iris	Iris pseudacorus	N/A	
Yellow Rattle	Rhinanthus minor	N/A	

Other Supporting Information

Supporting Information (GH-B02)
N/A

What Does Success Look Like? (GH-F01)



Woodland

Creation, Enhancement and Management Summary (WO-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 24. Woodland

For each condition row, delete the condition targets that aren't being targeted as necessary.

Target Habitat:			Other Broadleaved Woodland.				
			Enhanced Habitat – Target condition Moderate, parcel one (1)				
			Created Habitat – Target condition Good, parcel two (2)				
Condition Assessment Criteria			Target Score	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
A	Age distribution of trees	Three age classes present	2	1	<u>Plant trees to create new area of woodland of one age class.</u>	Planting of new trees to enhance woodland and create additional age class. Replace failing trees with new saplings.	Removal of litter, debris, noxious weeds and INNS. <u>Same as above.</u>
		Two age classes present	1	2			
		One age class present					
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland	3	1	<u>Tree guards and stakes to be provided during planting to reduce browsing damage.</u>	Tree guards and stakes to be provided during planting to reduce browsing damage. Replace failing trees with new saplings.	Adaptive management to determine if further intervention required following annual monitoring survey. <u>Same as above.</u>
		Evidence of significant browsing pressure is present in 40% or less of whole woodland	3	2			
		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	1	<u>Ensure planting area is free of INNS.</u>	Ensure planting area is free of INNS. Pulling of noxious weeds and INNS is required prior to planting. Herbicide not to be applied unless other methods (such as pulling) deemed insufficient).	Adaptive management to determine if an INNS specialist will need to be consulted. <u>Same as above.</u>
		Rhododendron <i>Rhododendrion ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover	3	2			
		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	<u>Plant to criteria requirements.</u>	Plant to criteria requirements. Replace failing trees/shrubs with new saplings to ensure species diversity maintained.	Adaptive management to determine if further intervention required following annual monitoring survey. <u>Same as above.</u>
		Three to four native tree or shrub species found across woodland parcel	3	2			
		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	1	<u>Ensure species selected to plant meet criteria requirements (>80% canopy trees and >80% of understorey shrubs are native).</u>	Ensure species selected to plant meet criteria requirements (>80% canopy trees and >80% of understorey shrubs are native). Replace failing trees/shrubs with new saplings to ensure species diversity maintained.	Adaptive management to determine if further intervention required following annual monitoring survey (e.g. additional planting). <u>Same as above.</u>
		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.	3	1	<u>(Woodland is <10ha, so 0-20% temporary open space permitted.)</u> <u>Planting to ensure open space kept to this amount (Overall Landscape Layout indicates a Native Woodland mix planted at 4m centres, with understorey scrub planting at 4m centres (Ascerta 2023, d)).</u>	(Woodland is <10ha, so 0-20% temporary open space permitted.) Planting to ensure open space kept to this amount (Overall Landscape Layout indicates a Native Woodland mix planted at 4m centres, with understorey scrub planting at 4m centres (Ascerta 2023, d)). Additional planting to reduce temporary open space, if required.	Monitor levels during annual monitoring survey, with adaptive management to allow for change in management if required. <u>Same as above.</u>
		Unless woodland <10ha in which case 0-20% temporary open space is permitted.					
		21-40% of woodland has areas of temporary open space					
G	Woodland regeneration	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	2	1	<u>As newly created habitat, unlikely to find any of three classes present (seedlings/saplings/young trees of 4-7cm DBH).</u>	As this is existing habitat to be enhanced, all three classes should be present with effective management and monitoring.	Removal of litter, debris, noxious weeds and INNS to allow for regeneration of woodland. <u>Same as above.</u>
		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	3	1	<u>Follow planting guidelines to ensure newly planted trees have good chance of establishment and survivability.</u> <u>Follow guidelines on habitat protection to ensure existing woodland not affected during construction phase.</u>	Follow planting guidelines to ensure newly planted trees have good chance of establishment and survivability. Follow guidelines on habitat protection to ensure existing woodland not affected during construction phase.	Adaptive management to determine if further intervention required following annual monitoring survey (e.g. additional planting to replace failed trees). Management including: - Pulling of INNS and noxious weeds - Topping up of mulch (as required) - Watering during prolonged periods of hot weather - Remove litter and debris
		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					

