

Habitat Management and Monitoring Plan

Site Name:	Thurnscoe Bridge Lane
Date:	13/04/2026
Version:	V1.3

Author:

FPCR | environment
& design

Client:



Contents

1. Project Background..... 2

Summary of Management Plan 2

Site Boundary Plan PB-F01..... 3

Site Context Plan PB-F02..... 4

Phasing strategy..... 5

Roles and Responsibilities 5

Land Use Summary..... 6

Site Context Photos PB-F03..... 6

Site Baseline, Environmental Information and Associated Impacts Checklist PB-T01 7

Baseline and Environmental Information 8

2. Planned Management Activities 0

Principles Informed by Design Stage 11

Habitat and Condition Targets PM-T01 12

Habitat Retention..... 15

Habitat Retention Plan PM-F01 15

Creation, Enhancement and Management Targets and Prescriptions 16

Habitat Creation and Management – Risk Register and Remedial Measures PM-T02 16

3. Monitoring Schedule 42

Monitoring Strategy 44

Monitoring Methods and Intervals MS-T01..... 44

Monitoring Reports 47

Adaptive Management 47

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.

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1.1	Draft	TC/ 24.11.25	JD / 09.01.2025
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Document Details

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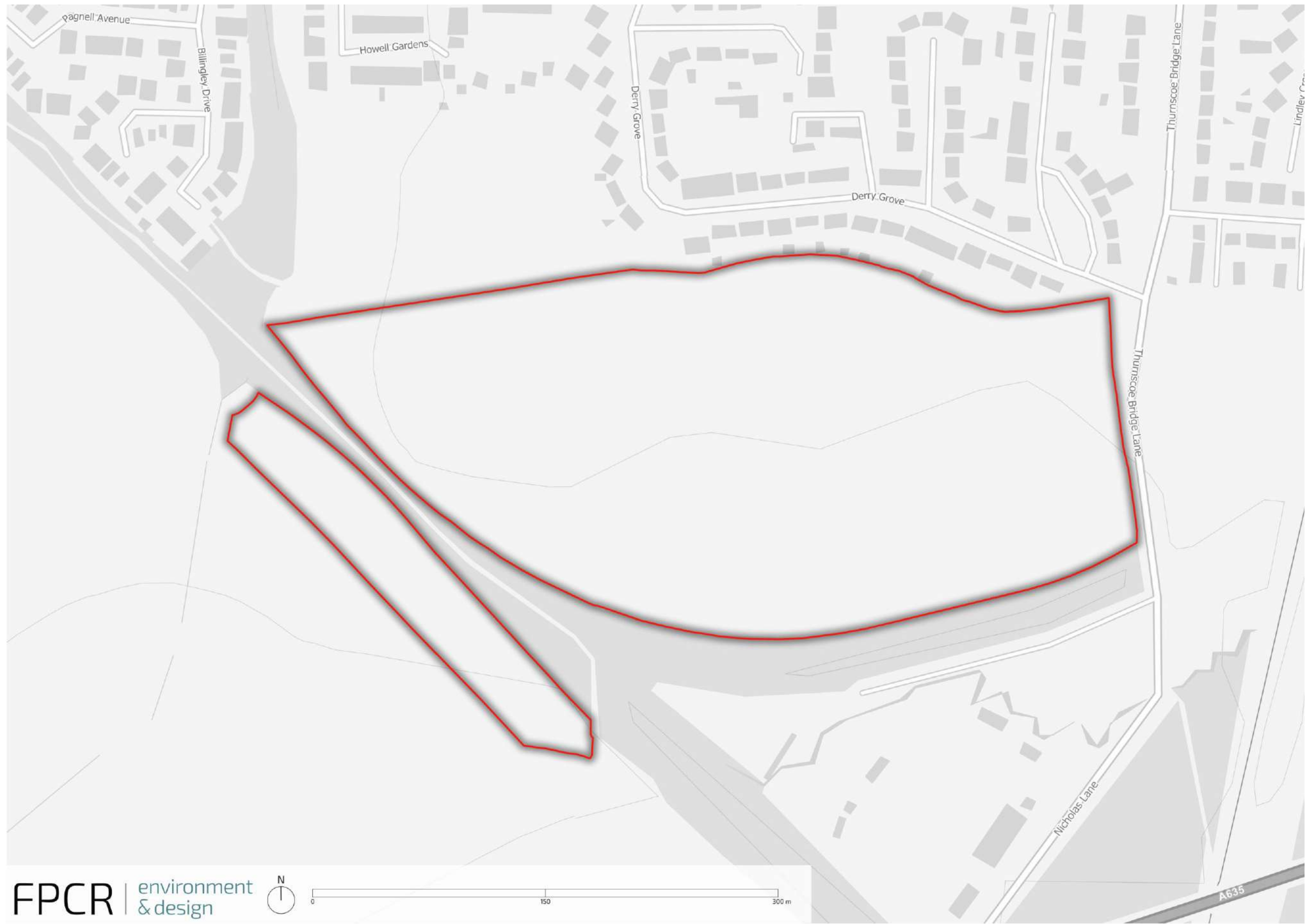
1. Project Background

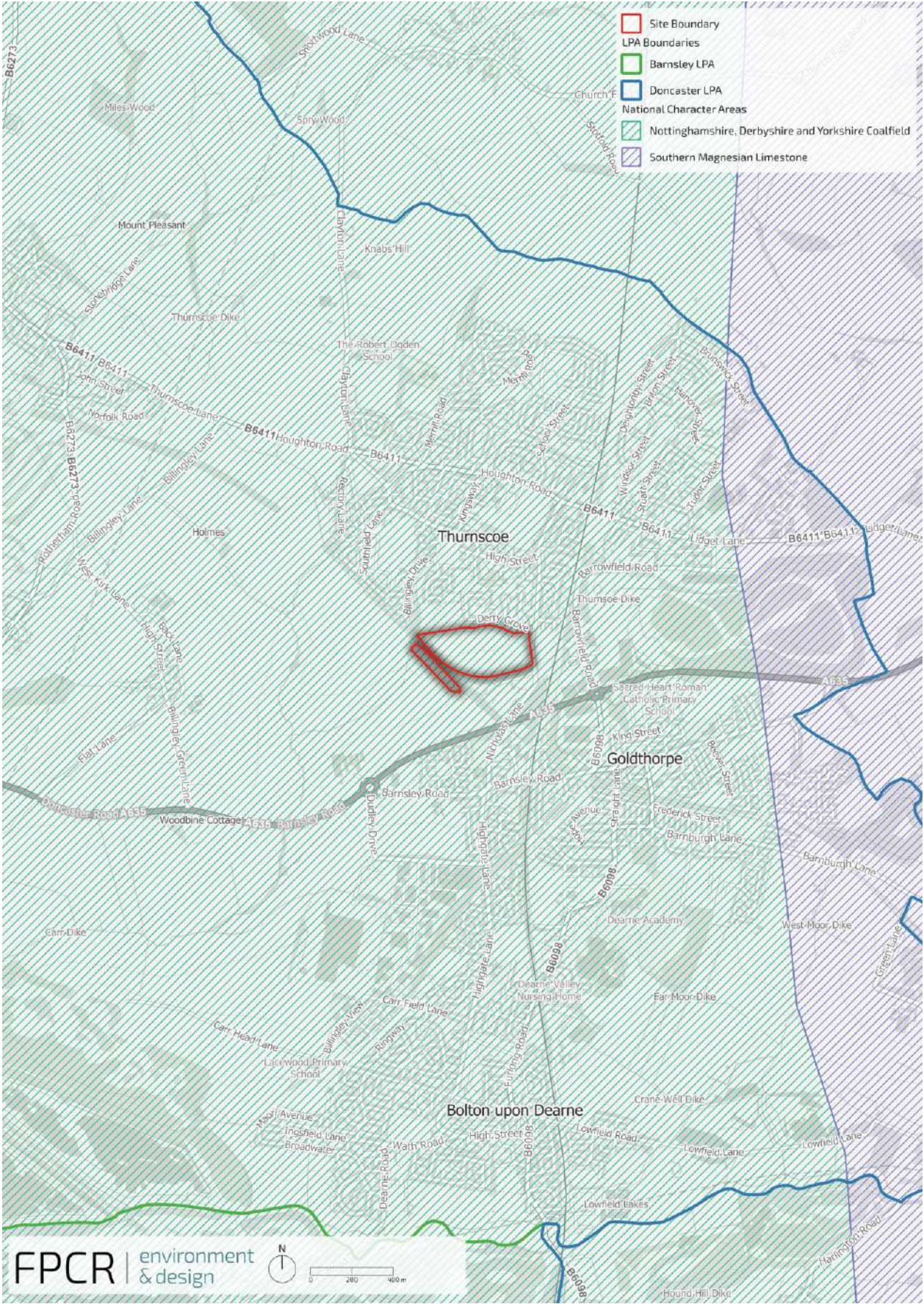
Summarise the key aspects of your management plan in this section. Table PB-B01 can be extended to suit the specific needs of individual projects.

Site Overview PB-B01	
Project type	On-site
Development Name and Address	Thurnscoe Bridge Lane, Swallownest, Thurnscoe, Rotherham, S63 0TT
BNG Project Name and Address	N/A
Author Organisation	FPCR Environment & Design Ltd.
Landowner	Avant Homes Yorkshire
Land Manager	Avant Homes Yorkshire
Responsible person/organisation for creating or enhancing the habitat	Avant Homes Yorkshire
Period covered by this management plan	30 years following completion of construction, and a 5-year update.
Planning authority	Barnsley Metropolitan Borough Council
Planning reference (if applicable)	2024/1004
BNG register reference (if applicable)	N/A
Central OS grid reference	SE 45397 04894
Metric revision/title	Appendix B - 12242-E-Statutory Biodiversity Metric-Rev E_24.02.26
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

Summary of Management Plan

Habitats to be Retained, Created and Enhanced PB-B02
On-site, the line of trees is to be entirely retained, with areas of mixed scrub, native hedgerow and individual trees along the eastern boundary partially retained. Created habitats comprise modified grassland, mixed scrub, SuDS, introduced shrub, individual trees, native hedgerows, and non-native ornamental hedgerows. The area of the Site to the southwest is to be used for BNG enhancements. In this area, mixed scrub, modified grassland, and individual trees will be created on the existing cereal cropland. No habitats will be targeted for enhancement.
Timescales for Actions PB-B03
The habitats will be monitored for a minimum of 30 years. The implementation date is to be confirmed.
Monitoring Requirements PB-B04
Monitoring will be carried out annually from years 1-5 then every 5 years until year 30. An adaptive management plan will be employed. Over time, it may be necessary to adjust management measures according to the success of the outcomes. This will be a process of monitoring, evaluating, and modifying the plan as required to reach the same desired outcomes. The responsible authority will be consulted if any significant changes are required.
Required Consents and Licences PB-B05
N/A.
Funding PB-B06
Management will be delivered through a management company appointed by Avant Homes Yorkshire. The management company is yet to be determined.
Legal Agreement PB-B07
TBC with LPA.





Phasing strategy

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

Yes: ☐ No: ☒

The work is not to be delivered in phases and this HMMP covers site-wide management.

Roles and Responsibilities

Ecologist or Other Professional Responsible for HMMP PB-B09

Name or Initials		Thomas Creighton (or other suitably experienced FPCR ecologist)		
Organisation		FPCR Environment & Design Ltd.		
Responsibility	Start Date:	Build period 2026-(estimated) 2032	End Date:	30 years after completion

FPCR will be responsible for overseeing the preparation of this HMMP and for providing ecological advice on the delivery of the habitat establishment and management prescriptions provided. FPCR will also be responsible for ensuring the landowner/management organisation is aware of any protected and/or notable species constraints present on site.

Statement of Competency

Thomas Creighton has experience in HMMP writing and knowledge of the processes involved in habitat management for Biodiversity Net Gain.
FPCR are a multidisciplinary Environment and Design company founded in 1957. FPCR have experience in delivering ecological consultancy services including Biodiversity Net Gain Assessments and HMMPs as well as a range of other ecological survey and assessment services.

