



Ecological Design Strategy

Roslyn Avenue, Netherton

Harron Homes Limited

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Basis of Report

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Acronyms and Abbreviations

BNG	Biodiversity Net Gain
CIEEM	Chartered Institute of Ecology and Environmental Management
EclA	Ecological Impact Assessment
EDS	Ecological Design Strategy
SLR	SLR Consulting Limited
UKHAB	United Kingdom Habitat Classification
WEP	Wildlife Enhancement Plan



1.0 Introduction

SLR Consulting Limited (SLR) was commissioned by Harron Homes Limited to produce an Ecological Design Strategy (EDS) to address Condition 29 for a consented residential development (planning reference number 2026/44/91615/W) located at Roslyn Avenue, Netherton, Huddersfield, HD4 7EW (approximate central OS grid reference SE 11981 13050), hereafter referred to as the 'Site'.

Condition 29 states:

"Prior to above ground works commencing, an Ecological Design Strategy (EDS) to detail how the delivery of a minimum of 8.67 habitat units and a minimum of 6.10 hedgerow units, utilising the Biodiversity Net Gain Metric 4.0, shall be achieved post-development on site, as indicative detailed within the approved Ecological Impact Assessment ref. 424.064759.00001 version 3, shall be submitted to and agreed in writing by the Local Planning Authority. The EDS shall include the following:

- a) Purpose and conservation objectives for the proposed works.*
- b) Review of site potential and constraints.*
- c) Detailed design(s) and/or working method(s) to achieve stated objectives.*
- d) Extent and location/area of proposed works on appropriate scale maps and plans.*
- e) Details on the establishment of grassland, tree planting, traditional orchard, hedgerow and scrub planting on the site.*
- f) Details of faunal provisions for bats, birds and hedgehogs to be integrated into the design.*
- g) Timetable for implementation demonstrating that works are aligned with the proposed phasing of development.*
- h) Persons responsible for implementing the works.*
- i) Details of initial aftercare and long-term maintenance.*
- j) Details for monitoring and remedial measures.*
- k) Details for disposal of any wastes arising from works.*
- l) A lighting design strategy for biodiversity.*

The EDS shall be implemented in accordance with the approved details, and all features shall be retained in that manner thereafter.

Reason: *In order to ensure the development provides ecological enhancement and creation measures sufficient to provide a biodiversity net gain in accordance with Policy LP30 of the Kirklees Local Plan and the National Planning Policy Framework."*

SLR Consulting completed the Ecological Impact Assessment (EclA)¹, including a Biodiversity Net Gain Assessment, for the Site in December 2025.

¹ SLR Consulting Limited (2025) Roslyn Avenue, Netherton Ecological Impact Assessment. V3. 424.065545.00001



2.0 BNG Metric Re-Calculations

Due to reasonably minor changes to the Site layout and Landscape Plan since the approved BNG calculation was undertaken (See Appendix BB and C), a revised BNG metric calculation has been included within this EDS, to ensure that the updated landscape plan delivers the required net gain.

For a summary of the baseline habitat conditions, see Section 3.8.1.1. The post development habitat calculations have been provided within this EDS report in Section 4.2. The metric showing all calculations including the baseline and post development habitats and hedgerow units is provided in Appendix AA. Biodiversity Metric 4.0 has been used, to comply with the specific wording of Condition 29.

3.0 Ecological Design Strategy

Table 3-1: Site Overview – Roslyn Avenue

Site Overview	
Project type	On-Site
Development Name and Address	Roslyn Avenue, Netherton, Huddersfield, HD4 7EW
Author Organisation	SLR Consulting Limited
Responsible person/organisation for creating or enhancing the habitat	Harron Homes Limited
Period covered by this management plan	2029 - 2059
Planning authority	Kirklees Council
Planning reference (if applicable)	2026/44/91615/W
BNG register reference (if applicable)	N/A
Central OS grid reference	SE 11981 13050
Metric revision/title	Statutory Biodiversity Metric BNG Calculations V.4.0. December 2025
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

3.1 Summary of Management Plan

Table 3-2: Management Plan Summary – Roslyn Avenue, Netherton

Habitats to be Retained, Created and Enhanced
On-site retained habitats: • 0.046 ha of other broad-leaved woodland; • 0.02 ha of urban trees; • 0.047 km line of trees (LB1), and



• 0.052 km of non-native ornamental hedgerow (LB2). Onsite habitat area creation of: • 0.059 ha planting of traditional orchard trees to meet moderate condition; • 0.074 ha of mixed scrub to meet moderate condition; • 0.013 ha of introduced scrub; • 0.197 ha seeding of other neutral grassland using Emorsgate EM10² Tussocky grassland mixture, to meet moderate condition; • 0.015 ha seeding of other neutral grassland using Emorsgate EM2³ wildflower mix or similar, to meet moderate condition; • 0.276 ha seeding of other neutral grassland using Emorsgate EM3⁴ wildflower mix or similar, to meet moderate condition; • 0.050 ha seeding of modified grassland using Emorsgate EL1⁵ Flowering Lawn Mixture to meet moderate condition; • 0.022 ha seeding of modified grassland using Geminal A22 Mixture to meet Poor condition; • 0.875 ha planting of urban trees to meet moderate condition; and • 0.976 ha of vegetated garden. Onsite hedgerow area creation of: • 0.591 km planting of species-rich native hedgerow (including seven separate hedgerow species) to meet moderate condition, and; • 0.029 km planting of non-native ornamental hedgerow to meet poor condition
Timescales for Actions
Road and sewer works have commenced in 2026. Developments are anticipated to start in November 2026, with site completion predicted to be in September 2029.
Monitoring Requirements
It is proposed to monitor in Years 2, 3, 5, 10, 20 and 30, up to 2059.
Required Consents and Licences
The Planning application for the Site has been granted by Kirklees Metropolitan Council (2026/44/91615/W), with planning conditions.
Funding
Funding will be provided by Harron Homes Limited.

² [EM10 Tussock Mixture - Emorsgate Seeds](#)

³ [EM2 Standard General Purpose Meadow Mixture - Emorsgate Seeds](#)

⁴ [EM3 Special General Purpose Meadow Mixture - Emorsgate Seeds](#)

⁵ [EL1 Flowering Lawn Mixture - Emorsgate Seeds](#)



Legal Agreement

All land required to facilitate the Ecological Design Strategy (EDS) is under Harron Homes Limited control. In addition, the measures set out within this EDS will be delivered through a condition of the planning permission (condition 29).

3.2 Phasing Strategy

Will the proposed work measures be delivered in phases?	Yes: ☐ No: ☒
N/A	

3.3 Roles and Responsibilities

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

Ecologist or Other Professional Responsible for EDS				
Name or Initials		Hazel Douglas		
Organisation		SLR Consulting Ltd (SLR)		
Responsibility	Start Date:	2029	End Date:	2059
This EDS was produced by SLR on behalf of Harron Homes Limited. SLR will not be responsible for implementation of this EDS, however monitoring proposed will be undertaken by SLR (or another suitably qualified appointed ecologist) and the EDS will be updated after Year 5.				
Statement of Competency				
Hazel is a Principal Ecologist at SLR Consulting with over 11 years of experience working in ecological consultancy. Hazel has experience in conducting a range of protected species surveys, including bats, GCN, reptiles, water vole and badger. Hazel is also highly knowledgeable in UK hab identification and ecological management plans, as well as other high level ecological reports.				
Landowner or Land Manager				
Name or Initials		N/A		
Organisation		Harron Homes Limited		
Responsibility	Start Date:	2029	End Date:	2059
Harron Homes Limited will be responsible for implementing the EDS and overseeing the habitat creation and enhancement within the Site.				
Statement of Competency				
Harron Homes Limited have experience in creating biodiverse habitat areas within their residential sites including creating and managing wildflower meadow grasslands, native hedgerow and tree planting to support pollinators as well as green roofs and water features (ponds / rain gardens), ensuring their developments exceed the 10% net gain target.				
Management Organisation(s) Responsible for Implementing the EDS				
Name or Initials		N/A		
Organisation		TBC: Management Organisation to be appointed by Harron Homes Limited		



Ecologist or Other Professional Responsible for EDS				
Responsibility	Start Date:	2029	End Date:	2029
Harron Homes Limited will be responsible for appointing a management company to implement the EDS.				
Statement of Competency				
Harron Homes Limited are responsible to ensure that the management company appointed are suitably competent to create and maintain the habitats specified within this EDS.				
LPA or Responsible Body for Reviewing EDS				
Name or Initials		N/A		
Organisation		Kirklees Council		
Responsibility	Start Date:	2029	End Date:	2059
Kirklees Council will be responsible for reviewing and auditing the EDS.				

3.4 Land Use Summary

Overview of Baseline Site Use
The Site predominantly comprises a grassland field, currently used for sheep grazing, with dry stone walls marking many of the field boundaries (see Drawing 1). A line of native trees and a non-native hedgerow are present along part of the eastern boundary. A semi-natural ancient woodland, forming part of Dean Wood Local Wildlife Site (LWS) borders the northern boundary, and a non-ancient woodland borders the northeastern boundary. There is a significant, and often steep, change in levels between the Site and land to the north, with the land in Dean Wood being appreciably lower.
Overview of Proposed Site Use
The proposed development comprises 82 dwellings with associated roads, gardens, driveways, and drainage systems. It also includes a number of street trees and areas of Public Open Space (POS). Access would be achieved via Roslyn Avenue, immediately east of the Site. Enhancements would include: • Planting of 0.591 km of new species-rich native hedgerow across the Site; • Planting of 39 extra heavy standard and 59 heavy standard trees across the Site, within shared spaces; • Creating a vegetated buffer between the Site and Dean Wood LWS, grading from tussocky grassland to scrub; • Creating a wildlife corridor of hedgerow, trees and tussocky grassland, along the western boundary of the Site; • Creation of species rich grassland and meadow areas in POS areas in the south of the Site; • Creating a traditional/ community orchard; • Integration of bird boxes into 10% of dwellings; • Integration of bat boxes into 10% of dwellings; and • Hedgehog highways to be incorporated where possible, into garden fences on all dwellings where suitable foraging habitat is nearby.



3.5 Site Baseline, Environmental Information and Associated Impacts Checklist

The table below provides a summary of the Site's baseline in relation to the environmental information and associated impacts checklist.