							<u>Same as above.</u>
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	1 <u>1</u>	1 <u>2</u>	Unlikely to develop a recognisable NVC plant community at ground layer due to size of habitat and public access. <u>Same as above.</u>	N/A	N/A
		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.	1 <u>1</u>	1 <u>2</u>	Unlikely to develop >1 storey due to only one storey present at time of PEA survey (Ascerta, 2023a). <u>Unlikely to develop >1 storey due to planting of new woodland to occur in one phase.</u>	N/A	N/A
		Two storeys across all survey plots					
		One of less storey across all survey plots					
K	Veteran trees	Two of more veteran per hectare	1 <u>1</u>	1 <u>2</u>	Unlikely to develop veteran trees. <u>Same as above.</u>	N/A	N/A
		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.	1 <u>1</u>	1 <u>2</u>	Based on photographs and information given in the PEA report, enhanced woodland unlikely to development deadwood etc. due to age of woodland (Ascerta, 2023a). <u>Unlikely to develop deadwood in newly created woodland.</u>	N/A	N/A
		Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or steams, stubs 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 steams, stubs and stumps, or an abundance of small cavities.					
M	Woodland disturbance	No nutrient enrichment or damaged ground evident	2 <u>2</u>	1 <u>2</u>	<u>Removal of litter and debris before creation of habitat. No nutrient enrichment anticipated to be used (aside from mulch of newly planted trees).</u>	Removal of litter. No uses for nutrient enrichment anticipated (aside from mulch of newly planted trees).	Annual monitoring survey to determine if further intervention needed. <u>Same as above.</u>
		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					
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Additional Management Prescriptions (WO-B01)

N/A

Woodland

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

Provide detailed prescriptions for the creation and management of the habitat. **As per Site Planting Schedules plan (Squareyard, 2024).**

Action	Relevant Parcels	Timing	Prescriptions
Tree Planting		TBC	Create tree pit of sufficient size, with irrigation pipe and watering point. Plant tree with appropriate stake, add mulch and water immediately following planting.
Mulching		March-April or October-December	Top up as required.
Aerate soil		March-April or October-December	As required.
Weed removal		Any	As required.
Watering		Any	Water sufficiently to ensure healthy establishment, particularly during prolonged periods of hot weather.
Monitoring		TBC	Monitor during annual survey, assess against condition criteria and offer remedial measures if required.

Woodland Species Lists (WO-T03)

Provide a detailed species list for the habitat to be created. **As per Site Planting Schedules plan (Squareyard, 2024).**

Common Name	Scientific Name	Abundance / %	Comments
Black Alder	Alnus glutinosa	10%	
European Beech	Fagus sylvatica	10%	
Silver Birch	Betula pendula	10%	
Rowan	Sorbus aucuparia	10%	
European Hornbeam	Carpinus betulus	10%	

English Oak	Quercus robur	20%	
European Spindle	Euonymus europeus	2.5%	Understorey
Guelder Rose	Viburnum opulus	2.5%	Understorey
Blackthorn	Prunus spinosa	5%	Understorey
Common Hazel	Corylus avellana	10%	Understorey
Common Hawthorn	Crategus monogyna	10%	Understorey

Other Supporting Information

Supporting Information (WO-B02)
N/A

What Does Success Look Like? (WO-F01)



Ditch

Creation, Enhancement and Management Summary (DI-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 4. Ditch

Target Habitat:		Ditch (enhanced habitat). Target condition from Poor to Good.				
Condition Assessment Criteria		Targe ted	Relevant Parcels	Creation approach	Enhancement Approach	Management Approach
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Yes		N/A	Sensitive drainage to ensure good water quality.	Annual monitoring survey to inform remedial requirements.
B	A range of emergent, submerged and floating leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	Yes		N/A	Landscape scheme to incorporate diverse species mix.	Annual monitoring survey to inform remedial requirements.
C	There is less than 10% cover of filamentous algae and or duckweed Lemna spp. (these are signs of eutrophication).	Yes		N/A	Monitor levels.	Annual monitoring survey to inform remedial requirements.
D	A fringe of marginal vegetation is present along more than 75% of the ditch.	Yes		N/A	To be included in the Landscape scheme.	Annual monitoring survey to inform remedial requirements.
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Yes		N/A	Remove source of physical damage.	Annual monitoring survey to inform remedial requirements.
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	Yes		N/A	Monitor water levels.	Annual monitoring survey to inform remedial requirements.
G	Less than 10% of the ditch is heavily shaded.	Yes		N/A	Cut back of vegetation if required.	Annual monitoring survey to inform remedial requirements.
H	There is an absence of non-native plant and animal species.	Yes		N/A	If INNS identified, introduce pulling of plants.	Annual monitoring survey to inform remedial requirements. Consultation with INNS specialist if required (determined following annual monitoring survey).

Additional Management Prescriptions (DI-B01)
N/A.