Landowner or Land Manager PB-B10

Name or Initials		Avant Homes Yorkshire		
Organisation		Avant Homes Yorkshire		
Responsibility	Start Date:	Build period anticipated as	End Date:	30 years after completion

		2026(estimat ed) 2032		
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The land owner will be responsible for the appointment of a reputable land management company who will implement the HMMP.

Statement of Competency

Avant Homes have substantial experience of managing and maintaining habitats across numerous residential developments within the UK and in appointing appropriate management companies to undertake such works across their developments, to ensure effective implementation of this HMMP.

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

Name or Initials		TBC		
Organisation		Avant Homes		
Responsibility	Start Date:	Build period 2026-(estimated) 2032	End Date:	30 years after completion

Avant Homes will be responsible for appointing a suitable management company who will be responsible for implementation and undertaking of the works set out in this HMMP.

Statement of Competency

As above.

LPA or Responsible Body for Reviewing HMMP PB-B12

Name or Initials		Barnsley Local Planning Authority		
Organisation		Barnsley Local Planning Authority		
Responsibility	Start Date:	2026	End Date:	30 years after completion

The LPA, or other responsible body agreed and confirmed with the LPA will be responsible for the compliance monitoring of the site, including auditing of monitoring reports over the duration of the agreement.

Land Use Summary

Overview of Baseline Site Use PB-B13

The Site comprises cereal cropland with a large compartment of modified grassland in the west of the Site. An area of mixed scrub is associated with the eastern Site boundary. Tall ruderal vegetation is associated with the rough track (unvegetated bare ground) within the north-eastern area of the Site. A small area of ruderal/ephemeral habitat dominated by bare ground also exists at the northern boundary. Three individual rural trees occur along the rough track in the northeast of Site, with scattered urban trees along the eastern boundary, forming a linear habitat. An ecologically valuable line of trees and native hedgerow exist along the eastern Site boundary. The area of the Site to the southwest of the proposed development comprises entirely cereal cropland. This area is to be used for BNG offsetting through habitat creation.

Overview of Proposed Site Use PB-B14

Proposals for the entail the construction of a residential development comprising 289 dwellings with associated gardens, car parking, access roads and footpaths. Proposals for the Site’s green infrastructure include the creation of modified grassland, mixed scrub, sustainable urban drainage systems (SuDS), introduced shrub, individual trees, native hedgerows, and non-native ornamental hedgerows.

The area of Site to the southwest of the proposed development is to provide habitats for biodiversity net gain. It is to be planted with mixed scrub along the northeastern boundary and seeded to create modified grassland along the southern section.

Site Context Photos PB-F03



Site Baseline, Environmental Information and Associated Impacts Checklist PB-01

Baseline and Environmental Information	Check box if included	Document Reference or Reason if not included
Statutory / Non-statutory Designated Sites	☐	There are no anticipated impacts on any local designated sites. Full details can be found in the Ecological Impact Assessment (FPCR, 2024).
Protected and Notable Species	☐	Details can be found in the Ecological Impact Assessment (FPCR, 2024).
Invasive Non-Native Species (INNS)		No INNS were recorded onsite.
Biological Records Plan - Sites and Species	☐	Details can be found in the Ecological Impact Assessment (FPCR, 2024).
Baseline Habitats Survey	☐	Full baseline habitat details can be found in the Biodiversity Net Gain Report (FPCR, 2025). For reference, a baseline habitat plan is provided in Appendix A.
Public Access	☒	
Climate	☐	No impacts anticipated. Climate, beyond normal risks of unpredictable weather and climate change are not considered likely to adversely affect the habitats proposed.
Geology and Topography	☐	The site is largely flat, with an elevation of approximately 42m above sea level, presenting no constraints with regard to habitat proposals.
Agricultural Land Status	☒	
Soils and Substrates	☐	The habitats to be created are not exceptionally sensitive to nutrient levels.
Contaminated Land	☐	There are no known land contamination issues.
Hydrology and Drainage	☐	Not considered necessary. The land has been in use as grassland and cropland for a significant period and has encountered no significant issues.
Flood Risk Zones	☐	The site does not lie within a flood risk zone.
Landscape Character and Designations	☒	
Historic Land Use	☐	Historic land use does not present any constraints.
Historic Environment and Earth Heritage	☐	The site is not subject to any statutory historic designations.
Other – please specify	☐	None relevant.

Baseline and Environmental Information

Land Tenure and Public Access

Relevant Land Tenure Information (EI-B01)

All land within the red line boundary is owned by Avant Homes Yorkshire.

Potential Impact to Scheme (EI-B02)

All land within the red line boundary is owned by Avant Homes Yorkshire, who will be responsible for the delivery of this HMMP. There are no anticipated impacts to the scheme.

Public Access Information (EI-B03)

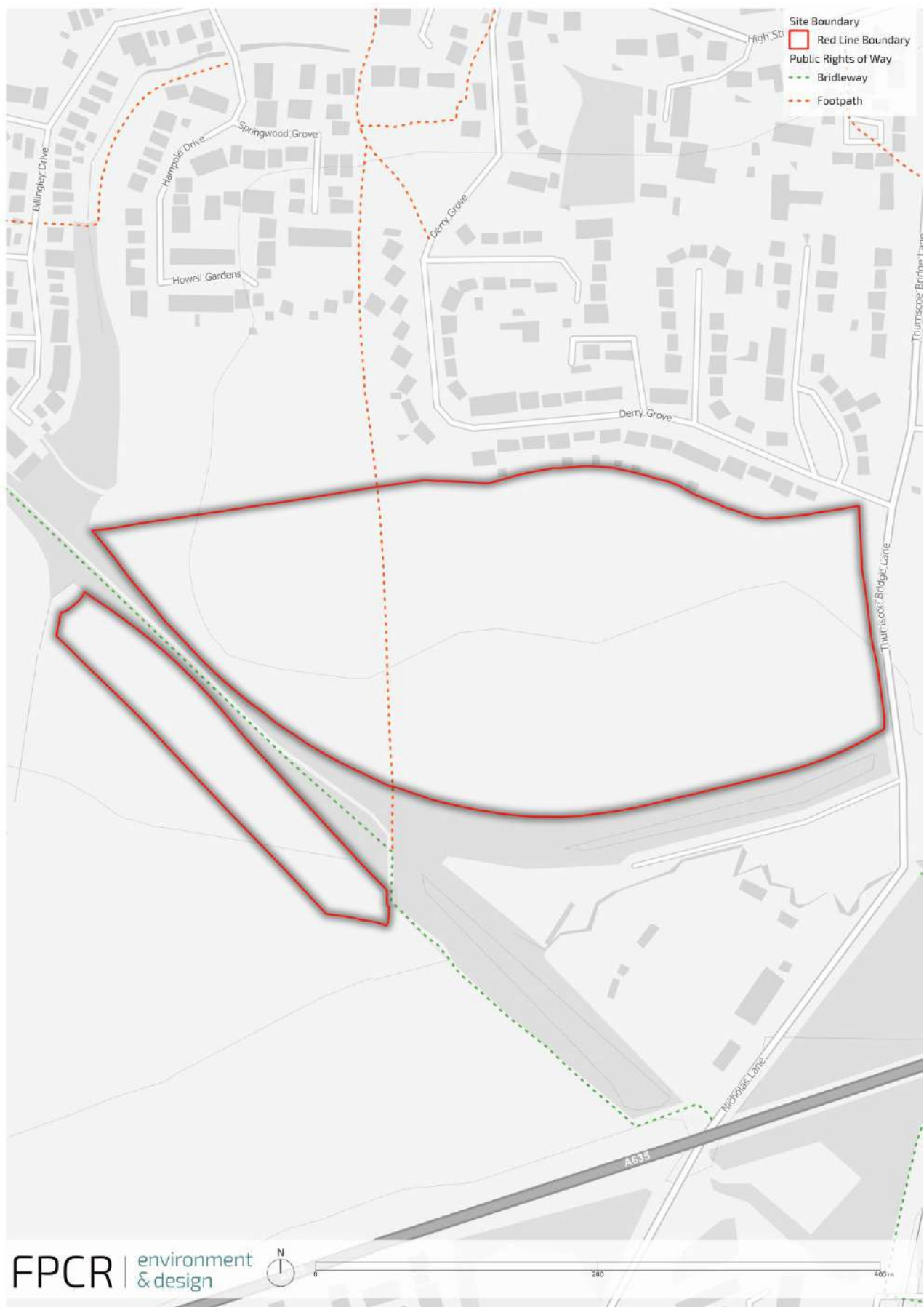
The Site is crossed by a Public Right of Way (PROW) as shown in the adjacent figure. A drainage easement associated with a drainage diversion exists to the north of site.

Potential Impact to Scheme (EI-B04)

The entire footpath through Site is to be retained, planting design has ensured that PROWs will not become overgrown and blocked as trees and shrubs develop. The existing drainage easement will be re-routed through the proposed development in accordance with Yorkshire Water’s requirements and is not expected to influence the prescriptions within the HMMP.

Permanent planting should be avoided over or under any utility infrastructure with wayleaves and any other agreed access kept clear.

Land Tenure and Public Access Plan (EI-F01)



Agricultural Land Status

Agricultural Land Status (EI-B11)

The majority of the Site is classed as ‘urban’. The area of the Site to the southwest to be used solely for habitat creation is classed as Grade 3 ‘good to moderate quality’ agricultural land.

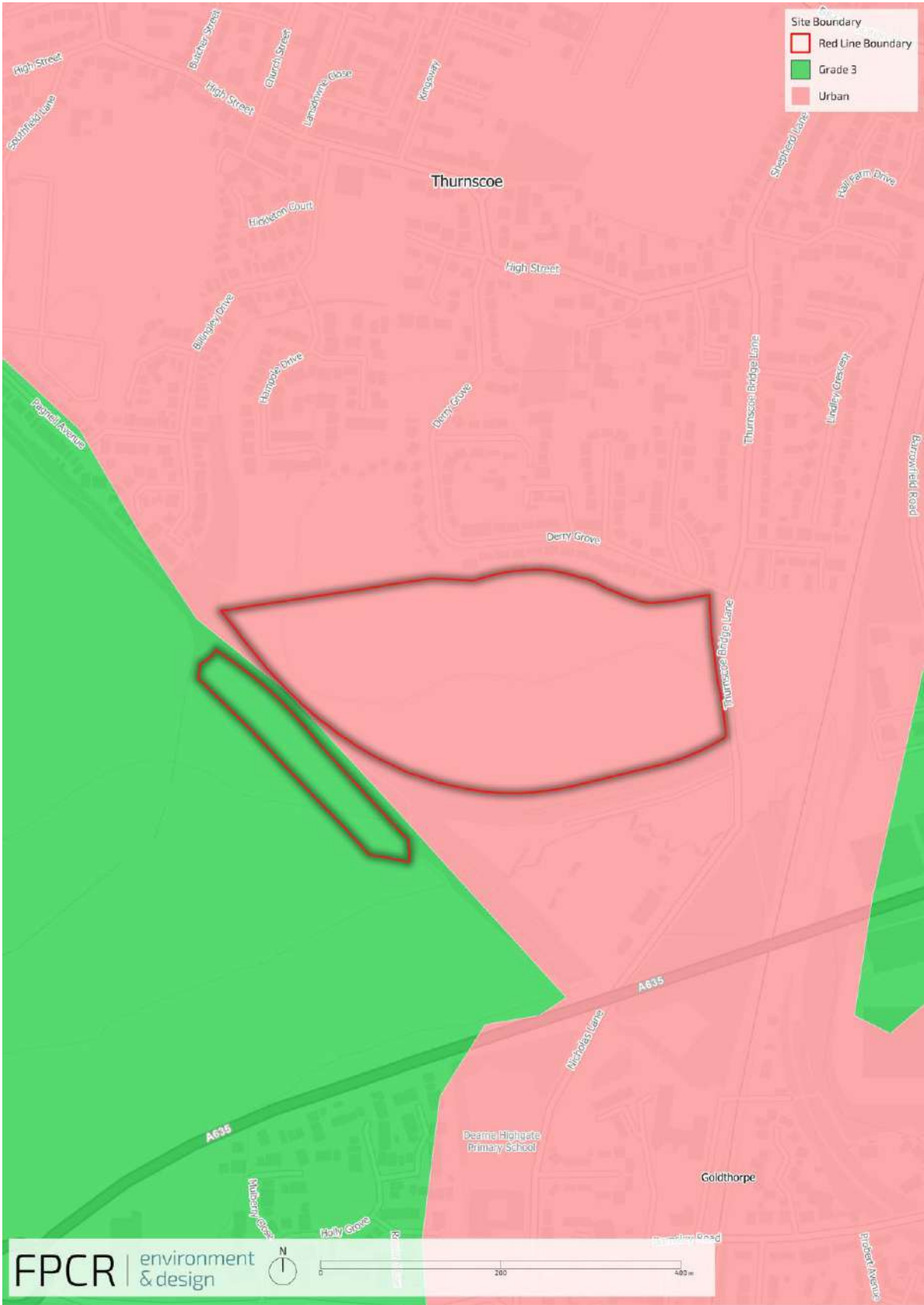
Agricultural Land Grade 3 land is defined as:

“This land has moderate limitations that affect the choice of crops to be grown, timing and type of cultivation, harvesting or yield. The yield of more demanding crops grown on this land is generally lower or more variable than on Grade 1 and 2”

Potential Impact on Project (EI-B12)

Whilst the proposals will result in the loss of a small area of some good-moderate quality arable land overall, the environmental and biodiversity benefits achieved with the change in agricultural use will be beneficial to the local farming landscape.

Agricultural Land Status Plan (EI-F03)



Landscape Character and Designations

Summary of Landscape Character and Designations (EI-B21)

The site is located within the Nottingham, Yorkshire and Derbyshire Coalfield National Character Area (NCA). The Statements of Environmental Opportunities for the NCA can be summarised as:

- 1. “Restore and enhance existing areas and create new landscapes through the inclusion of woodland and networks of green infrastructure to raise the overall quality of design and location of new developments [...] leading to a functioning network for wildlife and access and recreational amenities for people.
- 2. Protect and manage the archaeological and historical environment to safeguard a strong sense of cultural identity and heritage, particularly mining heritage [...]. Engage local communities with their past by enhancing the early, industrial and mining landscapes through restoration of key features of sites and improving access and interpretation.
- 3. Conserve, enhance and expand areas and corridors of semi-natural habitat such as grasslands and woodlands to create a functioning ecological network that links the fragmented patches of habitats through urban and sustainably farmed environments, thus assisting species and habitat adaptation to climate change, reducing soil erosion and diffuse pollution.
- 4. Manage, enhance and extend wetland habitats associated with the rivers Aire, Calder, Dearne, Don, Rother and Erewash and their tributaries to increase the landscape’s ability to naturally and sustainably manage flooding, improve water quality and increase the resilience of these habitats, the riverine landscape and associated species to climate change.” (Natural England, 2025).

Potential Impact on Project (EI-B21)

The project and its associated habitat creation relate to the several aims of the NCA. The provision of green infrastructure with a focus on wildlife connectivity is achieved through the creation of semi-natural habitats, including scrub, grassland, and groups of individual trees. This raises the overall design quality, links fragmented patches of habitat, and provides recreational amenity to residents. Management and monitoring prescriptions target the highest condition realistically achievable, assisting species in habitat adaptation to climate change.

Landscape Character and Designations Plan (EI-F08)



2. Planned Management Activities

Management Plan Aims and Objectives PM-B01

The objectives are achieved by following the prescribed management prescriptions in this management plan. The management prescriptions will be adaptable throughout the life of the project, adjusted in response to changing conditions where necessary to achieve the objectives.

Management Objectives

The proposed habitats, created over existing cereal cropland of low conservation value, will comprise:

- Grassland areas sown with Emorsgate EM1 seed mix or similar
 - **Modified grassland** for amenity and biodiversity value, proximal to built areas and within southwest biodiversity enhancement area, targeting poor to moderate condition depending upon predicted levels of disturbance
- **Mixed scrub**, targeting poor to moderate condition, comprising entirely native species, with structural heterogeneity, ridges and scalloped edges
- **SuDS**, targeting moderate condition, with varied cutting regimes and invasive species management
- **Introduced shrub**, which has no relevant condition assessment but may provide opportunities to invertebrates
- **Individual trees**, targeting poor to moderate condition, with relaxed management and replacement where necessary
- **Native hedgerows**, targeting poor condition with relaxed management
- **Non-native ornamental hedgerows**, which are poor by default.

Principles Informed by Design Stage

Design Principles Informed by Baseline Information PM-B02

FPCR ecologists worked with the client early in the design stage to maximise the number of biodiversity units produced by the proposals while maintaining the site's proposed functionality as a residential development.

The key principles that have guided the site proposals include Land Tenure and Public Access, Climate, and Landscape character and designations. Protected and notable species have been considered in the associated Ecological Impact Assessment (FPCR, 2026) and the green infrastructure will provide suitable habitats for a range of fauna. Each factor been carefully considered at the design stage of the habitat creation proposals to ensure their feasibility and likelihood of success.

The proposals have aimed to provide realistically achievable benefits for nature conservation within the confines and proposed use of the Site, based on sound ecological judgement and experience.

The Site lies within the Dearne Valley Green Heart Nature Improvement Area (NIA), which is formally identified in the Local Plan and SPD. The following proposed habitats have been assigned as 'Formally identified within local strategy' (high significance) as they are either considered to provide ecological value and connectivity within the NIA, and/or is listed within the UKBAP or LBAP as a local priority habitat:

- Modified grassland – although the habitat will provide amenity value, it will also be managed to support biodiversity and therefore meeting the reason for inclusion within the LBAP;
- Mixed scrub – considered to enhance the woodland edge of the adjacent priority deciduous woodland and managed to increase value to local wildlife and biodiversity.
- Scrub habitats listed under the Barnsley LBAP as 'recognised locally as sometimes being important for biodiversity';
- SuDS – planting to include wet grassland and marginal aquatic vegetation which includes common reed, and therefore considered to meet the vision of the NIA;
- Individual trees – considered to provide ecological value and connectivity within the NIA; and,
- Native hedgerows – listed under UKBAP and LBAP as a priority habitat.

All other proposed habitats are not listed as a priority habitat or considered to meet the vision of the NIA and therefore are considered to have lower strategic significance.

Habitat and Condition Targets PM-T01

Baseline Habitat Type(s)	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
Cereal crops, modified grassland	Modified grassland	G1-60	N/A, Poor	Poor	Standard time to target condition from the statutory biodiversity metric.	Poor condition will be targeted by achieving a pass in criteria A, C, and D.	Small areas of amenity grassland in POS areas of the site and managed to target poor condition as a precaution. Local priority habitat under Barnsley BAP, will be managed to support biodiversity. Emorsgate EM1 or similar seed mix to be used.
Cereal crops, modified grassland	Modified grassland	G61-96	N/A, Poor	Moderate	Standard time to target condition from the statutory biodiversity metric.	Moderate condition will be targeted by achieving a pass in criteria A, B, C, D, and F.	Amenity grassland created in POS areas of the site and managed to target moderate condition. Local priority habitat under Barnsley BAP considering will be managed to support biodiversity. Emorsgate EM1 Basic General Purpose Meadow Mix or similar seed mix to be used.
Cereal crops, modified grassland	Mixed scrub	S1-3	N/A, poor	Moderate	Standard time to target condition from the statutory biodiversity metric.	Moderate condition will be targeted by achieving a pass in criteria A, C, D and E.	Mixed native scrub planting within POS area of the site where further away from residential development with some form of buffer planting between the habitat and the development. Targeted at moderate condition. Listed as local priority habitat under Barnsley BAP.
Mixed scrub	Mixed scrub	S4-13	Poor	Poor	Standard time to target condition from the statutory biodiversity metric.	Poor condition will be targeted by achieving a pass in criteria A and C.	Mixed native scrub planting within POS area of the site in close proximity to the urban development, and therefore to target poor condition in these areas as a precautionary measure. Listed as local priority habitat under Barnsley BAP.
Cereal crops, modified grassland	Artificial unvegetated,	N/A	N/A, Poor	N/A - Other	Standard time to target condition	N/A	Gravelled areas within residential plots

	unsealed surface				from the statutory biodiversity metric.		
Cereal crops, modified grassland	Built linear features	N/A	N/A, Poor	N/A - Other	Standard time to target condition from the statutory biodiversity metric.	N/A	Access roads and public footpaths
Cereal crops, modified grassland	Developed land; sealed surface	N/A	N/A, Poor	N/A - Other	Standard time to target condition from the statutory biodiversity metric.	N/A	Residential dwellings and car parking
Cereal crops, modified grassland	Introduced shrub	N/A	N/A, Poor	Condition Assessment N/A	Standard time to target condition from the statutory biodiversity metric.	N/A	Ornamental planting within POS areas, to provide beneficial value to wildlife.
Cereal crops	Sustainable drainage system	U1	N/A	Moderate	Standard time to target condition from the statutory biodiversity metric.	Moderate condition will be targeted by achieving a pass in criteria A, B and C, as well as additional bioswale and SUDS criteria F and G.	SuDS created southern area of the site, considered to meet the vision of the NIA through the planting of wet grassland (e.g. Emorsgate EP1 Pond Edge mixture or similar) and marginal aquatic vegetation to provide benefits to wildlife and connectivity to the wider landscape. Targeted at moderate condition.
Cereal crops, bare ground, tall forbs, ruderal/ephemeral, modified grassland	Vegetated garden	N/A	N/A, N/A, Good, Poor, Poor	Condition Assessment N/A	Standard time to target condition from the statutory biodiversity metric.	N/A	Private residential gardens.
Cereal crops, tall forbs	Urban tree	UT34-208	N/A, Good	Moderate	Standard time to target condition from the statutory biodiversity metric.	Moderate condition will be targeted by achieving a pass in criteria A, B and F.	174 urban trees planted along public areas of residential streets / in close proximity. Provides ecological value and connectivity within NIA.
Cereal crops, modified grassland	Urban tree	UT1-33	N/A, Poor	Poor	Standard time to target condition from the statutory biodiversity metric	Poor condition will be targeted by achieving a pass in criteria A and B	33 newly planted urban street trees.

Cereal crops, modified grassland	Native hedgerow	H2-32	N/A, Poor	Poor	Standard time to target condition from the statutory biodiversity metric.	Poor condition will be targeted by achieving a pass in criteria C1, C2, D1, and D2.	Native hedgerow planting is proposed within the POS areas of the Site. Management of the new hedgerow will target poor condition.
Cereal crops, modified grassland	Non-native and ornamental hedgerow	H33 and 34	N/A, Poor	Poor	Standard time to target condition from the statutory biodiversity metric.	Non-native and ornamental hedgerows are poor condition by default.	The species planted will be such that there will not be any detrimental effect to wildlife and species will provide beneficial opportunities for invertebrates, including pollinators.
Cereal crop	Rural tree	RT1-16	N/A	Moderate	Standard time to target condition from the statutory biodiversity metric.	Moderate condition will be targeted by achieving a pass in criteria A, B and F.	16 rural trees planted within the BNG habitat creation area to the southwest of the proposed development.

Habitat Retention

Measures to be Implemented to Protect Retained Habitats PM-03

Sections of native hedgerow H1, the ecologically valuable line of trees (LT1), areas of mixed scrub (S1), and six individual rural trees (illustrated in the appended figure) are to be retained. Whilst these will be managed, no retained habitats will be enhanced such that their target condition is changed. .