Table 3-3: Site Baseline Environmental Information and Associated Impacts Checklist

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 EDS	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?	☐	Non are anticipated to be affected by the proposed works on Site.
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?	☒	Yes, SLR Consulting (2025) Roslyn Avenue, Netherton Ecological Impact Assessment
Invasive Non-Native Species (INNS)	Are any INNS present onsite that could affect the proposals?	☐	Non present on Site.
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?	☒	Yes, SLR Consulting (2025) Roslyn Avenue, Netherton Ecological Impact Assessment
Baseline Habitats Survey	Is this current and important EDS information located in a separate document? If so, provide details on where it is located.	☒	The baseline habitat survey is included within SLR Consulting (2025) Roslyn Avenue, Netherton Ecological Impact Assessment
Public Access	Has public access, or proposals to allow public access, influenced your management prescriptions? If so, how?	☐	No, the Site will be publicly accessible; however, this is not considered an impact



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 EDS	Check box if included	Document Reference or Reason if not included
			upon management prescriptions.
Climate	Are local climate conditions and, or, climate change likely to impact the target habitat retention, creation or enhancement?	☐	No constraints to local climate conditions are present. The predicted climate change over the next 30 years is unlikely to impact the proposed habitat types or enhanced habitat that would prevent them meeting the proposed conditions.
Geology and Topography	Any geological or topographical constraints or opportunities?	☐	The site is predominantly flat, but with a steep change in levels between the Site and the land to the north. This should not be a constraint, as works will not be conducted here, with the existing footpath being retained, to ensure increased footfall is channelled along existing routes and away from steeper sections of the cliff edge beyond the northern site boundary. SLR Consulting (2025) Roslyn Avenue, Netherton



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 EDS	Check box if included	Document Reference or Reason if not included
			Ecological Impact Assessment
Agricultural Land Status	Does the site support any land favourable for agricultural management? Could this affect the proposals?	☐	No, the land is grassland and has been primarily used for sheep grazing.
Soils and Substrates	Do soils and substrates present any constraints or opportunities?	☐	No specific soil sampling has been undertaken. No constraints or opportunities have been identified.
Contaminated Land	If there is any contaminated land, will this present any constraints?	☐	None identified.
Hydrology and Drainage	Will the site hydrology present any constraints or opportunities?	☐	Drainage primarily dealt with via infiltration to the ground.
Flood Risk Zones	Is the site within a flood risk zone? Will that present any site management risks?	☐	No risks Identified.
Landscape Character and Designations	Does the landscape character of the site present any constraints or opportunities?	☐	No, not located near any landscape designations. No constraints identified.
Historic Land Use	Does the historic land use present any constraints or opportunities?	☐	No, Site has been used for sheep grazing for many years. No signs of historic land use present on Site.
Historic Environment and Earth Heritage	Are there any historic environment designations? What are the implications for your plan?	☐	No -No designated heritage assets within the site or within 1km



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 EDS	Check box if included	Document Reference or Reason if not included
Other – please specify	Any other details - for example underground services or overhead powerlines, which may impact habitat management.	☐	N/a



3.6 Baseline and Environmental Information

Further details on the Baseline and Environmental Information as summarised in Table 3-3 is presented below:

- Protected and Notable Species;
- Biological Species Records; and
- Baseline Habitat Plan.

3.7 Protected and Notable Species

Table 3-4 below summarises the potential for protected species to be impacted by the proposed development. Only species that are potentially present within the development Site, and which are notable, important or legally protected, have been considered.

Table 3-4: Protected and Notable Species

SPECIES (TAXON GROUP)	DATES	CONSERVATION STATUS	DISTANCE OF CLOSEST DESK STUDY RECORD	POTENTIAL IMPACT FROM PROJECT
Nesting Birds	Desk Study supplied on the 31st March 2025. Site walkover completed on 1st March 2023, followed by another visit on 1st April 2025.	Wildlife & Countryside Act (1981) (WCA) (as amended) Conservation of Habitats and Species Regulations (2017). Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006: habitats and species of principal importance in England (NERC-S41).	Desk study: 202 records of birds were returned within the desk study, comprising of 56 species. Records were returned for five species of birds on Schedule 1 of the Wildlife and Countryside Act 1981 within 2 km of the Site, namely brambling (<i>Fringilla montifringilla</i>), redwing (<i>Turdus iliacus</i>), fieldfare (<i>Turdus pilaris</i>), barn owl (<i>Tyto alba</i>) and crossbill (<i>Loxia curvirostra</i>). Species listed in the Kirklees Biodiversity Action Plan (2007) were also returned within the desk study data, namely skylark (<i>Alauda arvensis</i>), tree pipit (<i>Anthus trivialis</i>), dunlin (<i>Calidris alpina</i>), linnet (<i>Carduelis cannabina</i>), goldfinch, twite (<i>Carduelis flavirostris</i>), cuckoo (<i>Cuculus canorus</i>), stock dove (<i>Columba oenas</i>), reed bunting (<i>Emberiza schoeniclus</i>), kestrel (<i>Falco tinnunculus</i>), snipe (<i>Gallinago gallinago</i>), swallow (<i>Hirundo rustica</i>), grasshopper warbler (<i>Locustella naevia</i>), corn bunting (<i>Miliaria calandra</i>),	Less than local impact, due to the Site not providing much habitat for nesting birds including ground nesting birds, with most desk study records not relating to the Site itself.



SPECIES (TAXON GROUP)	DATES	CONSERVATION STATUS	DISTANCE OF CLOSEST DESK STUDY RECORD	POTENTIAL IMPACT FROM PROJECT
		British Trust for Ornithology (BTO) red-list/amber-list.	spotted flycatcher (<i>Muscicapa striata</i>), willow tit (<i>Parus montanus</i>), house sparrow (<i>Passer domesticus</i>), tree sparrow (<i>Passer montanus</i>), grey partridge (<i>Perdix perdix</i>), wood warbler (<i>Phylloscopus sibilatrix</i>), golden plover (<i>Pluvialis apricaria</i>), dunnoek (<i>Prunella modularis</i>), bullfinch (<i>Pyrrhula pyrrhula</i>), woodcock (<i>Scolopax rusticola</i>), starling (<i>Sturnus vulgaris</i>), song thrush (<i>Turdus philomelos</i>), barn owl, and lapwing (<i>Vanellus vanellus</i>).	
Bats	Desk Study supplied on the 31 st March 2025. Site walkover completed on 1 st March 2023, followed by another visit on 1 st April 2025.	Wildlife & Countryside Act (1981) (as amended) Conservation of Habitats and Species Regulations (2017).	Desk study: The West Yorkshire Ecology Services (WYES) provided several records relating to bats within a 2 km radius of the Site, namely myotis bat species (<i>Myotis sp.</i>), Daubenton's bat (<i>Myotis daubentonii</i>), whiskered bat (<i>Myotis mystacinus</i>), Leisler's bat (<i>Nyctalus leisleri</i>), noctule (<i>Nyctalus noctula</i>), pipistrelle (<i>Pipistrellus pipistrellus</i>), soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), and brown long-eared bat (<i>Plecotus auritus</i>). None of these records appear to relate to the Site itself, or land within its immediate environment.	Local importance, due to the fact that there is foraging and commuting habitat present on Site as well as a potential PRF-M tree due to be retained.



SPECIES (TAXON GROUP)	DATES	CONSERVATION STATUS	DISTANCE OF CLOSEST DESK STUDY RECORD	POTENTIAL IMPACT FROM PROJECT
Badger (<i>Meles meles</i>)	Desk Study supplied on the 31st March 2025. Site walkover completed on 1st March 2023, followed by another visit on 1st April 2025. Further badger surveys undertaken in February 2024, April 2025, March 2026 and May 2026.	Protection of Badgers Act (1992) Wildlife & Countryside Act (1981) (as amended)	Desk Study: The nearest badger sett record provided by the WYES lies approximately 377 m from the centre of the Site and the Site falls within the zone of 'increased probability of badger activity'. No badger setts have been recorded within the Site, although setts have been identified within the immediate vicinity, as detailed within the Confidential Badger report⁶.	Local importance, with setts in close proximity to the Site, and the Dean Wood providing good foraging habitat for badger. Protection measures are detailed within the Confidential Badger report⁶.

⁶ SLR Consulting (2026) Confidential Badger Survey Report. Roslyn Avenue, Netherton. 424.065545.00001



SPECIES (TAXON GROUP)	DATES	CONSERVATION STATUS	DISTANCE OF CLOSEST DESK STUDY RECORD	POTENTIAL IMPACT FROM PROJECT
Hedgehog (<i>Erinaceus europaeus</i>)	Desk Study supplied on the 31 st March 2025. Site walkover completed on 1 st March 2023, followed by another visit on 1 st April 2025.	Wild Mammals Protection Act (1996). Section 41 of the NERC Act 2006 (as amended). UK BAP Priority Species with a national and local Biodiversity Action Plan (BAP).	Desk Study: The WYES provided no data for hedgehog	Local importance to the Site as the Site holds foraging habitat for hedgehog.

Summary of Protected and Notable Species

The EcIA² describes the proposed avoidance, mitigation and compensation measures for each protected and notable species. A summary is provided below for each species.

Birds

During the field survey, several bird species were recorded during the Site visits, namely: carrion crow (*Corvus corone*), magpie (*Pica pica*), jackdaw (*Corvus monedula*), jay (*Garrulus glandarius*), rook (*Corvus frugilegus*), black-headed gull (*Chroicocephalus ridibundus*), goldfinch (*Carduelis carduelis*), great tit (*Parus major*), blue tit (*Cyanistes caeruleus*), robin (*Erithacus rubecula*), starling (*Sturnus vulgaris*), blackbird (*Turdus merula*), song thrush (*Turdus philomelos*), and greater-spotted woodpecker (*Dendrocopos major*). The Site is unsuitable for ground-nesting bird species due to the short nature of the modified grassland dominating it, and fact that the margins of the Site are used as a popular walking route. However, some nesting bird habitat is present through the hedgerows and trees along the Site boundary.

Proposed Avoidance, Mitigation and Compensation

A significant amount of nut and berry rich native hedgerow, scrub and tree planting is proposed across the Site, in particular along the western, southern and northern boundaries, and within the POS area in the south.

Furthermore, 10% of dwellings (a total of nine dwellings) will contain an integrated bird nesting feature, comprising swift bricks (which is also suitable for other species including house sparrow) and starling boxes (see Section 6.0 for specification). Both house sparrow and starling were recorded using the Site, are noted within the Kirklees BAP and are Red Listed bird species.



Summary of Protected and Notable Species

Together, these enhancements will improve the nesting and foraging opportunities available for a range of bird species within the Site.

Furthermore during works, where practical, removal of vegetation suitable for nesting birds (pruning of the line of trees) will take place outside of the main nesting bird season, which extends between March and August inclusive. If works are required within this period, they would be preceded by a search for active bird nests by a suitably qualified ecologist; if active nests are found, the nest itself and a suitable 'Biodiversity Protection Zone' buffer (to be determined by the Ecological Clerk of Works (ECoW)) would be safeguarded until the young have fledged or the nesting attempt is otherwise complete.

This will ensure that relevant wildlife legislation is complied with, and the overall net impact upon nesting birds would be positive.

Bats

The results from the field survey found a single elder tree along the northern boundary of the Site was assessed as having Moderate potential to support roosting bats, with potential roosting features (PRFs) including rot holes. It should be noted that this tree shall be retained.

The woodland edge on the north boundary, and the line of trees and hedgerow on/ immediately beyond the eastern boundary, provide potential habitat for foraging and commuting bats. Conversely, the 'core' of the Site, consisting of modified grassland, is only likely to support low levels of bat activity.

Proposed Avoidance, Mitigation and Compensation

The proposed development plans, include the planting of species-rich hedgerow, tree, traditional orchard and scrub, and the establishment of the wildflower, species-rich and tussocky grassland, will all enhance conditions for foraging and commuting bats.

Furthermore, 10% of dwellings (a total of nine dwellings) would contain an integrated bat box, to provide roosting opportunities for bats. See Section 6.0 for bat box specifications.

Together, these enhancements will increase roosting and foraging opportunities for bats and facilitate habitat corridors and steppingstones between areas of good-quality habitat, both existing outside of the Site and proposed within the Site.