Ditch

Creation, Enhancement and Management Detailed Methods (DI-T02)

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

Action	Relevant Parcels	Timing	Prescriptions
Planting		TBD	Add marginal vegetation to increase floristic diversity
Monitoring		TBD	Monitoring during annual survey against criteria A-H Following may then be introduced as actions – - Cut back of vegetation - Pulling on INNS - Consulting INNS specialist - Removal of duckweed and/or filamentous algae - Remove/resolve source of human impact

Ditch Species Lists (DI-T03)

Provide a detailed species list for the habitat to be created - **N/A Not given on Overall Landscape Layout (Ascerta, 2023d).**

Common Name	Scientific Name	Abundance / %	Comments

Other Supporting Information

Supporting information (DI-B02)
N/A

What Does Success Look Like? (DI-F01)



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:		Mixed Scrub. Target condition Good.				
Condition Assessment Criteria		Targeted	Relevant Parcels	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		Ensure planting meets these requirements during habitat creation.		Annual monitoring survey to assess the native cover of the habitat and species diversity. -Replacement planting if failed specimens identified during monitoring surveys. -Pulling of INNS and noxious weeds. -Removal of litter and debris.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Yes		Follow Landscape scheme to ensure all age classes develop long-term.		Annual monitoring survey to offer remedial measures if these are not present.
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		Ensure INNS are removed prior to planting (if present).		Monitoring of INNS during annual monitoring surveys, with the inclusion of pulling of INNS identified, or consultation from specialist if required.
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		As indicated in Overall Landscape Layout (Ascerta, 2023d).		Cut back of encroaching scrub / reshaping of edge as required following assessment in annual monitoring survey.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Yes		Follow Landscape scheme and management plan to allow these features to develop long-term.		Annual monitoring survey to offer remedial measures if these features are not present.

Additional Management Prescriptions (SC-B01)			
N/A			

Scrub

Creation, Enhancement and Management Detailed Methods (SC-T02)

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

Action	Relevant parcels	Timing	Prescriptions
Planting		TBC	Create tree pit of sufficient size, with irrigation pipe and watering point. Plant tree with appropriate stake, add mulch and water immediately following planting.
Mulching		TBC	Top up as required.
Aerate soil		TBC	As required.
Weed removal		Any	As required.
Watering		Any	Water sufficiently to ensure healthy establishment, particularly during prolonged periods of hot weather.
Monitoring		TBC	Monitor during annual survey, assess against condition criteria and offer remedial measures if required.

Scrub Species Lists (SC-T03)

Provide a detailed species list for the habitat to be created. **As per Site Planting Schedules plan (Squareyard, 2024).**

Common Name	Scientific Name	Abundance / %	Comments
Downy Birch	Betula pubescens	15%	
Common Dogwood	Cornus sanguinea	10%	
Guelder Rose	Viburnum opulus	10%	
Blackthorn	Prunus spinosa	25%	
Common Hazel	Corylus avellana	10%	
Common Hawthorn	Crategus monogyna	25%	
Rowan	Sorbus aucuparis	5%	

Other Supporting Information

Supporting Information (SC-B02)
N/A

What Does Success Look Like? (SC-F01)



Individual Trees

Creation, Enhancement and Management Summary (UT-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 9. Individual Trees

Target Habitat:		Urban Trees – Target condition Moderate, Medium Distinctiveness				
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).	No		-	-	-
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes		Passes automatically.	Passes automatically.	Passes automatically.
C	The tree is mature (or more than 50% within the block are mature).	No		-	-	-
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		Tree guards and stakes to be provided during planting. Herbicide not to be applied unless other methods (such as pulling) have proved insufficient. No agricultural activity proposed onsite.		Adaptive management to offer remedial measures following annual monitoring survey. - Removal of litter and debris. - Replace any failing/diseased plants.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Yes		Follow Landscape scheme and management plan to allow these ecological features to develop over management period.		Annual monitoring survey to assess the development of these features over the long-term and offer remedial measures if this condition is not being met.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes			Maintain vegetation underneath.	Monitor ground habitat (as vegetation underneath), manage tree through removing weeds, watering sufficiently to ensure healthy establishment.

Additional Management Prescriptions (UT-B01)			
N/A			

Individual Trees

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

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

Action	Relevant Features	Timing	Prescriptions
Tree Planting		TBC	Create tree pit of sufficient size, with irrigation pipe and watering point. Plant tree with appropriate stake, add mulch and water immediately following planting.
Mulching		March-April or October-December	Top up as required.
Aerate soil		March-April or October-December	As required.
Weed removal		Any	As required.
Watering		Any	Water sufficiently to ensure healthy establishment, particularly during prolonged periods of hot weather.
Trimming		January-February	As required.
Monitoring		TBC	Monitor during annual survey, assess against condition criteria and offer remedial measures if required.