LT1 (comprising trees T9-13) is in poor condition and requires no additional management measures. S1 will be maintained in conjunction with the adjoining created mixed scrub. Individual rural trees require further management and monitoring to maintain their moderate condition, the details of which are laid out below. This regime will be similar to, and conducted at the same time as, management of the newly planted rural trees targeting moderate condition.

All other habitats are to be lost to facilitate development, or for habitat creation. Habitat creation plans are illustrated in the following sections, and a baseline habitat plan is provided in the appendix.

During construction, retained hedgerow sections, areas of mixed scrub, and root protection areas (RPAs) of the retained trees will be protected with a buffer.

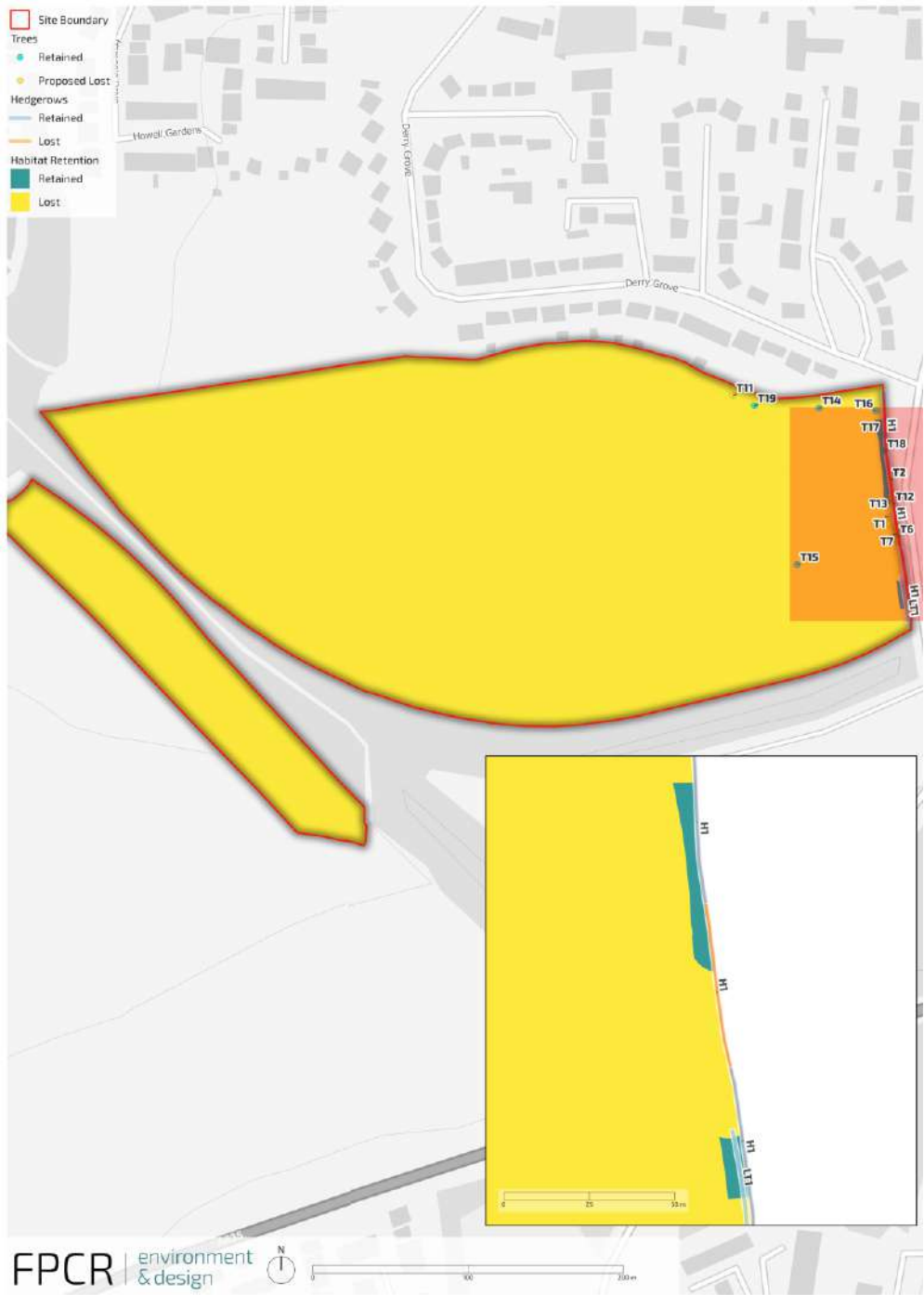
Specification of Protective Measures to be Used PM-04

Retained hedgerows and scrub are to be protected utilising Heras fencing (or similar) at a distance of no less than 1m. Retained trees’ (RPAs) are to be demarcated using fencing. A tree retention plan is illustrated in the appendix. The following RPAs are from the Arboricultural Report (FPCR, 2024).

Tree/ Hedgerow Ref.	Radial Root Protection Area(s) (metres)
LT1 (T9-13)	11.2, 4.4, 5.8, 4.4, 7.0
T1	8.0
T2	6.4
T3	6.5
T14	10.2
T34	9.6
T35	11.4
H1	2.0

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 ☒ (Appendix B: Baseline Habitats Plan, Appendix C: Tree Retention Plan).



Creation, Enhancement and Management Targets and Prescriptions

Grassland (Low Distinctiveness)

Habitat Creation, Enhancement and Management Plan EM-F01



Creation, Enhancement and Management Summary (GL-T01)

Target Habitat:		Modified Grassland – Poor condition (G1-60) Moderate Condition (G61-96).			
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Management Approach
A	There are 6-8 vascular plant species per m² present, including at least 2 forbs. Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m², please review the full UKHab description to assess whether the grassland should be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high or very high distinctiveness, please use the relevant condition sheet.	Yes	G61-96 (Moderate condition parcels)	The area will be seeded using an appropriate native species rich seed mix equivalent grassland mix to achieve a more diverse sward to achieve 6-8 species per m² (e.g. Emorsgate EM1). All areas of modified grassland (G1-99) will be seeded using the same/similar seed mix as above. However, parcels G1-87 have not specifically been targeted for this criterion given the assumed higher levels of disturbance within these areas which may not lead to the parcels achieving 6-8 vascular species per m². As such, a precautionary approach has been taken, with poor condition targeted for G1-87, given this essential criterion may not be met to achieve moderate condition.	Any areas of failed establishment / damage will be reseeded.
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 vertebrates and invertebrates to live and breed.	Yes	G61-96 (Moderate condition parcels)	N/A	20% of the grassland will be left unmown, to create a varied sward height, particularly around the trees.
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	G1-96 (Poor and Moderate condition parcels)	No scrub was recorded within the fields, and any encroaching scrub since will be cleared before grassland creation.	In all modified grassland parcels, ongoing management will reduce encroachment. Any scrub encroaching into the grassland will be removed.
D	Physical damage is evident in less than 5% of total grassland area Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	G61-96 (Moderate condition parcels)	Establishing grassland will be kept free of disturbance.	In all modified grassland parcels, areas of bare ground will be reseeded.

E	Cover of bare ground between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens.)	Yes	G1-96 (Poor and Moderate condition parcels)	The mix will be sown at the suggested sowing rate of 4g/m ² to ensure even coverage.	Areas of bare ground will be reseeded.
F	Cover of bracken <i>Pteridium aquilinum</i> less than 20%.	Yes	G1-96 (Poor and Moderate condition parcels)	No bracken was recorded within the fields, and any encroaching bracken since will be cleared before grassland creation.	Any bracken encroaching into the grassland will be removed in line with best practice.
G	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA).	Yes	G1-96 G61-96 (Moderate condition parcels)	No INNS were recorded within the site, and any INNS encroaching since will be cleared before grassland creation.	Any INNS encroaching into the grassland will be removed in line with best practice.

Grassland (Low Distinctiveness)

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

Action	Relevant Parcels	Timing	Prescriptions
Ground preparation	All	Year 0 Aug - September (ideally late August)	Areas to be sown will be first rotovated and raked or harrowed to produce a medium fine, firm tilth to a depth of 150mm. Weeds to be removed through cultivation.
Sow seed mix	All	Year 0 Aug - September (ideally late August)	The seed mix will be sown as per manufacturer’s instructions. Emorsgate EM1 Flowering Lawn Mixture (or similar approved) will be sown at a rate of 40kg/ha (or as recommended by the manufacturer). Sowing must be undertaken in still wind conditions when the soil is saturated but not flooded. After sowing, seed will be bedded in by rolling.
Protection of newly sown seeds	All	Year 0	Newly seeded areas will be protected to prevent seedling destruction.
Care during initial establishment	All	Year 0	Approximately a month after sowing, the grassland should be mown. Cut to a height of 40-60mm. Dig out any residual perennial weeds such as docks. The sward will be kept short during the first year of establishment.
Mowing regime	G61-69, (Moderate condition parcels).	As required from year 1	Once established, mow regularly as a lawn but not too short (25-40mm), with 20% of the area left unmown, rotating which area is left unmown each year. Care will be taken when using strimmers or mowers to avoid damaging trees. Weeds and grass within 100mm of the trunks will be removed by hand. Where poor condition is targeted this will not be carried out. All arisings will be finely mulched and retained in-situ.
Re-sowing worn areas	All	As required from year 1	Re-sow any worn grass areas (using an appropriate grass seed mix) as required to maintain a dense sward of grass and undertake weed control (using a suitable approved herbicide) as required.
Pre-mowing check	All	As required	All litter, stones or other debris will be collected and removed by the Contractor immediately prior to grass cutting operations.
General site maintenance	All	As required	Any litter will be removed from the site.
Control invasive / pernicious weeds – if required	All	As required	Where pernicious and/or invasive weed species establish, targeted cutting prior to setting seed in late summer will be undertaken. Where this management does not prove effective, stands of pernicious and/or invasive weeds will be spot treated using glyphosate spray as appropriate.

Grassland (Low Distinctiveness) Species Lists (GL-T03)