The elder tree with Moderate bat roosting potential on the north boundary is not due to be impacted. This tree will be retained, and the surrounding area will be enhanced with the planting of scrub and hedgerow.

Additionally, lighting is minimised at boundary vegetated habitats (including woodland edges, hedgerows and tree lines) where the habitat has suitability for foraging and commuting by nocturnal species such as bats; this includes Dean Wood to the north. Lighting details are provided within a separate document to address Condition 11.

Badger

Information relating to badger is contained in the Confidential badger report⁷, and is not detailed here due to the confidential nature of sett locations. The Confidential badger report details measures to protect badger including buffer zones which have been designed into the Site layout, and update badger surveys. The scrub, tree, grassland and orchard creation provides foraging habitat for badger present within the vicinity of the Site.



Summary of Protected and Notable Species

Hedgehog

The WYES provided no data for hedgehog (*Erinaceus europaeus*). However, this species has the potential to use the area and is included in the Kirklees BAP and the UK BAP.

Proposed Avoidance, Mitigation and Compensation

In addition to the planting of species-rich hedgerows, wildflower grassland and neural grasslands as well as shrubs, hedgehog highways shall incorporated into gardens to allow hedgehogs to forage in gardens for a greater variety of habitats. For more information of the hedgehog highways, see Section 6.3.

Constraints and Opportunities for Project

The presence or potential presence of the protected species as outlined above pose a constraint to construction activities which will be mitigated for as outlined above, with further protection measures during construction detailed in the separate Construction Environmental Plan: Biodiversity (CEMP:B) report⁷. New opportunities for these species will be created within the Site, through hedgerow and tree planting, creation of wildflower grassland, scrub, and species-specific enhancements (bird and bat boxes and hedgehog highways).

⁷ Harron Homes (2026) Construction Environment Management Plan – Biodiversity. Land off Roslyn Avenue, Netherton



3.8 Baseline Habitat Survey

Details on the baseline habitat surveys undertaken at the Site are presented below in Table 3-5.

Table 3-5: Baseline Habitat Survey

Ecologist responsible for baseline surveys	
Name or Initials	Aaron Bailey and Gary Oliver
Organisation	SLR Consulting Ltd
Survey Date	01/03/2023 – 01/04/2025
Statement of Competency	
Aaron Bailey The initial UKHab survey and condition assessment was carried out by Aaron Bailey, who is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a competent botanist, and is experienced in protected species surveys. Gary Oliver The updated UKHab survey and condition assessment was carried out by Gary Oliver who is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and is a Chartered Environmentalist (SocEnv), with over 30 years' relevant experience within ecological consultancy. He is a competent ornithologist and botanist, holds a Class 2 survey licence for great-crested newt (also a Registered Consultant under the Low Impact GCN Class Licence), as well as a Class 2 survey licence for bats.	



Ecologist responsible for baseline surveys
UK Habitat Classification (UKHab Survey) The UKHab surveys recorded (mapped) the habitats present and followed the UK Habitat Survey (UKHab) methodology. The UK Habitat Classification (UKHab) is a comprehensive classification system for the UK that has been developed to benefit from changes in habitat categorisation and recording analysis in recent decades. The system comprises a principal hierarchy (the Primary Habitats) which include broad habitats and priority habitats and non-hierarchical Secondary codes. Habitat nomenclature and definitions have been designed to remain as close to existing systems as possible in order that data can be collected, analysed, and translated without ambiguity. Condition Assessment for Biodiversity Net Gain While undertaking the habitat surveys, the condition of each habitat parcel was recorded, using the criteria produced by Natural England (Natural England, 2023), for later use in a Biodiversity Net Gain (BNG) assessment. The condition assessment included, collecting information on the physical characteristics of the habitat, the presence of positive indicator species and the presence of invasive non-native species. Each habitat parcel, that requires it, was then assigned condition score of 'poor', 'moderate' or 'good'. Limitations The Site, and immediate surrounding area, were fully accessible, and whilst the surveys were undertaken at sub-optimal time of year (early March and early April, respectively) the range of habitats present are common and widespread, allowing a robust assessment of their ecological importance to be made. As such, no survey limitations apply.

3.8.1 Habitat Degradation

No evidence of purposeful habitat degradation was observed.

Table 3-6: Habitat Degradation

Are there any signs or evidence that the baseline habitats have been purposefully degraded since 30th January 2020?
No
If habitats have been purposefully degraded, provide details of how this has been accounted for
N/A



3.8.1.1 Baseline Habitat Descriptions and Condition

Table 3-7 presents the baseline habitats and conditions recorded on Site.

Table 3-7: Baseline Habitats

Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha) / Length (km)
Modified grassland (g4)	No	No	The main body of the field is species poor, comprising a strong dominance of perennial ryegrass (<i>Lolium perenne</i>); with lesser amounts of cock's-foot grass (<i>Dactylus glomerata</i>). Dandelion (<i>Taraxacum officinale</i>) and broad-leaved dock (<i>Rumex obtusifolius</i>) were also present occasionally in the sward. Condition assessment criteria scores: Criteria A – N Criteria B – N Criteria C - Y Criteria D - Y Criteria E - Y Criteria F – Y Criteria G - Y	Poor	3.401
Bracken (g4)	No	No	A small area close to the northern boundary of the Site (B7) supports scattered trees and a mosaic of grassland and bracken. Species present included cock's-foot, broad-leaved dock, bracken, cleavers, nettle and bramble. Tree species comprised silver birch (<i>Betula pendula</i>), pedunculate oak (<i>Quercus robur</i>) and holly (<i>Ilex aquifolium</i>). A small grassland area on the western boundary of the Site (B4) also supports bracken. No condition assessment is applicable for this habitat type.	N/a	0.046
Other woodland; broadleaved (w1g)	No	No	Woodland overhangs the northern Site boundary. Tree and shrub species present in the woodland edges include pedunculate oak (<i>Quercus robur</i>), silver birch (<i>Betula pendula</i>), alder (<i>Alnus glutinosa</i>), hazel (<i>Corylus</i>	Moderate (29)	0.046



Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha) / Length (km)
			<i>avellana</i>), elder (<i>Sambucus nigra</i>), holly (<i>Ilex aquifolium</i>) and goat willow (<i>Salix caprea</i>).. Condition assessment criteria scores; Criteria A – 2 Criteria B – 2 Criteria C – 3 Criteria D – 3 Criteria E – 3 Criteria F – 2 Criteria G – 2 Criteria H – 3 Criteria I – 1 Criteria J – 2 Criteria K – 1 Criteria L – 2 Criteria M – 3		
Urban Tree (200)	No	No	The Site has a young rowan (<i>Sorbus aucuparia</i>) on the western boundary and young cherry (<i>Prunus avium</i>) on the southern boundary. Condition assessment criteria scores; Criteria A – Y Criteria B - Y Criteria C – N Criteria D – N Criteria E – N Criteria F - Y	Moderate	0.02
Vegetated garden (828)	No	No	Small area of vegetated garden on the eastern boundary. No condition assessment is applicable for this habitat type.	N/A	0.005



Table 3-8: Baseline Hedgerows

Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Length (m)
Line of Trees (w1g 33)	No	No	A 47 m long line of early mature trees lies on the north-eastern boundary. Species comprised mostly of alder (<i>Alnus glutinosa</i>), along with frequent silver birch and pedunculate oak, and occasional sycamore and lime (<i>Tilia sp.</i>). Condition assessment criteria scores; Criteria A – Y Criteria B – Y Criteria C – N Criteria D – N Criteria E – Y	Moderate	0.047
Non-native ornamental Hedgerow (h2b)	No	No	Hedgerow with less than 20% cover of native species on the eastern boundary comprised of dominant Lawsons cypress (<i>Chamaecyparis lawsoniana</i>), with occasional sycamore (<i>Acer pseudoplatanus</i>) and beech (<i>Fagus sylvatica</i>). No condition assessment is applicable for this habitat type.	Poor	0.052



3.8.1.2 Irreplaceable Habitats

No irreplaceable habitats were present within the Site boundary.

3.8.1.3 Baseline Habitats Photos

Table 3-9: Baseline Habitats Photos

Photographs	
	
Modified grassland (g4) area covering majority of the Site.	Non-native ornamental hedgerow (h2b) along the eastern boundary of the Site.
	
Line of trees (w1b 33) along the north-eastern boundary of the Site.	



4.0 Planned Management Activities

Table 4-1: Management Aims and Objectives

Management Plan Aims and Objectives
This EDS has been produced in order to manage the habitat creation and enhancement of on-Site areas for the proposed scheme. Under the current landscape plan for the Site, 7.48 habitat Biodiversity Units (BU) will be lost to facilitate the proposed development. This will be compensated for by: Habitats: On-Site habitat area creation of: • 0.059 ha planting of traditional orchard trees to meet moderate condition; • 0.074 ha of mixed scrub to meet moderate condition; • 0.013 ha of introduced scrub; • 0.197 ha seeding of other neutral grassland using Emorsgate EM10³ Tussocky grassland mixture, to meet moderate condition; • 0.015 ha seeding of other neutral grassland using Emorsgate EM2⁴ wildflower mix or similar, to meet good condition; • 0.276 ha seeding of other neutral grassland using Emorsgate EM3⁵ wildflower mix or similar, to meet moderate condition; • 0.050 ha seeding of modified grassland using Emorsgate EL1⁶ Flowering Lawn Mixture to meet moderate condition; • 0.022 ha seeding of modified grassland using Geminal A22 Mixture to meet Poor condition; • 0.875 ha planting of urban trees to meet moderate condition; and • 0.976 ha of vegetated garden. Hedgerows: On-Site hedgerow length creation of: • 0.591 km planting of species-rich native hedgerow (including seven separate hedgerow species) to meet moderate condition, and; • 0.029 km planting of non-native ornamental hedgerow to meet poor condition. The BNG recalculation states that the post development habitats created will result in the delivery of 9.49 Habitat Units (+26.7% gain), and 4.22 Hedgerow Units (+1,660.21 gain). The above habitats will be managed for a minimum of 30 years. With appropriate management described within this EDS, and any adaptive management identified during monitoring, it is anticipated that the above Units shall be achieved, resulting in a significant gain at the Site, which exceeds 10% gain targets. The post-development habitats are shown in Drawing 3.

4.1 Principles Informed by Design Stage

Table 4-2: Design Principles

Design Principles Informed by Baseline Information
The aim of the Site design was to maximise the biodiversity value of the Site whilst delivering the new housing development required by the client. Given the size of the Site and the required number of houses (82), scope for achieving biodiversity units has been maximised within the Site. The Site achieves a 26.70% net gain in Habitat Units and a 1660.21% net gain in Hedgerow Units, following the proposed creation and retention of habitats on Site post development. This indicates that the minimum 10% net gain will be exceeded for this development. This exceeds the Habitat Unit target for Condition 29, but does not meet the Hedgerow Unit target (of 6.10 Hedgerow Units),



Design Principles Informed by Baseline Information

however due to there being a 1660.21% increase in hedgerow habitats compared to the baseline, we believe the condition will be fully satisfied with the proposed habitat creation.



4.2 Habitat and Condition Targets

This table presents a summary record of what will be delivered based on the biodiversity metric. These habitat condition targets form the basis of what the management plan is setting out to achieve.