Individual Trees Species Lists (UT-T03)

Provide a detailed species list for the habitat to be created. **As per Site Planting Schedules plan (Squareyard, 2024).**

Common Name	Scientific Name	Abundance / %	Comments
Black Alder	Alnus glutinosa	34	
Downy Birch	Betula pubescens	17	
European Birch	Fagus sylvatica	5	
Wild Cherry	Prunus avium	18	

Pedunculate Oak	Quercus robur	6	
Small-leaved Lime	Tillia cordata	50	

Other Supporting Information

Supporting Information (UT-B02)
N/A

What Does Success Look Like? (UT-F01)



Pond

Creation, Enhancement and Management Summary (PO-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 18. Pond

Target Habitat:		Pond. Target condition Good.				
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Enhancement Approach	Management Approach
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Yes		Follow Landscape scheme to create habitat. Pond not to be grazed by livestock.		Monitor during annual surveys and offer remedial measures if required.
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	Yes		Overall Landscape Layout (Ascerta, 2024d) indicates this will be created. Follow Landscape scheme for planting and habitat creation details.		Monitor during annual surveys and offer remedial measures if required.
C	Less than 10% of the water surface is covered with duckweed <i>Lemna</i> spp. or filamentous algae.	Yes		Follow Landscape scheme.		Monitor during annual surveys and offer remedial measures if required.
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or pipework.	Yes		Follow Landscape scheme.		Monitor during annual surveys and offer remedial measures if required.
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	Yes		Follow Landscape scheme.		Monitor during annual surveys and offer remedial measures if required.
F	There is an absence of listed non-native plant and animal species.	Yes		Ensure no INNS is present during habitat creation.		Monitor during annual surveys. Offer remedial management if required such as: - Remove INNS plant species with pulling. - Consult INNS specialist.
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Yes		Following Landscaping scheme. No fish to be added to the pond.		If fish noted during annual monitoring survey, then determine if at a high enough density to require consultation for removal.
H	In non-woodland ponds: emergent, submerged or floating plants (excluding duckweed) ³ cover at least 50% of the pond area which is less than 3 m deep.	Yes		Overall Landscape Plan indicates marginal wetland plants will be added to ponds (Ascerta, 2023d).		Replacement planting if plants failed to establish.

	(only applicable to non-woodland ponds)					
I	The pond surface of non-woodland ponds is no more than 50% shaded by adjacent trees and scrub. (only applicable to non-woodland ponds)	Yes		Overall Landscape Plan indicates the pond is to be surrounded by wetland wildflowers, marginal wetland plants and peatland plants only (Ascerta, 2023d).		

Additional Management Prescriptions (PO-B01)						
N/A						

Pond

Creation, Enhancement and Management Detailed Methods (PO-T02)

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

Action	Relevant Parcels	Timing	Prescriptions
Excavation		TBC	Follow Landscaping Scheme.
Pond Liner (if required)		TBC	Follow Landscaping Scheme.
Planting		TBC	Planting of wetland and marginal vegetation as indicated on Overall Landscape Layout (Ascerta, 2023d).
Monitoring		TBC	Monitor during annual survey, assess against condition criteria and offer remedial measures if required.

Pond Species Lists (PO-T03)

Provide a detailed species list for the habitat to be created – **Peatland planting around pond as per Site Planting Schedules plan (Squareyard, 2024). Aquatic vegetation not stated.**

Common Name	Scientific Name	Abundance / %	Comments
Heather	Calluna vulgaris	20	
Common Cottongrass	Eriophorum angustifolium	20	
Soft Rush	Juncus effusus	20	

Red Bogmoss	Sphagnum capillifolium	20	
Blunt-leaved Bogmoss	Sphagnum palustre	20	

Other Supporting Information

Supporting Information (PO-B02)
N/A

What Does Success Look Like? (PO-F01)



Hedgerow

Creation, Enhancement and Management Summary (HD-T01)

Provide details of the approach to delivering each of the targeted condition criteria and hedgerow type. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 8. Hedgerow

Target Hedgerow Type:		Native Hedgerow. Moderate Condition.				
Condition Assessment Criteria		Targeted?	Relevant Features	Creation Approach	Enhancement Approach	Management Approach
A1	Height >1.5m average along length.	Yes		As per the Overall Landscape Layout – “planted in a double staggered row at 0.33m centres and 0.3 offset.” This should allow for this criterion to be met given the 30 year management.		
A2	Width >1.5m average along length.	Yes		Same as above.		
B1	Gap – hedge base Gap between ground and base of canopy <0.5m for >90% of length.	Yes		Same as above.		Ensure there is not excessive cut back/pruning of hedge to prevent large gap between hedge base and ground.
B2	Gap – hedgerow canopy continuity Gaps make up <10% of total length; and no canopy gaps >5m.	Yes		Same as above.	Additional planting of any failed trees/shrubs that would allow for gaps to occur.	Ensure there is not excessive cut back/pruning of hedge to prevent gaps forming in canopy. Annual monitoring survey to assess need for additional planting if canopy gaps identified.
C1	Undisturbed ground and perennial vegetation >1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	No		-	-	-
C2	Nutrient-enriched perennial vegetation	No		-	-	-

	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.					
D1	Invasive and neophyte species >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently introduced species.	Yes		Any INNS and/or neophyte species identified to be removed prior to planting.	Ongoing pulling of INNS and/or neophyte species.	Presence and % cover of INNS and neophyte species to be monitored during annual monitoring survey. Possible consultation of INNS specialist may be required.
D2	Current damage >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes				
E1	Tree class (applicable to hedgerows with trees only) There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient), and there is on average at least one mature, ancient or veteran tree present per 20 – 50m of hedgerow.	N/A				
E2	E2. Tree health (applicable to hedgerows with trees only) At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	N/A				