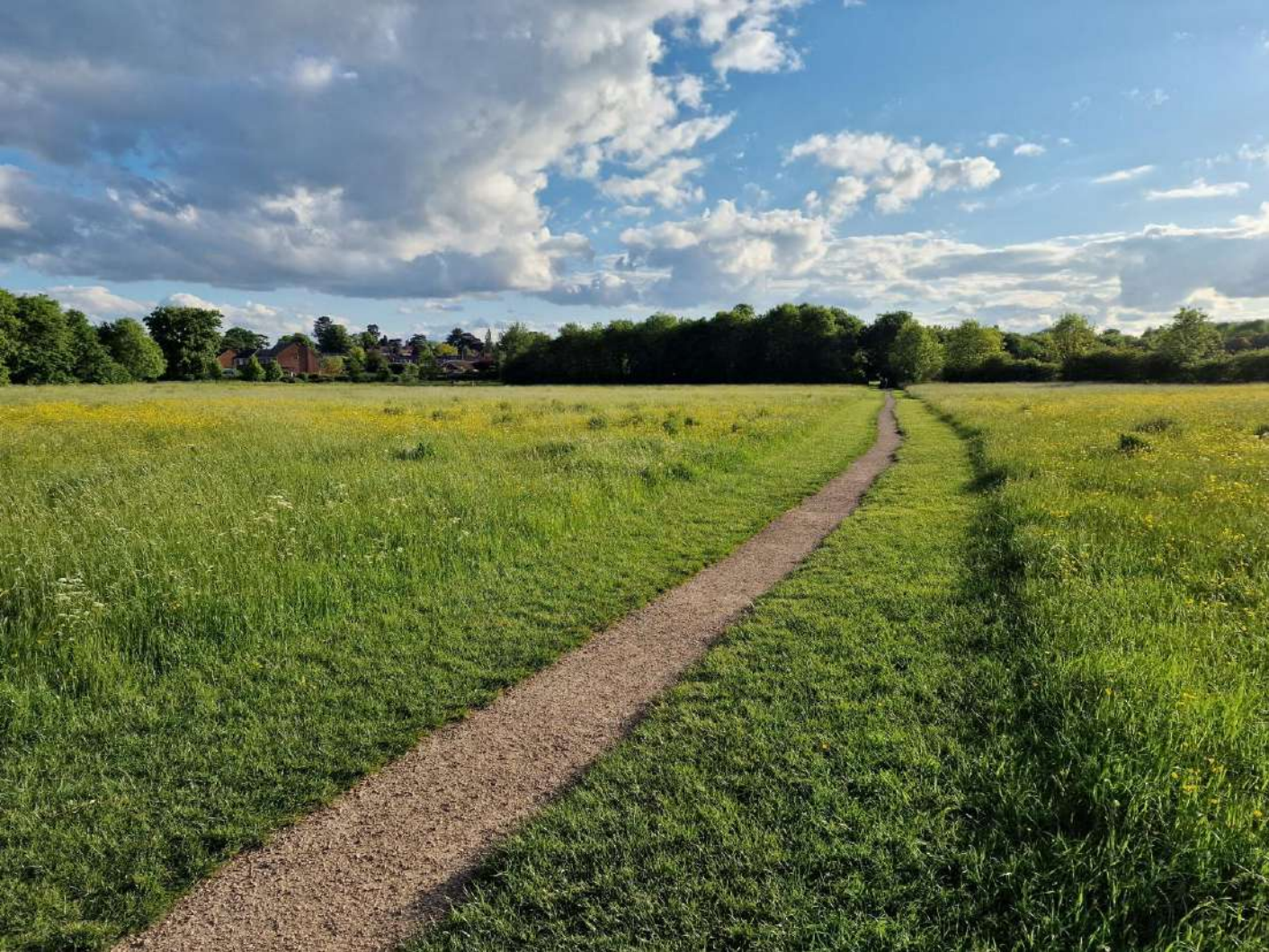
Common Name	Scientific Name	Abundance / %
Kidney Vetch	<i>Anthyllis vulneraria</i>	1.00
Betony	<i>Betonica officinalis</i>	1.00
Common Knapweed	<i>Centurea nigra</i>	1.60
Hedge Bedstraw	<i>Galium album</i>	1.00
Lady's Bedstraw	<i>Galium verum</i>	1.60
Oxeye Daisy	<i>Leucanthemum vulgare</i>	1.40
Common Bird's-foot Trefoil	<i>Lotus corniculatus</i>	0.20
Black Medick	<i>Medicago lupulina</i>	0.60
Ribwort Plantain	<i>Plantago lanceolata</i>	2.40
Cowslip	<i>Primula veris</i>	1.00
Selfheal	<i>Prunella vulgaris</i>	1.20
Meadow Buttercup	<i>Ranunculus acris</i>	1.60
Bladder Campion	<i>Silene vulgaris</i>	1.00
Dandelion	<i>Taraxacum officinale</i>	0.40
White Clover	<i>Trifolium repens</i>	4.00
Common Bent	<i>Agrostis capillaris</i>	8.00
Crested Dogstail	<i>Cynosurus cristatus</i>	28.00
Red Fescue	<i>Festuca rubra</i>	24.00
Smaller Cat's-tail	<i>Phleum bertolonii</i>	4.00
Smooth Meadow-grass	<i>Poa pratensis</i>	16.00

Other Supporting Information

Supporting Information (GL-B02)

The seed mixture to be used should be Emorsgate EM1 Flowering Lawn Mixture (or similar) which should include broadly similar species to above, with slow-growing grasses and flowering forbs which will withstanding cutting.

What Does Success Look Like? (GL-F01)



Hedgerow

Habitat Creation,
Enhancement and
Management Plan EM-F01



Creation, Enhancement and Management Summary (HD-T01)

Target Hedgerow Type:		Native Hedgerow – Poor Condition (H2-32)			
Condition Assessment Criteria		Targeted?	Relevant Features	Creation Approach	Management Approach
A1	Height >1.5m average along length.	No	H2-32	N/A Hedgerows will be allowed to establish over time.	Although not targeted, where possible it is recommended that the hedgerows be managed on a 3-year rotation and not cut below 1.5m.
A2	Width >1.5m average along length.	No	H2-32	N/A	N/A
B1	Gap – hedge base Gap between ground and base of canopy <0.5m for >90% of length.	No	H2-32	N/A	Although not targeted, where possible it is recommended that if hedge gaps exceed 0.5m on average for 90% of the length, the hedgerow will be gapped up, laid or coppiced the following winter.
B2	Gap – hedgerow canopy continuity Gaps make up <10% of total length; and no canopy gaps >5m.	Yes	H1-32	Hedge will be planted in staggered double rows 40cm apart with a minimum of 6 plants per metre to minimise gaps. This does not apply to the existing hedgerow H1.	Next planting season, replace dead specimens with native species and fill canopy gaps >2m with native hedgerow whips. This applies also to the existing native hedgerow H1, which will be maintained in at least poor condition.
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)	Yes	H1-32	A buffer strip of at least 2m from newly planted hedge will be implemented on at least one side. An identical buffer should also be established around the existing hedgerow H1.	At least 2m buffer strip from the centre of the hedgerow margin will be maintained with undisturbed ground allowed to develop on at least one side of the hedgerow. This applies also to the existing native hedgerow H1, which will be maintained in at least poor condition.
C2	Nutrient-enriched perennial vegetation Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Yes	H1-32	N/A	No fertiliser is to be applied at any point. This applies also to the existing native hedgerow H1, which will be maintained in at least poor condition.
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	H1-32	Only native species planted. Before planting, actions to control any INNS present will be undertaken if needed.	Remove and control any invasive non-native species along both sides of the hedge. This applies also to the existing native hedgerow H1, which will be maintained in at least poor condition.
D2	Current damage >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	No	H1-32	N/A	Whilst not targeted to achieve poor condition, human damage should be prevented to maintain the hedgerow and associated ground flora in line with best practice.

Hedgerow

Creation, Enhancement and Management Methods (HD-T02)

Action	Relevant Features	Timing	Prescriptions
Hedge planting	All new hedgerows (H2-34)	Establishment Works (Year 1)	Native trees and shrub species (excluding H33 & 34, which are non-native ornamental hedgerows) will be planted in two staggered rows approximately 40cm apart, aiming to plant 6 plants per metre. New planted should be protected with canes and spiral guards to prevent being browsed in the early stages. Small planting pits will be dug as shallow squares with the base of the planting pit will be broken up to encourage aeration to the depth of a garden fork prior to planting. Backfilling of soil will utilise existing excavated soils only with <u>no</u> compost or fertiliser application. Existing subsoils and topsoil should be kept separate during excavation, with the subsoil backfilled first before topping with topsoil. The back fill will be lightly firmed down, avoiding compaction. It will be important to ensure that plants are not planted lower than the surrounding ground level. The aim of planting will be to ensure that the level that the tree/shrub base meets the soil level will be slightly above ground level, aiming for 25mm above. After planting, water the any areas of new hedgerow/tree planting. Hedgerow bases will be sprayed or mulched using wood chippings or bark. Mulching will aim for a 1m diameter around the trees to prevent weed establishment. The depth of the mulch will be between 50-75mm.
Short term management	All new hedgerows (H2-34)	Years 2-5	The planted hedgerow should be trimmed lightly for first few years, as necessary to encourage branching.
Long Term Management	New native hedgerows (H2-32)	Year 5+ for newly planted hedge (November – February)	Hedgerows will be managed on a rotational basis with one third the total hedgerow resource cut each year, during late winter, after fruiting and prior to the bird nesting season (March) during frost free periods. The hedges should be mechanically trimmed to gradually develop a flat-topped “A” shape to a height of at least 2.5m with a width of 2m, allowing height and width to increase a little each time. If a hard knuckle forms at cutting height, raise height over subsequent cuts. Where species die back in the hedge, they should be replaced on a like for like basis to maintain woody species diversity, unless conditions suggest soil/conditions are unsuitable for that species. Monitoring for invasive species, natural tree loss and undesirable species will be required to ensure that the hedgerows maintain their function, structure and diversity onsite.
Management – Weed Control	All new hedgerows (H2-34)	All Years	The hedgerow buffers should be monitored for the prevalence of species indicative of sub-optimal condition, bracken, and scrub. No fertilisers will be applied at any point. The use of herbicides to control pernicious species such as thistles and nettles should be avoided as it will harm other broad-leaved plants. Targeted strimming before seeds set should be introduced over successive years with all arisings removed, where this is not successful spot treatment with herbicide should be implemented as a last resort. Monitoring will take place between April and September.

Hedgerow Species Lists (HD-T03)

Provide a detailed species list for the habitat to be created

Common Name	Scientific Name	Abundance / %
Hawthorn	<i>Crataegus monogyna</i>	40%
Holly	<i>Ilex aquifolium</i>	20%
Blackthorn	<i>Prunus spinosa</i>	40%

Other Supporting Information

Supporting Information (HD-B02)

Works should accord with BS 8545: 2014. Note that hedgerows H33 & 34 are non-native and ornamental hedgerows and are by default in poor condition.

What Does Success Look Like? (HD-F01)



Scrub

Habitat Creation, Enhancement and Management Plan EM-F01



Creation, Enhancement and Management Summary (SC-T01)

Target Habitat:		Mixed Scrub – Moderate Condition (S1-3) and Poor Condition (S4-10)				
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	S1-10	Planting will be including a minimum of five native woody species in each new scrub block, with no one species comprising more than 50% of the planted specimens. This will allow a diverse area of mixed scrub to establish.	N/A	Scrub will be managed through a combination of rotational coppicing undertaken every three years, with no more than 1/5th of the total scrub area of the site cleared at any one time and pruning depending on the species. Hawthorn and blackthorn will be managed through regular pruning following establishment to prevent them becoming too tall and dominating the canopies of scrub blocks. These species will also be selectively thinned where it is considered appropriate. Where appropriate, scrub will be coppiced through selective thinning of blocks to ensure that the coppicing does not lead to one species dominating more than 75% of the canopy of the remaining scrub block. These two different management approaches will help to create a structurally diverse habitat.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	No	S1-10	N/A	N/A	This criterion will not be targeted.
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	S1-10	No fertiliser will be used during planting of the scrub to prevent eutrophication of the soil. All scrub planting will utilise native species only.	N/A	Regular monitoring will track the presence of invasive non-native species or those indicative of sub-optimal condition and will trigger remedial action where necessary to remove or reduce their presence respectively.
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	S1-3	Scrub will not be seeded and it will be managed to allow a natural ecotone to establish. To aid in the establishment of divers edges, planting will ensure hawthorn and blackthorn (which do not respond well to coppicing) are no planted along the edges of scrub blocks. Rather, these	N/A	An edge habitat will be developed which will create a transitional area with habitat niches between scrub and the adjacent grassland areas with scattered woody species from the scrub and tall grasses, and herbs allowed to encroach and colonize from the grassland. The scrub edge should be cut

				species will be planted more centrally within scrub blocks. This criterion will only be targeted for moderate condition (S1-3).		every 3-7 years depending on growth rates. Scrub edge should be cut in a scalloped manner, rather than as a continuous edge, to provide shelter opportunities for wildlife. This criterion will only be targeted for moderate condition (S1-3).
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Yes	S1-3	Planting will include clearings within blocks of scrub and/or existing footpaths will not be planted with scrub to created rides throughout establishing scrub blocks. This criterion will only be targeted for moderate condition (S1-3).	N/A	Rotational cutting / strimming of vegetation is recommended. Small clearings should be cut every 1-2 years. The marginal scrub may need cutting on a rotation of up to 12 years to avoid it developing into woodland. After cutting, any arisings should be left for at least one week and a proportion of the material can be left in the developed scrub area to decay and provide dead wood habitat, the rest can be removed from site. This criterion will only be targeted for moderate condition (S1-3).