Table 4-3: Proposed On-Site Habitat Condition Targets

Baseline Habitat Type	Target Habitat Type	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
Modified Grassland	Developed Land, Sealed Surface	Poor	N/A	0	Condition Assessment N/A.	N/A
Modified Grassland	Vegetated Garden	Poor	N/A	1	Condition Assessment N/A.	Vegetated residential front and rear gardens. Seeding using germinal A22 mixture ⁸ ; planting with mixed shrub and trees.
Modified Grassland	Modified Grassland	Poor	Poor	1	Poor Condition will be targeted. The following criteria are expected to be passed: Criteria A – N Criteria B - N Criteria C - N Criteria D - N	Amenity grassland will be planted on roadside verges. Using germinal A22 mixture ¹⁴

⁸ [A22 \(Low Maintenance\)](#)



Baseline Habitat Type	Target Habitat Type	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
					Criteria E - N Criteria F - Y Criteria G - Y	
Modified Grassland	Mixed Scrub	Poor	Moderate	5	Moderate Condition will be targeted. The following criteria are expected to be passed: Criteria A - Y Criteria B - N Criteria C - Y Criteria D - Y Criteria E - N	N/A
Modified Grassland with Bracken	Other Neutral Grassland	Poor	Moderate	5	Moderate Condition will be targeted. The following criteria are expected to be passed: Criteria A - Y Criteria B - N Criteria C - Y Criteria D - Y Criteria E - Y Criteria F - N	Seeding using Emorsgate EM10 ³ Tussocky grassland mixture.
Modified Grassland	Other Neutral Grassland	Poor	Moderate	5	Moderate Condition will be targeted. The following criteria are expected to be passed Criteria A - Y Criteria B - N	Seeding using Emorsgate EM2 ⁴ and EM3 ⁵ Wildflower mixtures.



Baseline Habitat Type	Target Habitat Type	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
					Criteria C - Y Criteria D - Y Criteria E - Y Criteria F - N	
Modified Grassland	Modified Grassland	Poor	Moderate	4	Moderate Condition will be targeted. The following criteria are expected to be passed: Criteria A - Y Criteria B - N Criteria C - Y Criteria D - N Criteria E - Y Criteria F - Y	Seeding using Emorsgate EL1 ⁶ Flowering Lawn Mixture
Modified Grassland	Urban Tree	Poor	Moderate	27	Moderate Condition will be targeted. The following criteria are expected to be passed: Criteria A - Y Criteria B - Y Criteria C - N Criteria D - Y Criteria E - N Criteria F - Y	98 heavy and extra heavy standard trees, to be located outside of private gardens, the 39 extra heavy standards are considered likely to attain medium size. All trees will have clear stems up to 1.8 m above ground level, and 2.0 m above ground level for trees with extra heavy standards. All trees will be secured to a machine rounded stake using a 1. no tree tie with a rubber spacer. For more info see



Baseline Habitat Type	Target Habitat Type	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
						Appendix B and Appendix C.
Modified Grassland	Introduced Shrub	Poor	Condition assessment N/A	1	Condition Assessment N/A.	N/A
Modified Grassland	Traditional Orchard	Poor	Moderate	20	Moderate Condition will be targeted. The following criteria are expected to be passed: Criteria A - N Criteria B - N Criteria C - Y Criteria D - Y Criteria E - Y Criteria F - N Criteria G - Y Criteria H - Y	All orchard trees will be obtained from a specialist nursery which propagates from UK stock and grows plant material in the UK (E.G. R. V Roger Ltd). For more info see Appendix B and Appendix C.
Modified Grassland	Species-Rich Hedgerow	Poor	Moderate	5	Moderate Condition will be targeted. The following criteria are expected to be passed: Criteria A1 - Y Criteria A2 - N Criteria B1 - Y Criteria B2 - Y Criteria C1 - N Criteria C2 - N	N/A



Baseline Habitat Type	Target Habitat Type	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
					Criteria D1 - Y Criteria D2 - Y	
Modified Grassland	Non-Native Ornamental Hedgerow	Poor	Condition assessment N/A	1	Condition assessment N/A	N/A



4.3 Habitat Retention

Table 4-4: Measures for Retained Habitats

Measures to be Implemented to Protect Retained Habitats
The following habitats will be retained during proposed works; • 0.046 ha of other broad-leaved woodland; • 0.02 ha of urban trees; • 0.047 km line of trees, and; • 0.052 km of non-native ornamental hedgerow. These habitats are located primarily along the northern and eastern Site boundaries. The areas that will be retained, along with the habitats due to be created are shown in the landscape plan in Appendix B, and Drawing 3.
Specification of Protective Measures to be Used
The retained habitats shall be protected throughout construction using protective fencing and exclusion zones. The specifications for the protective measures to be used are detailed within the separate Arboricultural Impact Assessment and Method Statement⁹ and CEMP: Biodiversity documents.

⁹ SLR Consulting (2025) Arboricultural Impact Assessment and Method Statement. Roslyn Avenue, Netherton. 415.065296.00001



4.4 Creation, Enhancement and Management Targets and Perceptions

4.4.1 Other Neutral Grassland – Emorsgate EM2 and EM3 Meadow Mixtures

Table 4-5: Creation, Enhancement and Management Summary – Other Neutral Grassland

Target Habitat				Other Neutral Grassland	
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation 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	PM5, PM6, PM7, PM13, PM14, PM16, PM12	The areas for Wildflower grassland will be seeded with Emorsgate EM2 or similar (PM12) and EM3 or similar (PM5, PM6, PM7, PM13, PM14, PM16) of which provides a variety of neutral grassland species and wildflower species.	Any areas that do not originally take to the seeding will be re-prepped and reseeded until the grasses grow.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	N/A	N/A	N/A
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	PM5, PM6, PM7, PM13, PM14, PM16, PM12	Prevent ground becoming bare from human activities or machinery.	Any areas damaged by the public or machinery will be re-prepped and seeded until the grasses grow.
D	Cover of bracken <i>Pteridium aquilinum</i> less than 20% and cover of scrub (including bramble) less than 5%.	Yes	PM5, PM6, PM7, PM13, PM14, PM16, PM12	Prevent bracken and scrub encroachment.	Prevent bracken and scrub encroachment.



Target Habitat				Other Neutral Grassland	
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area. If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Yes	PM5, PM6, PM7, PM13, PM14, PM16, PM12	Prevent physical damage from machinery use or storage.	Any areas damaged by the public or machinery will be re-prepped and seeded until the grasses grow.
F	There are 10 or more vascular plant species per m² present, including forbs that are characteristic of the habitat type. Note – this criterion is essential for achieving Good condition for non-acid grassland types only.	No	N/A	N/A	N/A



Table 4-6: Creation, and Management Detailed Methods

Action	Timing	Prescriptions
Ground preparation, sowing methods.	Y0 Autumn or Spring	All weeds should be removed first from the ground prior to any seeding, using repeated cultivation. Plough or dig once cultivated to bury the surface vegetation. Harrow or rake to produce a medium tilth and roll / tread to produce a firm surface.
Seed selection	Y0	EM2 and EM3 Meadow Mixtures: Seeding of EM2 and EM3 meadow mixtures within the Site. The meadow mixtures contain species that are characteristic of traditional meadows across a wide range of soil types. This mixture is compliant with the following Environmental Stewardship options: • <i>Sustainable Farming Incentive (SFI): CIPM2 Flower-rich grass margins, blocks, or in-field strips & WBD4 Arable reversion to grassland with low fertiliser input</i> • <i>Countryside Stewardship (CSS): AB8: Flower-rich margins and plots</i>
Re-seeding	Y0	Re-seed any areas that do not establish.
Mowing	Y1 – September to March Y2	Most of the sown meadow species are perennial and are slow to establish. Soon after sowing there will be a flush of annual weeds, arising from the soil seed bank. These weeds will offer shelter to the sown seedlings, are great for bugs, and will die before the year is out. So resist cutting the annual weeds until mid to late summer. Then cut, remove and compost. Early August is a good time. This will reveal the young meadow, which can then be kept short by mowing through to the end of March of the following year. Dig out any residual perennial weeds such as docks.
Mowing	Annually Y2-Y30	The best results are usually obtained by traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing. Meadow grassland is not cut or grazed from spring through to late July/August to give the sown species an opportunity to flower. After flowering in July or August take a 'hay cut': cut back with a scythe, petrol trimmer or tractor mower to c 50mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site. Mow the re-growth through to late autumn/winter to c 50mm and again in spring if needed.
Prevention of bracken	Annually – Y2 – Y30	Check grassland for presence of bracken. If present, treat using mechanical control.
INNS and undesirable species to be removed	Annually – Y2 – Y30 June to August	Remove species indicative of suboptimal condition such as creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), curled dock (<i>Rumex crispus</i>), broad-leaved dock (<i>Rumex obtusifolius</i>), common nettle (<i>Urtica dioica</i>), creeping buttercup (<i>Ranunculus repens</i>), greater plantain (<i>Plantago major</i>), white clover (<i>Trifolium repens</i>) and cow parsley (<i>Anthriscus sylvestris</i>).



Action	Timing	Prescriptions
		These can be hand pulled or dug out or by use of a suitable spot herbicide applied by a competent professional in accordance with all relevant legislation and guidance, where pernicious or invasive weeds occur.
Monitoring and maintenance	Annually Y1-Y30	Grasslands would be monitored by an ecologist to assess the success of establishment. Areas will be re-sown following implementation of any other remedial works, as necessary. Removal of litter and debris at regular intervals and prior to mowing.



Table 4-7: Emorsgate EM2 General Purpose Meadow Mixture

%	Species	Common Name
15%	Wildflowers	
0.60	<i>Achillea millefolium</i>	Yarrow
1.35	<i>Betonica officinalis</i>	Betony
2.10	<i>Centaurea nigra</i>	Common Knapweed
0.75	<i>Daucus carota</i>	Wild carrot
0.90	<i>Galium album</i>	Hedge bedstraw
0.30	<i>Geranium pratense</i>	Lady's bedstraw
1.35	<i>Leucanthemum vulgare</i>	Meadow crane's-bill
0.45	<i>Medicago lupulina</i>	Oxeye daisy
0.75	<i>Primula veris</i>	Black medick
1.35	<i>Prunella vulgaris</i>	Cowslip
1.20	<i>Ranunculus acris</i>	Selfheal
0.90	<i>Rhinanthus minor</i>	Meadow buttercup
0.60	<i>Silene dioica</i>	Yellow rattle
1.20	<i>Silene vulgaris</i>	Red campion
0.45	<i>Vicia cracca</i>	Tufted vetch
85%	Grasses	
8.50	<i>Agrostis capillaris</i>	Common bent
29.75	<i>Cynosurus cristatus</i>	Crested dogtail
25.50	<i>Festuca rubra</i>	Red fescue
4.25	<i>Phleum bertolonii</i>	Smaller cat's- tail
17.00	<i>Poa pratensis</i>	Smooth-stalked meadow-grass

Figure 4-1: What does Success look like?