Additional Management Prescriptions (HD-B01)

N/A

Hedgerow

Creation, Enhancement and Management Methods (HD-T02)

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

Action	Relevant Features	Timing	Prescriptions
Prepare Trench		TBD	
Transplanting		TBD	
Mulching		TBD	Hedge lines to be mulched after planting
Replacement		1 Year post planting to Year 5	- Any plants that have failed (damaged, diseased or otherwise failed growth) to be removed and replaced as needed during the planting season. - Check any guards and stakes (remove once established)
Management			- Cutting outside of nesting season (March to August inclusive) - Removed weeds in growing season - Remove litter and debris - Top up mulch annually in spring and autumn - Water base during prolonged periods of hot weather (particularly in first year whilst establishment) - Hedgerow sides to be cut every three years, tops trimmed every six years Where practicable, traditional methods of hedgerow management such as hand-trimming and coppicing

Hedgerow Species Lists (HD-T03)

Provide a detailed species list for the habitat to be created. **As per Site Planting Schedules plan (Squareyard, 2024).**

Common Name	Scientific Name	Abundance / %	Comments
Common Hawthorn	Crataegus monogyna	1157	
Common Blackthorn	Prunus spinosa	643	
Common Hazel	Corylus avellana	257	
Common Holly	Ilex aquifolium	257	
Bird Cherry	Prunus padus	129	

Dog Rose	Rosa canina	129	
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Other Supporting Information

Supporting Information (HD-B02)
N/A

What Does Success Look Like? (HD-F01)



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.

This is a pre-emptive list. The list of potential risks should be as comprehensive as possible to provide confidence in the delivery of the management plan objectives. Complete each habitat's management targets and prescriptions first, then consider the likelihood of the risk occurring and what impacts it may have if it was to occur. Consider how these may feed back into monitoring requirements.

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
TBD	Other Neutral Grassland	Seed mix fails to establish.	Over 10% of seeds does not establish at year one inspection.	Should be watered during periods of prolonged dry weather. After mowing, cuttings to be removed. Areas should be monitored for pernicious weeds and invasive schedule 9. Undertake further sowing of seeds or additional plug planting if any areas fail to establish.
TBD	Other Neutral Grassland	Habitat not meeting criteria A (species diversity of 6-8 vascular plant species per m2 present) which is essential to achieving at least Moderate condition.	Monitoring surveys recording low species diversity.	Ensure appropriate ground treatment prior to sowing of meadow mix. If species diversity appears to be in decline, review mowing regime and consider supplementary seeding or plug planting.
TBD	Other Neutral Grassland	Habitat not meeting criteria B (varied sward).	Monitoring surveys indicating a uniform vegetation structure/height.	Reassess mowing regime.
TBD	Other Neutral Grassland	Habitat not meeting criteria C (cover of bare ground >5%).	Monitoring surveys assessing percentage cover of bare ground.	Additional seed sowing or plug planting to allow establishment of grassland over bare ground.
TBD	Other Neutral Grassland	Not meeting criteria D (encroachment of scrub).	Presence of scrub is approaching 20% of total grassland area.	Hand-pulling should be implemented where appropriate. Spot treatment using herbicide may be required but should be minimised as far as possible.
TBD	Other Neutral Grassland	Failing criteria D (cover of bracken).	Presence of bracken is more than 20% of total grassland area.	Implement hand-pulling where appropriate. Spot-treatment using herbicide may be required but should be minimised as far as possible.
TBD	Other Neutral Grassland	Habitat not meeting criteria E (management, and lack of INNS).	Monitoring survey identifying INNS and/or species present indicative of damage >5% and/or physical damage present in >5% of area.	Pulling of INNS, potentially requiring consultation with INNS of specialist depending on levels of prevalence. Replacement seed sowing/plug planting.
TBD	Other Broadleaved Woodland (enhanced parcel only)	Failing criteria A (age distribution).	Wrong number of age classes present.	Additional planting following annual monitoring of woodland.