Scrub

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

Action	Relevant parcels	Timing	Prescriptions
Establishment – Scrub planting	S1-10	Year 1 1 st November – 31 st March when the ground is not frozen or waterlogged	Planting will be undertaken extensively within newly proposed scrub blocks. The soil will be harrowed to create an even bed. Any evidence of existing soil compaction will be remediated before planting to ensure the soil is able to support establishment and growth. Native scrub species planted between November and March in naturalistic pattern including gaps for glades/rides/clearings (covering 70-80% of total area) and protected from rabbits with spiral guards as conditions on site require. Scrub planting will aim at approximately 1,000 whips per ha. Group planting will be employed with 1-3 species of similar growth rates planted together. Hawthorn and blackthorn will be planted in small single species clumps through the scrub blocks, ensuring that blocks of each species are sufficiently spaced apart to prevent either dominating the canopy. Honeysuckle planting will be undertaken intermittently between scrub plants within rows. Scrub planting will as far as possible be designed to create significant areas of edge habitats and structural diversity including clearings and glades. The planting pit dug will be a shallow square, larger than the root ball of the whip. Backfilling of soil will utilise existing excavated soils only with <u>no</u> compost or fertiliser application. It will be important to ensure the tree is not planted lower than the surrounding ground level. The aim of planting will be to ensure that the level that the tree base meets the soil level will be slightly above ground level, aiming for 25mm above. Tree guards will be installed around establishing whips to prevent them becoming browsed.
Selective thinning of existing scrub	S1-3	Year 1	Selective thinning of stands will aim to create scattered open glades, aiming for a 70-80% total coverage of scrub across this habitat and to allow light to reach the ground and promote regeneration of seedlings and saplings Selective clearing of scrub edge (roughly 1/3 to 1/5) down to ground will also help to reduce dominance of species such as blackthorn and hawthorn and promote regeneration of young shrubs/herb edge.
Establishment – Weed suppression (as required)	S1-10	Year 2-3	Mulches such as wood chip work well and should be replenished annually in Years 2 and 3.
Establishment - Infrastructure	S1-10	As required to protect hedges from damage within the first 5 years.	Install temporary or permanent fencing if within the first 5 years of establishment to prevent trampling.
Aftercare – failure replacement	S1-10	Years 2 – 5 1 November – 31 st March as required when the ground is not frozen or waterlogged	Replace dead whips and trees the next available planting season in accordance with the tree planting species and prescriptions above.
Aftercare – removal of infrastructure	S1-10	Year 4 – All year	Remove guards and canes.

Management - Cutting	S1-10	Year 6+ 1 year in 5 maximum frequency - 1st September – 31st March	A programme of selective thinning will begin in year 5, with rotational coppicing and pruning undertaken every 3 years with 1/5th of the total scrub resource in each block coppiced on each cycle. This will be undertaken in select areas through scrub blocks to enhance ground flora and continue the presence of glades at an approximate coverage of 70-80 scrub and 20-30% glades. Hawthorn and blackthorn will be pruned as required as these species do not respond well to coppicing, while the remaining species to be planted will be managed through coppicing. During coppicing and pruning, retain at least 25% of brash and deadwood in-situ. These piles will remain in-situ and not be cleared during winter in subsequent years to avoid disturbing hibernating hedgehogs.
Replacement Planting	S1-10	Year 5+	Supplementary planting will be undertaken as necessary where failed specimens occur. Planting will undertaken between November and March.

Scrub Species Lists (SC-T03)

Provide a detailed species list for the habitat to be created.

Common Name	Scientific Name	Abundance / %	Comments
Hawthorn	<i>Crataegus monogyna</i>	10%	Native Whip
Blackthorn	<i>Prunus spinosa</i>	20%	Native Whip
Hazel	<i>Corylus avellana</i>	20%	Native Whip
Guelder rose	<i>Viburnum opulus</i>	15%	Native Whip
Holly	<i>Ilex aquilinum</i>	10%	Native Whip
Clematis	<i>Clematis vitalba</i>	10%	Native Whip
Honeysuckle	<i>Lonicera periclymenum</i>	10%	Native Whip
Spindle	<i>Euonymus europaeus</i>	5%	Native Whip

Other Supporting Information

Supporting Information (SC-B02)
Local whips / cuttings should be sourced where possible – plants should be pest and disease free and grown in the UK. Where possible source plants from Plant Health certified nurseries.

What Does Success Look Like? (SC-F01)



Urban

Habitat Creation,
Enhancement and
Management Plan EM-F01

Creation, Enhancement and Management Summary (UR-T01)

Target Habitat:		Sustainable Urban Drainage System (attenuation basin) – Moderate Condition			
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Management Approach
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No	U1	This criterion will not be targeted.	This criterion will not be targeted.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes	U1	Install wet meadow and marginal planting mixes with nectar-rich native species flowering across seasons; follow seed supplier instructions for establishment.	Use a late-summer cut (after August) to allow flowering through spring and summer. Remove cuttings to prevent nutrient build-up. Rotate uncut refuge patches each year to support pollinators. Prevent excessive shading of flowering plants.
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of total vegetated area. Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Yes	U1	Use clean, certified soils; ensure planting and seed mixes are free from invasive propagules; design dense native cover to limit invasive establishment.	Conduct annual invasive species checks. Remove colonising invasive or aggressive species (e.g., reedmace <i>Typha latifolia</i> if overly dominant) through hand-pulling or targeted treatment. Prevent establishment by maintaining dense native vegetation cover.
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife.	Yes	U1	Use native provenance species suitable for wetland/riparian conditions; avoid ornamental/horticultural cultivars; ensure all stock originates from UK-native lines.	Monitor species composition annually and remove any non-native or horticultural escape species that establish from runoff. Overseed native wetland species where gaps or bare areas reduce habitat quality.
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	Yes	U1	Establish clear hydrological zonation: emergent/marginal species in wet margins; wet meadow species on mid-slopes; tolerant grassland on upper slopes.	Maintain hydrological function by avoiding excessive sediment accumulation; clear blockages if water levels drop unnaturally. Avoid disturbance during amphibian and bird breeding season (Feb–Aug). Retain moisture-tolerant species and remove upland/dryland colonisers that degrade wetland character.

Additional Management Prescriptions (UR-B01)

Any cutting of marginal planting or mowing should be avoided from February to August to avoid amphibian and breeding bird season.

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

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

Action	Relevant Parcels	Timing	Prescriptions
Sowing of grassland	U1	Year 1	Wildflower grassland/SUDS areas will be raked or harrowed to produce a medium fine tilth, which is allowed to settle for some weeks prior to sowing. All stones over 30mm in diameter will be removed. Areas will be sown with Emorsgate EP1 Pond Edge Mixture/EM8 Meadow Mixture for Wetlands (or similar approved) ideally during autumn, or in early spring, selecting a time when the soil is moist and can be worked, at a rate of 50kg/ha. Sowing must be undertaken in still wind conditions when the soil is saturated but not flooded. After sowing, seed will be bedded in by rolling. No fertiliser to be applied throughout the life of this management plan.
Establishment management	U1	Year 1	Post sowing (first growing season) cut in late summer, with arisings removed. Dig out any perennial weeds such as docks.
Short-term management	U1	Years 2-5	Following establishment, grassland in the basin will be cut on a rotational basis with no more than one third cut in any one year. The wet grassland will be cut during March or August/September, to create a varied structure of grassland habitat that will be of benefit to invertebrates, amphibians, reptiles and other species
Long-term management	U1	Year 6+	Established grassland will be mown on a rotational basis with areas either being mown once during early spring (March), summer (late June-August) or autumn (August- November). A later cut will benefit moth species by providing a food source for longer and subsequently provide increases foraging opportunities for bats in their active season of April to October. Arisings will be left for 48 hours to allow dispersal of seeds and invertebrates prior to removal, to encourage grassland establishment and prevent soil enrichment and thatching. Where pernicious and/or invasive weed species establish, targeted cutting prior to setting seed in late summer will be undertaken. Where this management does not prove effective, these should be spot treated using a contact herbicide applied via a hand-held weed wipe or applied with a hand brush – do not spot treat with a knapsack sprayer.
Supplementary seeding	U1	Throughout	Spread supplementary locally sourced native wildflower seeds as necessary in response to poor uptake of establishment by broadcasting seeds, plug plants or green hay of a nearby species rich meadow on similar soils. Sowing must be undertaken in still wind conditions when the soil is saturated but not flooded. See remedial measures table below for threshold of ‘poor uptake.’

Urban Species Lists (UR-T03)

Provide a detailed species list for the habitat to be created

Common Name	Scientific Name	Abundance / %
Yarrow	<i>Achillea millefolium</i>	0.70%
Agrimony	<i>Agrimonia eupatoria</i>	0.60%
Wild Angelica	<i>Angelica sylvestris</i>	0.10%
Betony	<i>Betonica officinalis</i>	0.20%
Common Knapweed	<i>Centaurea nigra</i>	3.20%
Meadowsweet	<i>Filipendula ulmaria</i>	1.40%
Hedge Bedstraw	<i>Galium album</i>	0.40%
Lady’s Bedstraw	<i>Galium verum</i>	2.00%
Meadow Vetchling	<i>Lathyrus pratensis</i>	0.80%
Rough Hawkbit	<i>Leontodon hispidus</i>	0.60%
Oxeye Daisy	<i>Leucanthemum vulgare</i>	1.20%
Birdsfoot Trefoil	<i>Lotus corniculatus</i>	0.60%
Greater Birdsfoot Trefoil	<i>Lotus pedunculatus</i>	0.10%
Black Medick	<i>Medicago lupulina</i>	1.00%
Ribwort Plantain	<i>Plantago lanceolata</i>	2.00%
Cowslip	<i>Primula veris</i>	0.40%
Selfheal	<i>Prunella vulgaris</i>	0.80%
Meadow Buttercup	<i>Ranunculus acris</i>	1.20%
Yellow Rattle	<i>Rhinanthus minor</i>	0.80%
Common Sorrel	<i>Rumex acetosa</i>	0.60%
Great Burnet	<i>Sanguisorba officinalis</i>	0.30%

Ragged Robin	<i>Silene flos-cuculi</i>	0.50%
Dandelion	<i>Taraxacum officinale</i>	0.20%
Tufted Vetch	<i>Vicia cracca</i>	0.30%
Common Bent	<i>Agrostis capillaris</i>	8.00%
Star Sedge	<i>Carex echinata</i>	8.00%
Crested Dogstail	<i>Cynosurus cristatus</i>	30.00%
Red Fescue	<i>Festuca rubra</i>	18.00%
Meadow Barley	<i>Hordeum secalinum</i>	1.60%
Smaller Cat’s-tail	<i>Phleum bertolonii</i>	8.00%
Smooth-stalked Meadow-grass	<i>Poa pratensis</i>	6.40%

Other Supporting Information

Supporting Information (UR-B02)
A Emorsgate EP1 / EM8 or similar wet meadow mix should be used.