Table 4-8: Emorsgate EM3 Special General Purpose Meadow Mixture

%	Species	Common Name
20%	Wildflowers	
0.80	<i>Achillea millefolium</i>	Yarrow
1.20	<i>Betonica officinalis</i>	Betony
2.00	<i>Centaurea nigra</i>	Common Knapweed
0.40	<i>Centaurea scabiosa</i>	Greater Knapweed
0.40	<i>Cruciata laevipes</i>	Crosswort
1.00	<i>Daucus carota</i>	Wild carrot
0.20	<i>Echium vulgare</i>	Viper's-bugloss
0.20	<i>Filipendula ulmaria</i>	Meadowsweet
0.80	<i>Galium album</i>	Hedge Bedstraw
1.20	<i>Galium verum</i>	Lady's Bedstraw
0.60	<i>Geranium pratense</i>	Meadow crane's-bill
0.20	<i>Knautia arvensis</i>	Field Scabious
1.40	<i>Leucanthemum vulgare</i>	Oxeye daisy
0.40	<i>Medicago lupulina</i>	Black Medick
0.20	<i>Pastinaca sativa</i>	Wild Parsnip
0.60	<i>Poterium sanguisorba</i> <i>ssp sanguisorba</i>	Salad Burnet
0.80	<i>Prunella vulgaris</i>	Cowslip
1.60	<i>Prunella vulgaris</i>	Selfheal
1.60	<i>Ranunculus acris</i>	Meadow Buttercup
0.60	<i>Ranunculus bulbosus</i>	Bulbous Buttercup

Figure 4-2: What does Success look like?



%	Species	Common Name
0.40	<i>Rhinanthus minor</i>	Yellow Rattle
0.40	<i>Rumex acetosa</i>	Common Sorrel
0.40	<i>Silaum silaus</i>	Pepper Saxifrage
0.80	<i>Silene vulgaris</i>	Red campion
0.40	<i>Vicia cracca</i>	Tufted vetch
0.20	<i>Silene flos-cuculi</i>	Ragged Robin
1.00	<i>Silene vulgaris</i>	Bladder Campion
0.20	<i>Taraxacum officinale</i>	Dandelion
80%	Grasses	
8.50	<i>Agrostis capillaris</i>	Common bent
28.00	<i>Cynosurus cristatus</i>	Crested dogtail
24.00	<i>Festuca rubra</i>	Red fescue
4.00	<i>Phleum bertolonii</i>	Smaller cat's- tail
16.00	<i>Poa pratensis</i>	Smooth-stalked meadow-grass

4.4.2 Other Neutral Grassland – Emorsgate EM10 Tussocky Grassland Mixture

Table 4-9: Creation, Enhancement and Management Summary – Other Neutral Grassland

Target Habitat				Other Neutral Grassland	
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation 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.	Yes	PM15, PM18, PM20	The areas for Wildflower grassland will be seeded with Emorsgate EM10 Tussocky Grassland Mixture of which	Any areas that do not originally take to the seeding will be re-prepped and reseeded until the grasses grow.



Target Habitat				Other Neutral Grassland	
	Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.			provides a variety of neutral grassland species.	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	N/A	N/A	N/A
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	PM15, PM18, PM20	Prevent ground becoming bare from human activities or machinery.	Any areas damages by the public or machinery will be re-prepped and seeded until the grasses grow.
D	Cover of bracken <i>Pteridium aquilinum</i> less than 20% and cover of scrub (including bramble) less than 5%.	Yes	PM15, PM18, PM20	Prevent bracken and scrub encroachment.	Prevent bracken and scrub encroachment.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area. If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Yes	PM15, PM18, PM20	Prevent physical damage from machinery use or storage.	Any areas damages by the public or machinery will be re-prepped and seeded until the grasses grow.
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.	No	N/A	N/A	N/A



Table 4-10: Creation, and Management Detailed Methods

Action	Timing	Prescriptions
Ground preparation, sowing methods.	Y0 Autumn or Spring	To prepare seed bed, use repeated cultivation or a herbicide. Then plough or dig to bury the surface vegetation, harrow or rake to produce medium tilth and roll or tread to produce a firm surface. Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out, divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good soil/seed contact.
Seed selection	Y0	Emorsgate EM10 Tussock Grass Mixture: The EG10 Mixture will be used on 0.168 ha of land within the Site, around the northern area near the retained woodland, and on the north eastern and western edges of the Site. This mixture has been devised to create areas of tussocky grassland that, once established, requires little or no maintenance. This grassland type can form a good habitat for insects, small mammals, birds, amphibians and reptiles, providing nesting sites during spring, food during summer and autumn, and shelter during winter.
Re-seeding	Y0	Re-seed any areas that do not establish.
Mowing	Y1 – September to March Y2	Growth and establishment of wild grasses may be slow initially, especially at low sowing rates (2-5g/m ²). There will often be a flush of annual weeds from the soil in the first growing season. This weed growth is easily controlled by topping or mowing. Mow all plant growth (sown grasses and weeds) regularly to 40-60mm throughout the first growing season to prevent weeds smothering the slower-growing grasses. Remove cuttings if dense, more frequent and regular topping will minimise the amount of toppings produced each time so they can be left to disperse.
Mowing	Annually Y2-Y30	Once established, tussocky grassland requires minimal maintenance. Unwanted perennial weeds (docks, thistles) may need control by occasional spot treatment with a herbicide. To control scrub and bramble development, tussocky areas may need cutting every 2-3 years, between October and February. For wildlife this cutting is best done on a rotational basis so that no more than half the area is cut in any one year leaving part as an undisturbed refuge.
Prevention of bracken	Annually – Y2 – Y30	Check grassland for presence of bracken. If present, treat using mechanical control.
INNS and undesirable species to be removed	Annually – Y2 – Y30 June to August	Remove species indicative of suboptimal condition such as creeping thistle, spear thistle, curled dock, broad-leaved dock, common nettle, creeping buttercup, greater plantain, white clover and cow parsley. These can be hand pulled or dug out or by use of a suitable spot herbicide applied by a competent professional in accordance with all relevant legislation and guidance, where pernicious or invasive weeds occur.



Action	Timing	Prescriptions
Monitoring and maintenance	Annually Y1-Y30	Grasslands would be monitored by an ecologist to assess the success of establishment. Areas will be re-sown following implementation of any other remedial works, as necessary. Removal of litter and debris at regular intervals and prior to mowing.



Table 4-11: Emorsgate EM10 Tussocky Grass mixture

%	Species	Common Name
20%	Wildflowers	
0.60	<i>Achillea millefolium</i>	Yarrow
0.60	<i>Agrimonia eupatoria</i>	Agrimony
2.40	<i>Centaurea nigra</i>	Common Knapweed
0.60	<i>Centaurea scabiosa</i>	Greater Knapweed
1.60	<i>Daucus carota</i>	Wild carrot
1.60	<i>Dipsacus fullonum</i>	Wild Teasel
0.20	<i>Echium vulgare</i>	Viper's-bugloss
0.60	<i>Filipendula ulmaria</i>	Meadowsweet
1.40	<i>Galium album</i>	Hedge Bedstraw
0.60	<i>Geranium pratense</i>	Meadow crane's-bill
1.00	<i>Leucanthemum vulgare</i>	Oxeye daisy
0.20	<i>Knautia arvensis</i>	Field Scabious
1.40	<i>Malva moschata</i>	Musk Mallow
1.20	<i>Plantago lanceolata</i>	Ribwort Plantain
0.20	<i>Pastinaca sativa</i>	Wild Parsnip
0.80	<i>Poterium sanguisorba</i> <i>ssp sanguisorba</i>	Salad Burnet
1.00	<i>Prunella vulgaris</i>	Selfheal
1.20	<i>Ranunculus acris</i>	Meadow Buttercup
1.20	<i>Silene dioica</i>	Red Campion
1.60	<i>Silene vulgaris</i>	Bladder Campion

Figure 4-3: What does Success look like?



%	Species	Common Name
0.40	<i>Taraxacum officinale</i>	Dandelion
0.60	<i>Torilis japonica</i>	Upright Hedge-parsley
0.60	<i>Vicia cracca</i>	Tufted vetch
80%	Grasses	
4.00	<i>Alopecurus pratensis</i>	Meadow foxtail
8.00	<i>Bromopsis erecta</i> (<i>Bromus erectus</i>)	Upright brome
4.00	<i>Carex divulsa ssp divulsa</i>	Grey sedge
20.00	<i>Cynosurus cristatus</i>	Crested dogstail
4.00	<i>Dactylis glomerata</i>	Cocksfoot
4.00	<i>Festuca ovina</i>	Sheep's-fescue
16.00	<i>Festuca rubra ssp rubra</i>	Strong-creeping red fescue
4.00	<i>Holcus lanatus</i>	Yorkshire fog
8.00	<i>Phleum pratense</i>	Timothy
4.00	<i>Poa pratensis</i>	Smooth-stalked meadow grass
4.00	<i>Schedonorus pratensis</i>	Meadow fescue



4.4.3 Modified Grassland – Germinal Seeds A22 Mix

Table 4-12: Creation, Enhancement and Management Summary – Modified Grassland

Target Habitat				Modified Grassland	
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Management Approach
A	There must be 6-8 species/ m ² Note – this criterion is essential for achieving Moderate condition.	No	N/A	N/A	N/A
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	N/A	N/A	N/A
C	Some scattered scrub (including bramble) may be present but scrub accounts for less than 20% of the total grassland area	Yes	N/A	seed with Germinal Seeds A22 mix.	Grassland subject to regular mowing and cuttings which should suppress scrub.
D	Physical damage is evident in less than 5% of the 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	N/A	Prevent physical damage from machinery use or storage.	Any areas damages by the public or machinery will be re-prepped and seeded until the grasses grow.
E	Cover of bare ground is between 1-10%, including localised areas (for example, a concentration of rabbit warrens).	No	N/A	N/A	N/A
F	Cover of bracken is less than 20%.	Yes	PM33, PM23, PM24, PM25, PM26, PM27, PM28, PM19, PM3, PM30, PM31, PM32	Bracken is unlikely to colonise this grassland.	Grassland subject to regular mowing and cuttings which should suppress bracken. Treat mechanically if required.



Target Habitat				Modified Grassland	
G	There is an absence of invasive non-native species (as listed in Schedule 9 of the WCA, 1981)	Yes	PM33, PM23, PM24, PM25, PM26, PM27, PM28, PM19, PM3, PM30, PM31, PM32	Invasive non-native species shall be removed, if present.	Invasive non-native species shall be removed, if present.

Table 4-13: Creation, and Management Detailed Methods

Action	Timing	Prescriptions
Ground preparation, sowing methods.	Y0 Autumn or Spring	Create a fine friable seedbed down to 150 mm in depth, through ploughing or cultivation. Sowing should occur between march and October, with a sowing rate of 50g/m ² and a depth of 10mm. Carry out two equal sowings at right angles to each other and diagonally to main axis. Broadcast manually or use seed drill, rake level and roll. Ensure good seed to soil contact. Fertiliser is to be placed on the seedbed after sowing, recommended fertiliser is Agrosil LR.
Seed selection	Y0	Germinal A22 mix: The germinal A22 mix will be used on 0.197 ha to fill grass verges around the Site. A22 is a unique perennial ryegrass-based, low maintenance mixture. Fescues are inherently slower growing but have limited wear tolerance opposed to perennial ryegrasses which are hardwearing but generally quick to grow. Cabrio Ultra fine perennial ryegrass is highly rated for slow regrowth after mowing.
Re-seeding	Y0	Re-seed any areas that do not establish.
Mowing	Y1 – September to March Y2	The species are slow growing and may not need mowing during the first year until early autumn. Maintain a cutting height of 20-50 mm. Once the grassland is established, GSR Tri-phase fertiliser is recommended to be used on the grassland areas to promote growth. The fertiliser should be applied between spring and summer months. For autumn / winter fertiliser treatment, Novatech premium is recommended.
Mowing	Annually Y2-Y30	After the first year of establishment, the grassland area should be mowed a minimum of 10 times a year to ensure healthy growth.
Prevention of bracken	Annually – Y2 – Y30	Check grassland for presence of bracken. If present, treat using mechanical control.