TBD	Other Broadleaved Woodland (enhanced and created parcels)	Failing criteria B (herbivore damage).	Browsing pressure >40%.	Reassess/replace tree guards. Consider other protective measures.
TBD	Other Broadleaved woodland (enhanced and created parcels)	Failing criteria C (invasive plant species).	INNS present.	Pulling of INNS. Consult INNS specialist if pulling not effective enough to remove all INNS onsite.
TBD	Other Broadleaved woodland (enhanced and created parcels)	Failing criteria D (number of native plant species).	<5 native tree or shrub species identified.	Reassess landscape planting to introduce more native species. Additional/replacement planting to provide more native trees and shrubs.
TBD	Other Broadleaved woodland (enhanced and created parcels)	Failing criteria E (<80% of canopy trees and understorey shrubs are native).	<80% of canopy trees and understorey shrubs are native.	Monitor levels of native species. Additional planting to increase % if required.
TBD	Other Broadleaved woodland (enhanced and created parcels)	Failing criteria F (open space within woodland).	>20% temporary open space within woodland.	Monitor % of temporary open space. Additional planting to decrease % if required.
TBD	Other Broadleaved woodland (created parcel only)	Failing criteria G (woodland regeneration).	No classes identified.	Monitor through annual surveys and offer remedial measures if required.
TBD	Other Broadleaved woodland (enhanced and created parcels)	Failing criteria H (tree health).	Tree mortality >10%. Identified pests/diseases/crown dieback.	Monitor levels of tree mortality and possible presence of pests/diseases/crown dieback. Replacement planting of any failed trees. Consider consultation of specialist to properly identify and offer solutions for pests/diseases/crown dieback.
TBD	Other Broadleaved woodland (enhanced and created parcels)	Failing criteria M (woodland disturbance).	1 hectare or more of nutrient enrichment and/or 20% or more of woodland area has damaged ground.	Management plan does not include nutrient enrichment (beyond mulch used for planting) so this should not be a concern. Ensure this is not introduced. Damaged ground of >20% identified following annual monitoring survey should be rectified with ...
	Ditch	Failing criteria A (good quality water).	Water found to be of high turbidity (indicating pollution).	
	Ditch	Failing criteria B (flora diversity).	<10 species present (emergent, submerged and floating-leaved plants).	

	Ditch	Failing criteria C (cover of algae and/or duckweed).	>10% cover of filamentous algae and/or duckweed.	
	Ditch	Failing criteria D (aquatic marginal vegetation).	Present along at least 75% of the ditch.	
	Ditch	Failing criteria E (physical damage).	Physical damage along >5% of the ditch.	
	Ditch	Failing criteria F (water levels).	Water levels not maintained – summer depth <50cm in minor ditch and <1m in main drains.	
	Ditch	Failing criteria G (shading of ditch).	>10% of the ditch is heavily shaded.	Cut back / pruning of vegetation.
	Ditch	Failing criteria H (presence of INNS plants and animals).	Invasive non-native plants and/or animals identified in habitat.	INNS specialist to be consulted if required.
	Mixed Scrub	Failing criteria A (good example of habitat type).	- At least 80% of the scrub native - At least 3 woody species - No single species >75% cover (except Hazel, Sea Buckthorn, Juniper or Box)	May require additional planting to introduce more native and/or woody species to the scrub.
	Mixed Scrub	Failing criteria B (seedlings, saplings, young shrubs and mature shrubs present).	Seedlings, saplings, young shrubs and mature shrubs present.	
	Mixed Scrub	Failing Criteria C (INNS/suboptimal plant species).	Absence of INNS and species indicative of suboptimal condition make up less than 5% of ground cover.	Introduce pulling of INNS/suboptimal plant species. Consult INNS specialist if required.
	Mixed Scrub	Failing Criteria D (well developed edge).	Poorly developed edge.	
	Mixed Scrub	Failing criteria E (clearings/glades/rides present).	No clearings/glades/rides present.	
	Individual Trees	Failing criteria B (continuous tree canopy).	N/A – individual trees automatically pass this criterion.	N/A – individual trees automatically pass this criterion.
	Individual Trees	Failing criteria D (impact by humans).	Evidence of human impact identified and/or pruning regime altering >75% of expected canopy.	Introduce management to reduce impact of humans e.g. litter picking. Reassess pruning if considered to alter >75% of canopy (following annual monitoring survey).
	Individual Trees	Failing criteria E (ecological niches).	No ecological niches found in trees.	
	Individual Trees	Failing criteria F (oversailing vegetation).	<20% of the tree canopy area is oversailing vegetation.	If oversailing scrub/other neutral grassland, then any failed vegetation can be replaced with planting/seed sowing/plug planting. Ensure pruning is limited to allow for canopy to oversail vegetation.