What Does Success Look Like? (UR-F01)



Individual Trees

Habitat Creation, Enhancement and Management Plan EM-F01



Creation, Enhancement and Management Summary (UT-T01)

Target Habitat:		Newly Created Habitats Individual Urban Trees – Poor Condition (UT1-33) Individual Urban Trees – Moderate Condition (UT34-208) Individual Rural Trees – Moderate Condition (RT1-16) Retained Managed Habitats Individual Rural Trees – Good Condition (T1-3, T14, T34, T35)				
Condition Assessment Criteria		Targeted	Relevant Features	Creation Approach	Enhancement Approach	Management Approach
A	The tree is a native species (or more than 70% within the block are native species).	Yes	All trees (newly planted and retained, excluding non-native T35)	Native tree whips will be sourced from local nurseries in accordance with British Standards BS 8545:2014.	N/A	Any failed trees will be replaced on a like-for-like basis.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes	All newly planted trees	Individual trees automatically pass this criterion.	N/A	Individual trees automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	Yes	Retained rural trees (T1-3, T14, T34, T35)	N/A	N/A	Retained trees are mature and automatically meet this criterion. The newly planted trees will mature over time.
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes	All trees (newly planted and retained)	All whips will be obtained from reputable nurseries and will be planted in accordance with BS 8545:2014.	N/A	To maintain good condition in retained trees: Monitoring will assess any damage to trees or diseased specimens. A treatment regime will be initiated to treat any diseased trees. A relaxed management regime should be adopted, removing only branches that pose a risk to Site users such that trees retain more than 75% of the expected canopy size for the corresponding age. In order to minimise the chance of tree failure, it is recommended that this approach is also adopted for newly planted trees..
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Yes	Retained rural trees	This criterion will not be targeted.	N/A	This criterion is met by rural trees X-X. As the trees continue to mature, facilitated by a relaxed

						management approach, this criterion will continue to be met.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	Individual Urban Trees – Moderate Condition (UT34-208) Individual Rural Trees – Moderate Condition (RT1-16) Individual Rural Trees – Good Condition (T1-3, T14, T34, T35)	All trees targeted to achieve moderate condition are to be planted within areas of ornamental scrub, modified grassland, or mixed scrub amongst retained rural trees in good condition.	N/A	The ornamental scrub, grassland, and mixed scrub are to be maintained throughout the life-term of the project.

Additional Management Prescriptions (UT-B01)

If planted in groups, the distance between centres should be set such that the expected canopies should be less than 5m apart. If individual trees are to be planted in proximity to a hedgerow, the trees will be planted so that the nearest point of the tree trunk is at least 1m from the edge of the woody canopy of the hedgerow. Relaxed management removing only branches that pose a risk to Site users such that trees retain more than 75% of the expected canopy size for the corresponding age

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	All trees	Year 1 (October to March)	New trees should be planted between October and March, avoiding periods of inundation or prolonged ground frost, in accordance with BS 8545:2014. Trees are to be mulched to a depth of 75mm using wood chippings or bark to establish a 1m diameter around the tree stem.
Monitoring	All trees	As required	Plants found to be dead or dying within the first five years post planting to be replaced on a like-for-like basis as soon as possible within the next available planting season. Replace failed specimens on a like-for-like basis. Top up mulch to a depth of 75mm where necessary.
Pruning	All trees	As required	Inspect trees annually and after major storms. Undertake any resultant scheduled tree works outside of the bird breeding season as appropriate.
Pruning	All trees	September - January	Pruning of dead, diseased or damaged branches should be carried out as appropriate to promote healthy growth. Some dead wood could be retained on the trees to form habitat, unless it creates a hazard. Any cutting/pruning of scattered trees should only take place during September to January, when nesting birds are likely to be absent. Cutting should not be carried out during the bird nesting season (March-August) unless supervised by a suitably qualified person
Watering	All trees	Years 1 – 3	Where periods of extreme drought occur (2 or more weeks without substantial rainfall), trees that have not yet established (not healthy, not in full leaf, suppressed growth) need to be watered where their tolerance to drought is deemed to be insufficient (years 1 to 3).
Maintenance of surrounding habitats	All trees	As required	Care will be taken when using strimmers or mowers to avoid damaging trees. Weeds within 1m of the trunks will be removed by hand.

Individual Trees Species Lists (UT-T03)

Provide a detailed species list for the habitat to be created

Common Name	Scientific Name	Abundance / % (of 223)
Field Maple	<i>Acer campestre</i>	30 (13.5%)
Wild Cherry	<i>Prunus avium</i>	30 (13.5%)
English Oak	<i>Quercus robur</i>	31 (13.9%)
Small-leaved Lime	<i>Tilia cordata</i>	25 (11.2%)
Silver Birch	<i>Betula pendula</i>	20 (9.0%)
Rowan	<i>Sorbus aucuparia</i>	15 (6.7%)
Hawthorn	<i>Crataegus monogyna</i>	15 (6.7%)
Crab Apple	<i>Malus sylvestris</i>	12 (5.4%)
Alder	<i>Alnus glutinosa</i>	14 (6.3%)
Hazel	<i>Corylus avellana</i>	10 (4.5%)
Downy Birch	<i>Betula pubescens</i>	13 (5.8%)
Holly	<i>Ilex aquifolium</i>	8 (3.6%)

Other Supporting Information

What Does Success Look Like? (UT-F01)



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

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
Project life term	All habitats	Establishment of invasive non-native species	Monitoring identifies the presence of any invasive non-native species	Initiate a programme of eradication of invasive non-native species. Specialist advice should be sought to ensure the appropriate eradication measures for any identified schedule 9 (WCA 181 as amended) species.
Project life term	All hedgerows, mixed scrub, introduced shrub, individual trees, and ecologically valuable line of trees	Plant heath / disease i.e. ash dieback, Phytophthora	Either: Mortality rate of trees is higher than 10% within the habitat. Any of the following high-risk disease or pests are present: Identify a tree pest or disease: overview - GOV.UK (www.gov.uk)	Phytophthora - Fell as first intervention Where more than 10% mortality of trees observed, undertake selective thinning to remove dying specimens. Retain deadwood in situ (unless there are concerns around disease spread). Where significant mortality is observed (>20% of trees) seek ecological advice to initiate additional planting if required.
Years 1-3	Mixed scrub	A diverse mix of species fails to establish through natural regeneration	Less than 5 woody species per scrub block.	Supplementary planting as per this management plan.
Years 6 onward	Mixed Scrub	Insufficient variation of age classes	One or more age class missing across the habitat type.	Selective thinning of scrub to allow natural regeneration to occur. Where natural regeneration is unsuccessful, additional planting of native species should be introduced.
Years 3 onward	Mixed Scrub	Overdominance of one species within the canopy	Where one species of scrub within a scrub block represents more than 75% of canopy cover.	Selective thinning of dominant species to allow other species to establish within the canopy.
As necessary	Mixed Scrub	Encroachment of scrub into adjacent grasslands	Where the edges of scrub begin to creep into grasslands to an extent that they begin to reduce the overall extent of grasslands onsite. This may be a particular problem with blackthorn suckering.	Initiate a program of dense scrub removal where this habitat has begun to creep into grassland habitats. This should not be undertaken where only scattered scrub is present at the edges of the boundaries between these habitats and should only be undertaken where more <u>dense</u> scrub establishes.
Year 3 onward	Mixed Scrub	Poorly developed edge habitats	Where the edges of scrub do not grade into adjacent habitats in a diffuse way including scattered scrub and tall grassland/herbs.	Reduce mowing frequency of grassland at edge of habitat.

Years 2-5	Modified Grassland	Failed areas of seeding	Greater than 10% bare ground during years 2-5	Apply additional seed in areas of failed establishment. Appropriate seed mix, including yellow rattle, to be used for the compartment where reseedling is required.
Year 1 onward	Modified Grassland	Scrub or bracken encroachment	Scrub and or bracken cover greater than 5% or 20% respectively	Initiate a programme of scrub and/or bracken removal as required. This can either be through mechanical removal or spot spraying with herbicide.
As necessary	Modified Grassland	Damage through poaching or rabbit grazing	Evidence of damage and/or poaching >5% of ground cover >5% cover of bare ground	Identify the cause of the damage: Re-seed large areas of bare ground If caused by rabbits, initiate measures to control rabbit population numbers.
As required from year 1	SUDS	Poor representation of flowering plants and other plant species beneficial to wildlife.	There is a lack of flowering plants, or the habitat is dominated by a small number of species.	Excessive growth of unwanted plants will be removed by hand so that no single species dominates. If required, Additional planting will be carried out.
As required from year 1	SUDS	The vegetation is comprised of plant species suited to wetland or riparian situations.	The basin has become colonised by species not suited to wetland habitats.	The unwanted plants will be removed by hand, and additional planting will be carried out if necessary.
As required from year 1	SUDS	Non-native species present in the basins	Non-native species which are detrimental to the habitat have colonised the basin.	The unwanted plants will be removed by hand, and additional planting will be carried out if necessary.

3. Monitoring Schedule

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

Monitoring Strategy

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

The site will be monitored from establishment through to its long-term management. Initially from years 1-5, the site will be monitored annually by ecologists to review how the establishment of the proposed habitat creation and enhancement is progressing. The key observations during this period will be to determine whether habitats are successfully establishing and improving and whether or not replacement planting or reseeding may be required.

During years 5-10 after implementation the site management will begin to change to longer-term management for the scrub, and individual trees while post-establishment management for modified grassland will commence. Monitoring will be undertaken at the beginning and end of this 5-10-year period.

During years 11-30, monitoring of all habitats will be undertaken every 5 years beginning at year 15. The key elements of this monitoring will be to review whether the long-term management practices maintain the site in the targeted condition scores for the proposals. During this period, adaptive management measures will be reviewed to determine whether there are any opportunities to alter management to encourage additional habitat enhancements.

Monitoring Methods and Intervals MS-T01

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Modified Grassland	During the establishment phase of grassland (Years 1-9) grassland monitoring will focus on determining the DAFOR abundances of plants present throughout the sward and what number of species within the seed mixes used have established. During years 10-30, grasslands will be monitored by reviewing the following factors: • Species diversity per m2; • Sward height diversity; • Percentage cover of bracken; • Percentage cover of scrub; • Percentage cover of physical damage; • Percentage cover of bare ground; • Presence of non-native invasive species; & • DAFOR Abundances of wildflowers, sedges and rushes. Using the information collected, the “low distinctiveness grassland” condition assessment table will be completed with notes on individual criteria and constraints.	Years 1, 2, 3 to review initial creation measures, year 5 to review establishment and then every 5 years from year 10 until year 30. Surveys to be completed between May and August

Mixed scrub	During each monitoring visit the scrub will be recorded by making a comprehensive species list should be made of the woody components, split into upper canopy, lower canopy and regeneration, together with a comprehensive species list of the ground flora. Each element should have an associated DAFOR measure of abundance. The following will also be recorded, along with representative photos: • The percentage cover of scrub canopy species; • The percentage cover of various age ranges of scrub; • Percentage cover of species indicative of sub-optimal condition • Presence of non-native invasive species; • The character of edge habitats; & • The presence and character of scalloped edges, clearings, glades and rides Using the information collected, the “heathland and scrub” condition assessment table will be completed with notes on individual criteria and constraints.	Years 1, 2, 3 to review initial creation measures, year 5 to review establishment and then every 5 years from year 10 until year 30. Scrub monitoring will be undertaken between May and September.
SUDS	Using the information collected, the “urban” condition assessment table will be completed with notes on individual criteria and constraints.	Years 1, 2, 3 to review initial creation measures, year 5 and 7 to review establishment and then every 5 years from year 10 until year 30. Surveys to be completed between May and August.
Individual Trees	Individual trees will be monitored for the following criteria: • The species present (native or non-native); • Age-class of the tree; • Evidence of adverse impact on tree health by human activities; • The presence or absence of natural ecological niches for wildlife; & • The extent of vegetation beneath the tree canopy. Using the information collected, the “individual trees” condition assessment table will be completed with notes on individual criteria and constraints.	Years 1, 2, 3 to review initial creation measures, year 5 to review establishment and then every 5 years from year 10 until year 30. Surveys to be completed between May and August
Hedgerow	Hedgerows will be monitored for: • Hedgerow height • Hedgerow width • Vertical gappiness • Horizontal gappiness • Undisturbed ground and perennial vegetation with 1m from the outer edge of the hedgerow • Presence of nutrient-enriched perennial vegetation • Presence of invasive and neophyte species • Disturbance / damage • Tree-class present • Tree health / damage	Years 1, 2, 3 to review initial creation measures, year 5 to review establishment and then every 5 years from year 10 until year 30. Hedgerow monitoring will be undertaken between May- September.