Action	Timing	Prescriptions
INNS and undesirable species to be removed	Annually – Y2 – Y30 June to August	Remove species indicative of suboptimal condition such as creeping thistle, spear thistle, curled dock, broad-leaved dock, common nettle, creeping buttercup, greater plantain, white clover and cow parsley. These can be hand pulled or dug out or by use of a suitable spot herbicide applied by a competent professional in accordance with all relevant legislation and guidance, where pernicious or invasive weeds occur.
Monitoring and maintenance	Annually Y1-Y30	Grasslands would be monitored by an ecologist to assess the success of establishment. Areas will be re-sown following implementation of any other remedial works, as necessary. Removal of litter and debris at regular intervals and prior to mowing.



Table 4-14: Germinal Seeds A22 Mix Composition

%	Species	Common Name
100%	Grasses	
30 %	Lolium perenne	Corsica perennial ryegrass
35 %	Festuca rubra litoralis	Charlotte slender creeping red fescues
30 %	Lolium perenne 'Beckham'	Beckham perennial ryegrass
5 %	Agrostis castellana	Highland browntop bentgrass

Figure 4-4: What Does Success Look Like?



4.4.4 Modified Grassland – EL1 Flowering Lawn

Table 4-15: Creation, Enhancement and Management Summary – Modified Grassland

Target Habitat:				Modified Grassland	
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Management Approach
A	There must be 6-8 species/ m ² Note – this criterion is essential for achieving Moderate condition.	Yes	PM34, PM35	The areas of modified grassland will be seeded with the EL1 Flowering Lawn Mixture ¹⁰ , of which contains a variety of grass species appropriate for modified grasslands.	Any areas that do not originally take to the seeding will be re-prepped and reseeded until the grasses grow.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	N/A	N/A	N/A
C	Some scattered scrub (including bramble) may be present but scrub accounts for less than 20% of the total grassland area	Yes	PM34, PM35	Prune / trim back any shrub encroaching on grassland, reseed any areas that haven't established.	Prune / trim back any shrub encroaching on grassland, reseed any areas that haven't established.
D	Physical damage is evident in less than 5% of the total grassland area. Examples of physical damage include	No	N/A	N/A	N/A

¹⁰ [EL1 Flowering Lawn Mixture - Emorsgate Seeds \(wildseed.co.uk\)](https://www.wildseed.co.uk/)



Target Habitat:			Modified Grassland	
Condition Assessment Criteria	Targeted	Relevant Parcels	Creation Approach	Management Approach
excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.				
E Cover of bare ground is between 1-10%, including localised areas (for example, a concentration of rabbit warrens)	Yes	PM34, PM35	Reseed any areas of bare ground and monitor to ensure regrowth.	Reseed any areas of bare ground and monitor to ensure regrowth.
F Cover of bracken is less than 20%	Yes	PM34, PM35	Bracken is unlikely to colonise this grassland.	Grassland subject to regular mowing and cuttings which should suppress bracken.
G There is an absence of invasive non-native species (as listed in Schedule 9 of the WCA, 1981)	Yes	PM34, PM35	Invasive non-native species shall be removed, if present.	Invasive non-native species shall be removed, if present.



Table 4-16: Creation, Enhancement and Management Detailed Methods

Action	Timing	Prescriptions
Ground preparation, sowing methods.	Y0 Autumn or Spring	For areas of newly created grassland, ground preparation is essential to success, so the aim is to control weeds and produce a good quality seed bed before sowing. To prepare areas of newly created grassland, works to the seed bed must first remove undesirable species using repeated cultivation or a herbicide. The required mix should be sown in the spring or early autumn (dependent on construction programme) onto bare ground after harrowing/raking the surface and should not be sown on compacted ground. Bulking up the seed with an inert carrier such as sand can make distribution easier. The seed must be surface sown and can be applied by machine or broadcast by hand. After sowing, the surface should be lightly harrowed or raked to settle the seed in. Care must be taken not to bury the seed at depth. To give good soil/seed contact the ground may be firmed with a roller. The newly seeded areas should be fenced off until the grass is well established. In the event of poor establishment in year 1, then reseedling may be required following further investigation. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good soil/seed contact.
Seed selection	Y0	EL1 Flowering Lawn Mixture: Seeding of 0.050 ha EL1 Flowering Lawn Mixture within the POS areas. The seed will be managed appropriately and monitored closely to ensure that it takes to the ground. Should any bare ground still be visible where seed hasn't taken, the ground should be re-prepped and seeded again until the mixture establishes there. The seed is best sewn in Autumn or Spring, it must be sewn surface down and can be applied via machine or by hand.
Re-seeding	Y0	Re-seed any areas that do not establish.
Mowing	Y1 – September to March Y2	The sward can then be kept short by mowing through to the end of March of the following year. Dig out any residual perennial weeds such as docks and thistles over winter. Mowing should occur regularly,



Action	Timing	Prescriptions
		every 7-10 days during growing season throughout the first year of establishment. cut height to around 40-60mm. Remove any perennial weeds
Mowing	Annually Y2-Y30	Mow regularly as a lawn, but do not keep too short for risk of killing the grasses, keep measurements between 25mm-40mm. to permit flowering, mowing can be relaxed from May, and cut every 4-8 weeks.
Prevention of bracken	Annually – Y2 – Y30	Check grassland for presence of bracken. If present, treat using mechanical control.
INNS and undesirable species to be removed	Annually – Y2 – Y30 June to August	Remove species indicative of suboptimal condition such as creeping thistle, spear thistle, curled dock, broad-leaved dock, common nettle, creeping buttercup, greater plantain, white clover and cow parsley. These can be hand pulled or dug out or by use of a suitable spot herbicide applied by a competent professional in accordance with all relevant legislation and guidance, where pernicious or invasive weeds occur.
Monitoring and maintenance	Annually Y1-Y30	Grasslands would be monitored by an ecologist to assess the success of establishment. Areas will be re-sown following implementation of any other remedial works, as necessary. Removal of litter and debris at regular intervals and prior to mowing.



Table 4-17: EL1 Flowering Lawn Mixture Composition

%	Species	Common Name
20%	Wildflowers	
1	<i>Betonica officinalis</i>	Betony
1.60	<i>Centaurea nigra</i>	Common Knapweed
1	<i>Anthyllis vulneraria</i>	Kidney Vetch
1	<i>Galium album</i>	Hedge Bedstraw
1.60	<i>Galium verum</i>	Lady's Bedstraw
1.40	<i>Leucanthemum vulgare</i>	Oxeye Daisy
0.20	<i>Lotus corniculatus</i>	Birdsfoot Trefoil
1.20	<i>Prunella vulgaris</i>	Selfheal
1.60	<i>Ranunculus acris</i>	Meadow Buttercup
0.60	<i>Medicago lupulina</i>	Black Medick
2.40	<i>Plantago lanceolata</i>	Ribwort Plantain
1	<i>Primula veris</i>	Cowslip
1	<i>Silene vulgaris</i>	Bladder Campion
0.40	<i>Taraxacum officinale</i>	Dandelion
4	<i>Trifolium repens</i>	White Clover
80%	Grasses	



%	Species	Common Name
8	<i>Agrostis capillaris</i>	Common Bent
28	<i>Cynosurus cristatus</i>	Crested dog's-tail
24	<i>Festuca rubra</i>	Red fescue
4	<i>Phleum bertolonii</i>	Smaller Cat's-tail
16	<i>Poa pratensis</i>	Smooth-stalked meadow-grass

Figure 4-5: What Does Success Look Like?



4.4.5 Mixed Scrub

Table 4-18: Creation, Enhancement and Management Summary – Mixed Scrub

Target Habitat				Mixed Scrub	
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation 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 comprises more than 75% of the cover (except hazel, common juniper (<i>Juniperus communis</i>), sea buckthorn (<i>Hippophae rhamnoides</i>) (only in its restricted native range), or box (<i>Buxus sempervirens</i>), which can be up to 100% cover).	Yes	PM8, PM9, PM10, PM11, PM17, PM19	The mixed scrub will be established along the north-western POS area (Native Mix 8), and in a small area on the western edge of the Site (Native Mix) using a native shrub mix planted at 0.75 m centres, and 1m centres (for Native Shrub Mix 8). Both mixes will be planted at a depth of 450mm, with good-quality clean topsoil, organic compost and slow-release fertiliser. Plants will be incorporated into groups of 3-11 single species with taller growing species at the back, and lower growing species around the edges. For details on species included in each mix, see Table 4-20.	Post-establishment, the scrub will be subject to minimal management, focused on supporting natural growth, structural diversity, and species composition. Key management measures include: Watering and replacement of failed plants during the establishment phase. Periodic monitoring to ensure no single species exceeds 75% cover and that at least three native woody species remain dominant. Height control, where necessary, to maintain the scrub at an appropriate range for wildlife and to prevent encroachment on adjacent habitats.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	No	N/A	N/A	N/A
C	There is an absence of invasive non-native plant species ⁴ (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition	Yes	PM8, PM9, PM10, PM11,	Invasive non-native species shall be removed, if present.	Invasive non-native species shall be removed, if present.



Target Habitat				Mixed Scrub	
	make up less than 5% of ground cover.		PM17, PM19		
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	PM8, PM9, PM10, PM11, PM17, PM19	The mixed scrub will be planted to include a well-developed edge that transitions into surrounding habitats, including the northern woodland area (Dean Wood). This edge will incorporate scattered scrub plants interspersed with tall grasses and forbs, creating a gradual structural gradient between the core scrub and adjacent habitats.	Post-establishment management will focus on maintaining the structural complexity of the scrub edge. This will include: Allowing natural growth and regeneration of native scrub species; Retaining tall grasses and forbs to provide shelter and foraging resources; Periodic monitoring to prevent encroachment into adjacent habitats; Removing invasive or undesirable species if they appear along the edge.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No	N/A	N/A	N/A

Table 4-19: Creation, and Management Detailed Methods

Action	Timing	Prescriptions
Planting	Y0 November to March	All shrub plants will be planted in the first available planting season (November – March) where possible, in accordance with the construction programme. Plants will be sourced as locally as possible. All plant handling and planting operations will comply with relevant clauses of CPSE 'Handling and Establishing of Landscape Plants' (obtainable from the Horticultural Trades Association).
Watering	Y0 – Y2	Water all recently planted shrubs as necessary to ensure establishment for the first three years. This should be done weekly in April – September during dry periods.
Pruning regime	Y1	Hard prune in March – April (where species flowers on current year's wood). Remove flower wood after flowering (where species flowers on last year's wood). Clip or trim to maintain shape, removing arisings from the Site.