	Pond	Failing criteria A (water quality).	Poor water quality (indicated with high turbidity) and/or showing signs of pollution.	
	Pond	Failing criteria B (semi-natural habitat surrounding pond).	Semi-natural habitat not surrounding the pond for at least 10m from the pond edge.	Habitat management to ensure this is provided. (Overall Landscape Layout indicates the area around the pond will include peatland and marginal wetland planting, along with wetland wildflower seeding (Ascerta, 2023d).
	Pond	Failing criteria C (cover of filamentous algae and duckweed).	>10% of the pond surface covered by filamentous algae and/or duckweed (indicating eutrophication).	Removal of algae and/or duckweed.
	Pond	Failing criteria D (artificial connection to other waterbodies).	Pond is found to be artificially connected to other waterbodies (e.g ditches or artificial pipework).	
	Pond	Failing criteria E (fluctuation of water levels).	Pond water levels unable to fluctuate naturally / obvious signs of pipework/artificial dams or pumps.	
	Pond	Failing criteria F (non-native plant and animal species).	Non-native plants and/or animals identified.	Removal of invasive plants. Consultation with INNS specialist.
	Pond	Failing criteria G (fish levels).	Pond found to be artificially stocked with fish and/or levels of native fish at high densities.	Removal of fish via a specialist.
	Pond	Failing criteria H (plant cover).	Emergent, submerged or floating plants cover <50% of the pond area that is 3m deep. Excludes duckweed.	Additional/replacement pond planting to increase % cover of pond.
	Pond	Failing criteria I (pond shading by vegetation).	Shading of the pond by trees and scrub is >50%.	Pruning/cut back of vegetation to reduce percentage cover of shading of the pond.
	Native Hedgerow	Failing criteria A1 (hedge length).	(A newly planted hedgerow does not pass this criterion (unless >1.5m height)). <1.5m average along length.	Additional planting to replace diseased/failing plants. Follow management prescription to provide good environmental conditions for plant establishment and growth.
	Native Hedgerow	Failing criteria A2 (hedge width).	(Laid, coppiced, cut and newly planted hedgerow are indicative of good management and pass this criterion for up to maximum of four years (if undertaken according to good practice)). <1.5m average along length.	Additional planting to replace diseased/failing plants. Follow management prescription to provide good environmental conditions for plant establishment and growth.

	Native Hedgerow	Failing criteria B1 (gaps between ground and base of canopy).	(This considers the vertical 'gappiness' of the woody component of the hedgerow. A gap is considered a complete break in the woody canopy). Gaps between ground and the base of the canopy are not <0.5m for >90% of the hedgerow length.	Planting to make up the gaps. Reassess pruning regime.
	Native Hedgerow	Failing criteria B2 (gaps within hedge).	(This considers the horizontal 'gappiness' of the woody component of the hedgerow. A gap is considered a complete break in the woody canopy). Gaps make up >10% of total length, and no canopy gaps >5m.	Planting to make up the gaps. Reassess pruning regime.
	Native Hedgerow	Failing criteria D1 (% cover of INNS and recently introduced species).	>10% of the hedge or undisturbed ground features INNS and/or recently introduced species.	Removal of INNS and/or newly introduced species via pulling. Consultation with INNS specialist if required.
	Native Hedgerow	Failing criteria D2 (damage by human activities).	>90% of the hedgerow or undisturbed ground shown signs of damage from human activities (e.g. pollution, manure, rubble, litter, excessive hedgerow cutting).	Reassess pruning regime if considered to be causing damage to the hedgerow. Removal of manure/litter/debris etc if identified during annual monitoring survey.
	Mixed Scrub, Individual Trees, Native Hedgerow	Plants fail to establish.	Signs of failed/diseased/dying plants.	Ensure landscaping instructions are followed to best ensure establishment occurs. After first annual inspection, any failed shrubs/trees should be replaced.

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)

Before photographs were taken as part of the PEA walkover by Ascerta (2023a) and included in the report.

Annual monitoring surveys will occur between years 1-30, using the condition assessment criteria within The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology (v1.0.2, July 2024). During these surveys, notes and photographs will be taken to record how the newly created habitats meet or fail each of the specified condition criteria.

Annual targeted survey work will be undertaken on the newly habitats as described below to ensure target conditions are achieved.

Monitoring Methods and Intervals MS-T01

Provide details of the methods you will use to adequately monitor the progress towards the targets stated in the management plan and as agreed with the Local Planning Authority.

Monitoring methods and frequency need to be considered according to habitat type. The text below is only for illustrative purposes. Plan according to your own project and habitat requirements.

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Other Broadleaved Woodland	<u>Enhanced only (Parcel 1)</u> - Number of age classes present (1, 2 or 3)	Annually from years 1-5, then every 5 years to year 30. Surveys to be completed between May and August.
	<u>Created only (Parcel 2)</u> - Presence/absence of the three classes of woodland regeneration (seedlings, saplings and young trees of 4-7cm diameter at breast height)	
	<u>Both Parcels</u> - Browsing damage from herbivores (no significant browsing, significant browsing in <40% of whole woodland or >40% of whole woodland)	