	Using the information collected, the “hedgerow” condition assessment table will be completed with notes on individual criteria and constraints.	
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Monitoring Reports

Monitoring Report Schedule MS-T02

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
To be confirmed	To be confirmed

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
3	November	November	Full monitoring of habitats with condition assessments provided alongside any required updates to management strategy.
5	November	November	Full monitoring of habitats with condition assessments provided alongside any required updates to management strategy.
10	November	November	Full monitoring of habitats with condition assessments provided alongside any required updates to management strategy.
15	November	November	Full monitoring of habitats with condition assessments provided alongside any required updates to management strategy.
20	November	November	Full monitoring of habitats with condition assessments provided alongside any required updates to management strategy.
25	November	November	Full monitoring of habitats with condition assessments provided alongside any

			required updates to management strategy.
30	November	November	Final reporting to conclude monitoring period.

Adaptive Management

Summary of Adaptive Management Approaches (MS-B02)

Adaptive management will be implemented as a continuous feedback loop linking monitoring, reporting, and management adjustments. This will ensure that Biodiversity Net Gain (BNG) targets and habitat management objectives are met despite unforeseen challenges or external influences. The approach will include:

Monitoring:

Routine monitoring of all habitats, including hedgerows, scrub, grasslands, trees, and SUDS, will be undertaken to detect changes, trends, or emerging issues.

Key indicators include species composition, habitat structure, tree mortality, invasive species presence, establishment success, and damage from grazing or environmental factors.

Recording Observations:

Management observations will be systematically recorded, including any unusual events such as disease outbreaks, excessive growth, or poaching.

All observations will be documented in a structured format to inform management decisions and reporting.

Risk Triggers and Remedial Actions:

Specific risks have been identified (e.g., invasive species, plant disease, failed regeneration, scrub encroachment, poor wildflower representation, etc.) with clearly defined triggers for action.

Upon trigger detection, remedial measures will be implemented promptly, such as selective thinning, supplementary planting, scrub or bracken removal, reseeding, or species-specific interventions.

Decision-Making and Reporting:

Monitoring results and recorded observations will feed into regular reports to the responsible authority.

Where BNG objectives are affected by external factors, management prescriptions and targets will be reviewed and agreed with the responsible authority before implementation.

All changes will be recorded in this management plan and the site schedule to ensure lessons learned inform future management cycles.

Iterative Feedback Loop:

The process is cyclical: monitoring, analysis, reporting, management adjustment, further monitoring. This ensures early identification of issues and allows timely, evidence-based interventions to maintain or improve habitat condition and biodiversity outcomes.

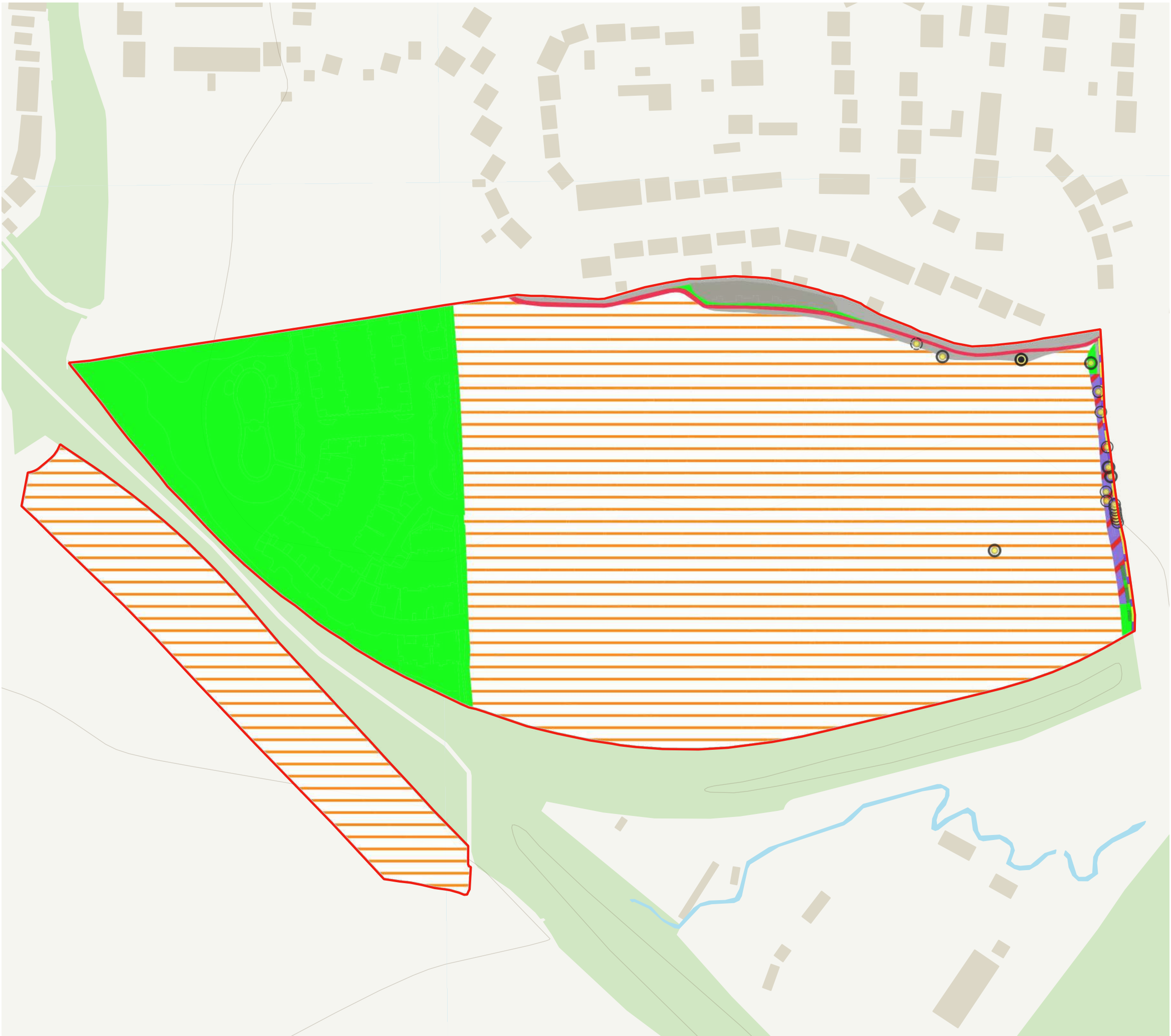
Appendices

Page 55 - Appendix A – Additional Site Photographs

Page 56 - Appendix B – Baseline Habitat Plan

Page 57 Appendix C – Tree Retention Plan

Habitat	Images	
On-site, northeast: Tall forbs, bare ground, modified grassland		
On site, west: Modified grassland		



N

0

50

100 m

Red Line Boundary

Baseline Habitats

Cereal crops

Mixed scrub

Modified grassland

Ruderal/Ephemeral

Tall forbs

Bare ground

Baseline Hedgerow

Ecologically valuable line of trees

Native hedgerow

Baseline Individual Trees

Existing very large rural tree

Existing large rural tree

Existing medium rural tree

Existing small rural tree

date

24/02/26

drwn/chkd

TC SJH / PRA

client

Avent Homes Yorkshire

project

Thurnscoe Bridge Lane,
Thurnscoe

title

BASELINE HABITAT PLAN

scale

1:2,000 @ A3

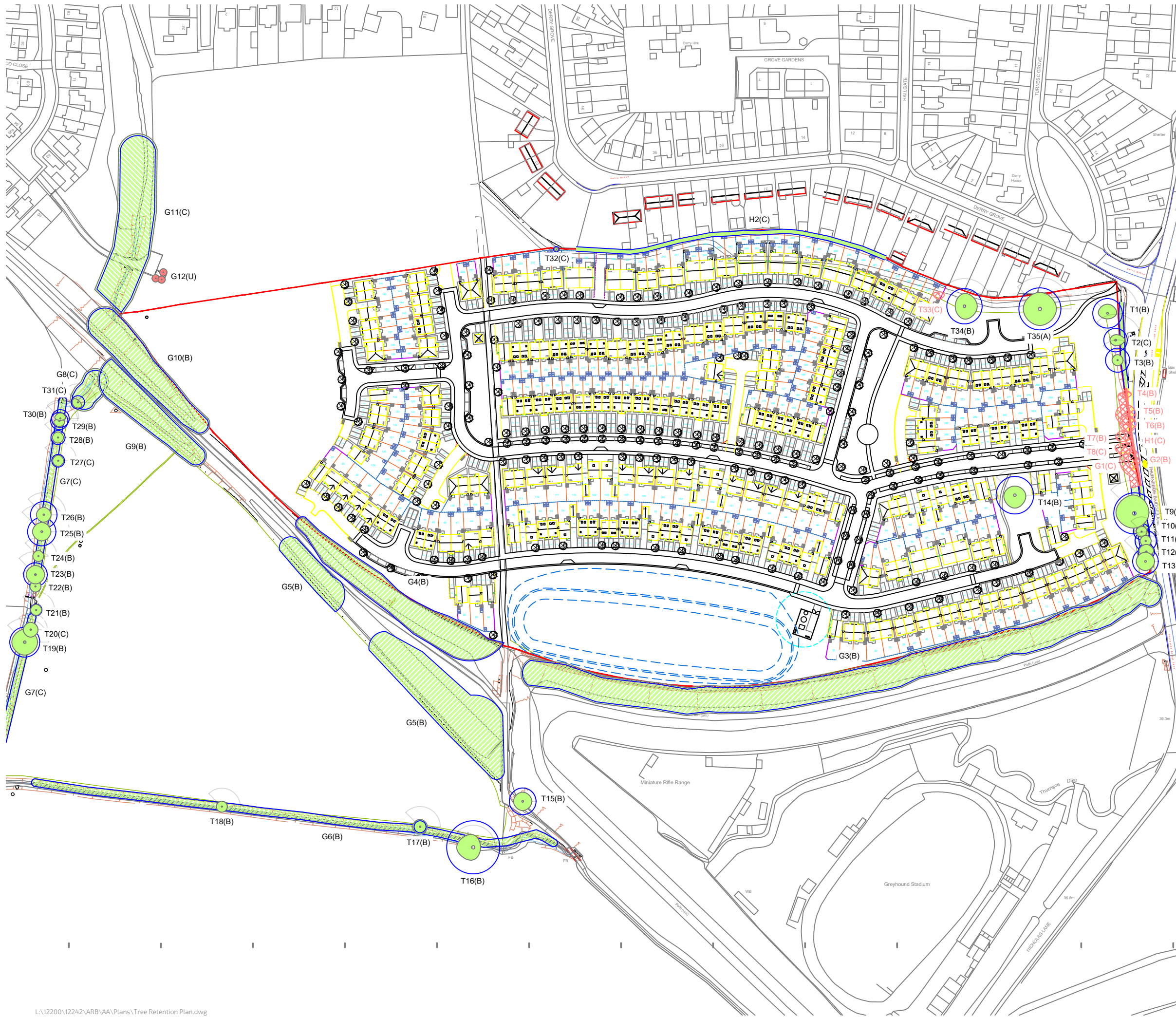
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FIGURE 1

rev

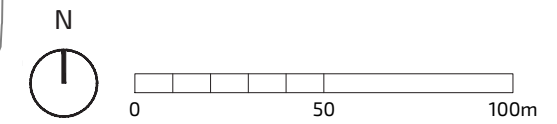
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Notes:

All dimensions to be verified on site. Do not scale this drawing, use figure dimensions only. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.
The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Tree/Group to be Retained
- Tree/Group proposed to be removed subject to relevant permissions
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Hedgerow proposed to be removed subject to relevant permissions
- Root Protection Area (Shown for retained trees only)
- Individual / Group Number and BS Category
- Individual / Group Number to be Removed and BS 5837:2012 Category
- Indicative Shade Pattern (in accordance with BS5837:2012 where appropriate)

rev	24/10/24	First Issue.	EC / AW
A	01/11/24	Revision	EC / AW
		description	drwn/chkd

client

Avant Homes

project

**Thurnscoe Bridge Lane,
Thurnscoe**

title
TREE RETENTION PLAN scale
1:2000 @ A3

number
12242-T-02 status
- rev
A