Action	Timing	Prescriptions
Pruning regime	Y2 – Y30 As Necessary October to February	Prune the shrubs as much as necessary to achieve their desired features between October to February, outside of the bird nesting season, following horticultural practices and to prevent them overhanging footpaths or blocking light to windows. Arisings to be removed from the Site.
Pest and disease control	As required	To be carried out if necessary and in accordance with best practice.
INNS and undesirable species to be removed	February; April; May; July; September Annually Y1-Y30	Hand weed a minimum of four times per year. Apply a herbicide to kill re-growth as a last resort when required.
Fertiliser	Y2 – Y4 - April	Applications of fertilizer to be carried out early in the growing season.
Replacing Failed	Y1 – Y30	Replace failed planting if necessary.



Table 4-20: Mixed Scrub species list – Native Shrub Mix

Number to be Planted	Species	Common name	Height (cm)
94	<i>Corus sanguinea</i>	Common dogwood	40-60
94	<i>Corylus avellana</i>	Hazel	60-80
94	<i>Crataegus monogyna</i>	Hawthorn	60-80
125	<i>Prunus Spinosa</i>	Blackthorn	40-60
125	<i>Sambucus nigra</i>	Elderberry	40-60
94	<i>Viburnum opulus</i>	Guelder rose	40-60

Table 4-21: Mixed Scrub species list – Native Shrub 8 Mix

Number to be Planted	Species	Common name	Height (cm)
6	<i>Alnus glutinosa</i>	European alder	125-150
6	<i>Betula pendula</i>	Silver birch	125-150
59	<i>Corylus avellana</i>	Hazel	40-60
59	<i>Crataegus monogyna</i>	Hawthorn	40-60
42	<i>Ilex aquifolium</i>	European holly	40-60
59	<i>Prunus Spinosa</i>	Blackthorn	40-60
6	<i>Quercus robur</i>	Pedunculate oak	125-150
59	<i>Viburnum opulus</i>	Guelder rose	40-60

Figure 4-6: What Does Success Look Like?



4.4.6 Traditional Orchard

Table 4-22: Creation, Enhancement and Management Summary – Traditional Orchard

Target Habitat				Traditional Orchard	
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Management Approach
A	Presence of ancient ¹ and or veteran ¹ trees. Note - this criterion is essential for achieving Good condition.	No	N/A	N/A	N/A
B	Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them. Some examples of deadwood are: standing, attached and fallen trees or limbs; dead stems; branches and branch stubs greater than 10 cm diameter; and internal cavities. The types and distribution of deadwood provide a range of habitats suitable to support a wide assemblage of saproxylic invertebrates. Note - this criterion is essential for achieving Good condition.	No	N/A	N/A	N/A
C	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however these occupy less than 10% of ground cover.	Yes	PM1	Encroaching shrub to be pruned / cut back	All shrubs seen to be encroaching on the orchard trees over 10%, will be cut back, outside of nesting bird season where possible (April to September) to allow the orchard trees room to grow, and establish.



Target Habitat				Traditional Orchard	
D	There is evidence of formative and or restorative pruning to maintain longevity of trees.	Yes	PM1	Trees will be planted in Y1, post development, with well-developed heads and a healthy fibrous root system, and secured to a machine rounded stake using a 1 no. tree tie with a rubber spaces.	Pruning will occur after the five years of establishment to encourage more branch growth and fruiting to occur.
E	At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping or rubbing on non-adjusted ties.	Yes	PM1	Minimisation of damaged by herbivorous animals and humans.	Trees will be protected when first planted using machine rounded stakes, rubber spaces, and guards to prevent damage from herbivorous animals and humans.
F	Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.	Yes	PM1	Grassland will not be grazed.	Grassland will not be grazed.
G	Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.	Yes	PM1	EM2 species rich grass mixture to be used in orchard areas surrounding trees.	Surrounding area to be seeded using Emorsgate EM2 Wildflower grassland (see Table 4-5 and 4-6 for EM2 grassland sowing, establishment and management information).
H	There is an absence of invasive non-native plant species ² (as listed on Schedule 9 of WCA ³) and species indicative of suboptimal condition ⁴ make up less than 10% of ground cover.	Yes	PM1	Removal of any INNS species prior to planting.	Any INNS species found post development will need to be removed. And area reseeded with Emorsgate EM2 Wildflower grassland mixture.



Table 4-23: Creation, and Management Detailed Methods

Action	Timing	Prescriptions
Planting	Y0 November to March	All trees will be planted in the first available planting season (Mid-November – March) where possible, in accordance with the construction programme. Plants will be sourced as locally as possible (eg. R. V Roger Ltd), and all effort will be made to source stock of native genetic origin. All plant handling and planting operations will comply with relevant clauses of CPSE 'Handling and Establishing of Landscape Plants' (obtainable from the Horticultural Trades Association). All newly planted trees will be maintained weed-free within a one-metre diameter circle, topped up with mulch, and spot-treated as necessary. Trees within planted beds will be maintained as part of the general area maintenance. Any dead, missing, or poorly performing trees during the first growing season will be replaced with stock matching the original specification. Trees will be watered weekly during periods of four or more weeks without significant rainfall (less than 5mm) from April to September, applying 10 litres for seedlings/whips and 20 litres for standard trees to thoroughly wet the top 150mm of soil. Stakes and ties will be checked every three months and adjusted or replaced as needed. Soil around roots will be firmed to ensure trees are stable and upright. Formative pruning will be carried out to remove dead, diseased, or damaged shoots and encourage a balanced structure for future growth.
Watering	Y0 – Y2 April to September	All trees will receive a minimum of 10 litres of watering per week (April – September) for the first three years. Sufficient water will be applied to thoroughly wet the top 150 mm of soil around the tree roots. This should be sufficient to ensure they resist any drought conditions but may need to be extended subject to climatic conditions over the initial three-year period.
Pest and disease control	As required	To be carried out if necessary and in accordance with best practice.
Fertiliser	Annually - April	Applications of fertiliser to be carried out early in the growing season, at a rate of 30 litres per tree.
Replacing Failed Planting	Y1 – Y30	Failed individual trees would be replaced once annually in planting season.
Pruning	Y5 – Y30	Pruning shall be undertaken annually in winter from Y5, to encourage branch growth and fruiting.
Grassland management	Y0 – Y5	Management of wildflower grassland surrounding the trees shall be undertaken as per management prescriptions in Table 4-5 and 4-6.



Table 4-24 Orchard Tree Species list

Number to be Planted	Species	Common name
8	<i>Malus domestica</i> 'Ellinson's Orange'	Ellinson's orange apple tree
9	<i>Malus domestica</i> 'Spartan'	Spartan apple tree
7	<i>Prunus avium</i> 'Bradbourne Black'	Bradbourne black cherry tree
7	<i>Prunus cerasus</i> 'Morello'	Morello cherry tree

Figure 4-7: What Does Success Look Like?



4.4.7 Urban Tree

Table 4-25: Creation, Enhancement and Management Summary – Urban Tree

Target Habitat			Urban Tree	
Condition Assessment Criteria		Targeted	Creation Approach	Management Approach
A	The tree is a native species (or at least 70% within the block are native species).	Yes	68 individual trees so be planted of native UK species out of a total of 98.	68 individual trees so be planted of native UK species out of a total of 98. Any failing native species will be replaced with alike species.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes	These will be individual trees and as such they automatically pass this criterion.	These will be individual trees and as such they automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	No	N/A	N/A
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes	Ensure all trees are in good health prior to being planted, with no evidence of damage from human activities, or other signs of ill health i.e fungal infection and other diseases. Any damaged or ill trees will not be planted and will be replaced by healthy trees.	The individual trees would not require regular management, except for monitoring their condition and replacing failed planting if necessary.



Target Habitat			Urban Tree	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No	N/A	N/A
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	Trees will be monitored for signs of ill health, any failed planting will be removed and replaced by alike species.	Trees will be monitored for signs of ill health, any failed planting will be removed and replaced by alike species.



Table 4-26: Creation, and Management Detailed Methods

Action	Timing	Prescriptions
Planting	Y0 November to March	All trees will be planted in the first available planting season (mid-November – March) where possible, in accordance with the construction programme. Plants will be sourced as locally as possible, and all effort will be made to source stock of native genetic origin. All plant handling and planting operations will comply with relevant clauses of CPSE 'Handling and Establishing of Landscape Plants' (obtainable from the Horticultural Trades Association). All newly planted trees will be maintained weed-free within a one-metre diameter circle, topped up with mulch, and spot-treated as necessary. Trees within planted beds will be maintained as part of the general area maintenance. Any dead, missing, or poorly performing trees during the first growing season will be replaced with stock matching the original specification. Trees will be watered weekly during periods of four or more weeks without significant rainfall (less than 5mm) from April to September, applying 10 litres for seedlings/whips and 20 litres for standard trees to thoroughly wet the top 150mm of soil. Stakes and ties will be checked every three months and adjusted or replaced as needed. Soil around roots will be firmed to ensure trees are stable and upright. Formative pruning will be carried out to remove dead, diseased, or damaged shoots and encourage a balanced structure for future growth.
Watering	Y0 – Y2 April to September	All trees will receive a minimum of 10 litres of watering per week (April – September) for the first three years. Sufficient water will be applied to thoroughly wet the top 150 mm of soil around the tree roots. This should be sufficient to ensure they resist any drought conditions but may need to be extended subject to climatic conditions over the initial three-year period.
Pest and disease control	As required	To be carried out if necessary and in accordance with best practice.
Fertiliser	Annually - April	Applications of fertiliser to be carried out early in the growing season, at a rate of 30 litres per tree.
Replacing Failed Planting	Y1 – Y30	Failed individual trees would be replaced once annually in planting season.



Table 4-27 Urban Tree Species list

Species	Common name	Number of trees	
		Height 3.5-4.25 m	Height 4.25 m
		Girth 12-14 cm	Girth 14-16 cm
<i>Acer plantanoides</i>	Norway maple	5	2
<i>Alnus glutinosa</i>	Alder	3	3
<i>Betula pendula</i>	Silver birch	9	2
<i>Betula utilis</i> var. <i>jacquemontii</i>	Western Himalayan birch	4	-
<i>Carpinus betulus</i>	Hornbeam	4	2
<i>Carpinus betulus</i> 'Frans Fontaine'	Frans Fontaine hornbeam	11	-
<i>Malus</i> 'Rudolf'	Crab apple Rudolf	-	2
<i>Malus sylvestris</i>	Common crab apple	3	1
<i>Prunus avium</i>	Wild cherry	3	7
<i>Quercuz robur</i>	Pedunculate oak	2	3
<i>Sorbus</i> 'Embley'	Embley mountain ash	2	-
<i>Sorbus aucuparia</i>	Rowan	3	7
<i>Sorbus</i> 'Joseph Rock'	Mountain ash 'Joseph Rock'	2	-
<i>Tilia cordata</i> 'Greenspire'	Small-leaved lime 'Greenspire'	-	1

Figure 4-8: What Does Success Look Like?