	- INNS presence/absence (no INNS, Rhodedendron or Cherry laurel not present and other INNS cover <10% or Rhodedendron or Cherry laurel present or other INNS 10% cover or more) - Number of native tree species present (5 or more, 3-4 or 2 or less) - Open space within woodland (as woodland is <10ha – 0-20% open space, 21-40% or >40%) - Woodland regeneration (three classes, 1-2 classes or no classes or coppice regrowth) - Levels of tree mortality (10% or less, 11-25% or >25%) - Woodland disturbance (no nutrient enrichment or damaged ground, <1ha of nutrient enrichment and/or <20% damaged ground or >1ha of nutrient enrichment and/or >20% of damaged ground.	
Ditch	Assess the following: - Water quality - Number of emergent, submerged and floating plants present - % cover of duckweed and filamentous algae - % cover of or aquatic marginal vegetation present along the ditch - % of physical damage present - Water levels - % of ditch shaded - Presence/absence of INNS plant and animal species	Annually from years 1-5, then every 5 years to year 30. Surveys to be completed between May and August.
Other Neutral Grassland	Assess the following: - Undertake quadrat sampling to identify the habitat type that is establishing and then number of species per m². Also determine presence of indicator species. - Assess vegetation structure (sward height and variation) - % of bare ground, bramble and bracken cover. - % cover of bracken and scrub - Combined % cover of species indicative of suboptimal condition and physical damage - Presence/absence of INNS - If replacement sowing is required (seeds failed to establish)	Annually from years 1-5, then every 5 years to year 30. Surveys to be completed between May and August.
Individual Trees	Assess the following: - Evidence (or not) of adverse impact on tree health by human activities - Presence of ecological niches	Annually from years 1-5, then every 5

	- % of tree canopy cover oversailing vegetation beneath - If replacement planting is required (trees failed to establish)	years to year 30. Surveys to be completed between May and August.
Mixed Scrub	Assess the following: - At least 80% of the scrub is native - There are at least three woody species - No single species comprises >75% cover (aside from Hazel, Box, Common Juniper or Sea Buckthorn) - If seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present - Presence/absence of INNS. If absent, determine % cover - If scrub has well developed edge - Presence/absence of clearings, glades or rides - If replacement planting is required (shrubs failed to establish)	Annually from years 1-5, then every 5 years to year 30. Surveys to be completed between May and August.
Pond	Assess the following: - Water quality - If semi-natural habitat is present along at least 10m from pond edge - % cover of filamentous algae and duckweed - If artificially connected to other waterbodies - If water levels can fluctuate naturally (no signs of artificial dams, pumps or pipework) - Presence/absence of non-native plant and animal species - Signs of being artificially stocked with fish, or density of identified native fish	Annually from years 1-5, then every 5 years to year 30. Surveys to be completed between May and August.
Native Hedgerow	Assess the following: - Hedgerow height along length - Hedgerow width along length - Vertical gaps - Horizontal gaps - % cover of INNS plant species and recently introduced species - % length of hedgerow showing signs of damage from human activities	Annually from years 1-5, then every 5 years to year 30. Surveys to be completed between

		May and August.
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Monitoring Reports

Following completion of habitat creation and initial enhancement works, prepare for your monitoring report for the Local Planning Authority or Responsible Body. You should monitor each habitat type comprising the BNG project. Provide sufficient detail for the reviewing authority to assess the progress. The ‘Monitoring Report Template’ can help you do this. The requirements and regularity with which the monitoring reports are required are at the discretion of the LPA or Responsible Body. Prepare the monitoring requirements below.

Monitoring Report Schedule MS-T02

Provide details of the person or organisation that will be responsible for submitting the monitoring reports. Also state the responsible organisation for receiving and reviewing the reports.

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
Landowner	Rochdale Council LPA

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

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
Y1	September	September or October	Report on initial habitat creation and enhancement.
Y2	September	September or October	Report following annual monitoring survey, measuring progress towards habitat target conditions (for habitats created and enhanced).
Y3	September	September or October	Same as for Y2.
Y4	September	September or October	Same as for Y2.
Y5	September	September or October	Same as for Y2.
Y10	September	September or October	Same as for Y2.
Y15	September	September or October	Same as for Y2.

Y20	September	September or October	Same as for Y2.
Y25	September	September or October	Same as for Y2.
Y30	September	September or October	Same as for Y2.

Adaptive Management

Summary of Adaptive Management Approaches (MS-B02)

Monitoring surveys to be completed by a suitably qualified ecologist to assess opportunities for changes in management to improve outcomes towards target conditions set for enhanced and created habitats for this development. These changes in management can be included in the report following the annual monitoring survey, which can then be implemented by those responsible for the long term management of the site.

Suggestions made by the ecologist include (but not limited to) the following:

- Hand pulling of INNS
- Consultation of specialists (e.g. for INNS removal, fish eradication in the pond, tackling eutrophication or pollution in the ditch/pond)
- Mowing/pruning regimes of other neutral grassland, trees and hedgerow
- Replacement planting/sowing for failed trees/hedge/shrubs/areas of other neutral grassland
- Removing cause of human impact on habitats (e.g. litter, rubble, machinery, manure, pollution)
- Introducing methods to improve establishment of trees and shrubs (e.g. supplemental mulch application, and watering during prolonged periods of hot weather)
- Cut back of scrub/bracken to reduce encroachment
- Introducing methods to tackle eutrophication in the ditch and/or pond