4.5 Species-Rich Native Hedgerow

Table 4-28: Creation, Enhancement and Management Summary

Target Hedgerow Type:			Species-Rich Native Hedgerow		
Condition Assessment Criteria		Targeted	Relevant Parcels	Creation Approach	Management Approach
A1	>1.5 m average along length	Yes	LMP1, LMP2, LMP3, LMP4, LMP5, LMP6, LMP8	Allow hedges to grow to above 1.5 m in height.	Cutting regime. Allow hedges to grow to above 1.5 m in height.
A2	>1.5 m average along length	No	N/A	N/A	N/A
B1	Gap between ground and base of canopy <0.5 m for >90% of length	Yes	LMP1, LMP2, LMP3, LMP4, LMP5, LMP6, LMP8	Prevent hedge from getting too outgrown creating gaps at the base.	Management regime. Prevent hedge from getting too outgrown creating gaps at the base.
B2	Gaps make up <10% of total length; and no canopy gaps >5 m	Yes	LMP1, LMP2, LMP3, LMP4, LMP5, LMP6, LMP8	Replant dead plants and allow existing plants to fill any gaps.	Replant dead plants and allow existing plants to fill any gaps.
C1	>1 m 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 hedgerow (at least).	No	N/A	N/A	N/A



Target Hedgerow Type:			Species-Rich Native Hedgerow		
C2	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Yes	LMP1, LMP2, LMP3, LMP4, LMP5, LMP6, LMP8	N/A	High nutrient indicator species monitored and appropriate land treatment investigative work completed if they persist.
D1	>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	LMP1, LMP2, LMP3, LMP4, LMP5, LMP6, LMP8	No INNS species currently present on Site.	Should any INNS species be found post development, all INNS and undesirable species are to be removed.
D2	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes	LMP1, LMP2, LMP3, LMP4, LMP5, LMP6, LMP8	Reinforcement planting of native species where damage is identified.	Cutting regime. Any ground area damaged to be reseeded using appropriate grass seed mixture for the area.

Table 4-29: Creation, Enhancement and Management Methods

Action	Timing	Prescriptions
Planting	Y0 November to March	All plants will be planted in the first available planting season (November – March) where possible, in accordance with the construction programme. Plants will be sourced as locally as possible, and all effort will be made to source stock of native genetic origin. All plant handling and planting operations will comply with relevant clauses of CPSE 'Handling and Establishing of Landscape Plants' (obtainable from the Horticultural Trades Association). All proposed hedgerow plants (transplants) and hedgerow trees will be individually protected by biodegradable spiral shelters.



Action	Timing	Prescriptions
		The native hedgerows will comprise of a double staggered row. All species to be planted randomly throughout the rows in groups of three or five, ensuring at least four woody species are present in each 30m stretch, to meet the criteria for species rich native hedgerows. Trees within hedgerows to be planted in tandem with hedgerow species but kept at distances to allow neither species to outcompete each other. Native planting groups will be planted as transplant sized shrubs, 60-80 cm high from 'day 1' implementation. Native hedgerow to be planted through 800 g of flax fibre mulch roll.
Watering	Y0 – Y2 November to March	Water all recently planted hedgerows as necessary to ensure establishment for the first three years. Sufficient water will be applied to thoroughly wet the top 150 mm of soil around the tree roots. This should be sufficient to ensure they resist any drought conditions but may need to be extended subject to climatic conditions over the initial three-year period.
Cutting regime	Jan/Feb Y5 - 30	At the appropriate season for the species, pruning to be carried out to remove all damaged, diseased, or dead wood. To be commenced from Y5. The hedgerows will be managed to promote the structural diversity and the fruiting of flowers and berries. Hedgerows will be trimmed annually January – February using a flail trimmer, to allow fruit and berries to persist and provide foraging opportunities to wildlife. They will be maintained at a minimum height of 1.5 m. Trimming in winter will also avoid disturbing nesting birds, which potentially use the Site. If an additional cut is required where the hedgerow overhangs footpaths, the cut would be carried out in June.
Pest and disease control	As required	To be carried out if necessary and in accordance with best practice.
INNS, undesirable species and litter to be removed	February; April; May; July; September Annually Y1-Y30	No INNS species have been found on-site. However, in the event that an invasive species is found on site post development, the species will need to be removed immediately following best practise methods, depending on the species. Useful sources for best practice methods include



Action	Timing	Prescriptions
		Environet UK ¹¹ (Himalayan balsam, <i>Impatiens glandulifera</i>), or Environment controls specialist control services ¹² . The removed INNS species should be disposed of by a licensed specialist disposal team.
Fertiliser	Annually - April	Applications of fertiliser to be carried out early in the growing season.

¹¹ [Himalayan Balsam | Environet](#)

¹² [Invasive plants excavation - Environment Controls](#)



Table 4-30: Species-Rich Native Hedgerow Species List

Number to be planted	Species	Common Name	Height (cm)
142	<i>Corylus avellana</i>	Hazel	40-60
1140	<i>Crataegus monogyna</i>	Hawthorn	40-60
286	<i>Euonymus europeaus</i>	Spindle	40-60
142	<i>Ilex aquifolium</i>	European Holly	40-60
712	<i>Prunus spinosa</i>	Blackthorn	40-60
286	<i>Rosa canina</i>	Dog Rose	40-60
142	<i>Viburnum opulus</i>	Guelder Rose	40-60

Figure 4-9: What Does Success Look Like?



4.6 Habitat Creation and Management – Risk Register and Remedial Measures

Table 4-31 provides a site-wide risk register associated with creating, enhancing and, or managing each habitat type.

Table 4-31: Risk Register and Remedial Measures

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
Y5	Other neutral grassland	Targeted species diversity not met	4-5 species (or less) per 1 m ² in Year 5.	Plug plant species within grassland mix and over-sow additional Meadow mix.
Y5	Modified Grassland	Targeted species diversity not created	6-8 species (or less) per 1 m ² in Year 5.	Plug plant species within grassland mix and over-sow additional Meadow mix.
Y10	Other neutral grassland	Targeted species diversity not created.	<10 species per 1 m ² in Y10.	Consider scarifying existing grassland and over-sowing with wildflower only seed mix, with additional yellow rattle. In areas where scarifying is not feasible, plug plant wildflowers and yellow rattle. Select species suitable for local conditions e.g. shade.
Y5 and ongoing	Other neutral grassland	Grass does not establish well or dies due to physical damage or extreme weather events (drought or flooding).	If >10% of the grassland is found to be dead or significantly damaged at the 5-year monitoring check.	These areas of bare ground will be reseeded with an appropriate grassland mix and temporarily fenced off from public while establishing.
Y5 and ongoing	Other neutral grassland	Bracken or scrub encroachment into grassland.	Cover of bracken exceeds 20% or cover of scrub exceeds 5% of total grassland area at any monitoring visit.	Treat bracken using mechanical control. Remove scrub encroachment by cutting and treating regrowth.



Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
Y5 and ongoing	Native hedgerow	Management regime unsuccessful in creating desired conditions (height, width, gaps at base)	Hedge below 1.5 m in height after year five, gap too large at base (above 0.5 m).	Re-assess and amend management regime and implement for five years, then reassess condition of hedgerow.
Y2, Y3, Y5, Y10	Native hedgerow	Newly planted hedgerow failing to establish.	20% of targeted number of newly planted hedgerow plants found to be dead during monitoring between Y2-10.	Undertake a second round of planting, replacing failed specimens on a like-for-like basis.
Ongoing	Native hedgerow	Damage from human activities evident.	Damage of human activities present across >10% of the hedgerow length identified during any of the monitoring visits in Years 1-5, 10, 15, 20, 25, 30.	Remove damage causing factor (such as litter, fly tipping) and replace any damaged or dead hedgerow plants.
Y2, Y3, Y5, Y10	Individual trees	Newly planted trees failing to establish.	10% of targeted number of newly planted trees found to be dead during monitoring between Y2-10.	Undertake a second round of planting, replacing failed specimens on a like-for-like basis.
Y2, Y3, Y5, Y10	Mixed scrub	Newly planted shrubs failing to establish.	10% of targeted number of newly planted shrubs found to be dead during monitoring between Y2-10.	Undertake a second round of planting, replacing failed specimens on a like-for-like basis.
Y2, Y3, Y5, Y10	Traditional orchard	Newly planted trees failing to establish.	10% of targeted number of newly planted trees found to be dead during monitoring between Y2-10.	Undertake a second round of planting, replacing failed specimens on a like-for-like basis.
Other Information - Waste Disposal				
Any wastes arising from works (such as tree guards) would be disposed of at a suitable waste / recycling facility.				
Brash from cutting / pruning operations would be piled up to create habitat piles within the habitat creation areas within the Site, such as within the orchard and along hedgerows. Any excess brash would be removed from Site.				



Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
Arisings from grass cutting operations would be removed from Site and composted, once they have been allowed to dry and shed seed.				



5.0 Monitoring Schedule

5.1 Monitoring Strategy

Table 5-1: Monitoring Strategy

Provide details of the monitoring strategy to encourage successful implementation of the management plan
All onsite habitat areas had a UKHab survey with condition assessment to inform the baseline. In order to collect comparable data, the same survey methods will be deployed during the monitoring activities. The following methods are proposed: UKHab Survey A UK Habitat Classification (UKHab) survey will be undertaken by a suitably qualified and experienced ecologist. The land within the Site boundary will be surveyed. Habitats will be mapped following the UKHab methodology¹³. The UKHab is a comprehensive classification system for the UK that has been developed to benefit from changes in habitat categorisation, recording analysis in recent decades. The system comprises a principal hierarchy (the Primary Habitats) which include broad habitats and priority habitats and non-hierarchical secondary codes. A botanical species list will be recorded for all habitat types. Searches will also made for Invasive Non-Native Species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA), such as Japanese knotweed (<i>Reynoutria japonica</i>) and Himalayan balsam (<i>Impatiens glandulifera</i>). Condition Assessment While undertaking the habitat survey, we will assess the condition of each habitat parcel, using the criteria produced by Natural England¹⁴ for comparison within the baseline Biodiversity Net Gain (BNG) assessment. The condition assessment will include, for example, collecting information on the physical characteristics of the habitat, the presence of positive indicator species and the presence of invasive non-native species. Each habitat parcel, that requires it, will be assigned condition score of 'poor', 'moderate' or 'good'. Photographs will be taken of each habitat type.

5.2 Monitoring Methods and Intervals

Table 5-2: Monitoring Methods

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Mixed Scrub	To be undertaken on all mixed scrub within the public realm.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.

¹³ The UK Habitat Classification Working Group (May 2023) The UK Habitat Classification User Manual Version 2.0.

¹⁴ [Statutory biodiversity metric tools and guides - GOV.UK](https://www.gov.uk/guidance/statutory-biodiversity-metric-tools-and-guides)



Habitat Type	Monitoring Methods	Monitoring Interval and Timing
	Undertake a condition assessment for mixed scrub. Record failed planting. Collect a botanical species list. Check for presence of INNS.	
Other Neutral Grassland	Undertake quadrat sampling to identify the habitat type that is establishing and the number of species per m². Estimate percentage of bare ground, bramble and bracken cover. Collect a botanical species list across grassland to check against target species list. Check for presence of INNS.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.
Modified Grassland	Undertake quadrat sampling to identify the habitat type that is establishing and the number of species per m². Estimate percentage of bare ground, bramble and bracken cover. Collect a botanical species list across grassland to check against target species list. Check for presence of INNS.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.
Other Broad-Leaved Woodland (Retained)	To be undertaken on all broad-leaved woodland. Undertake a condition assessment for entire woodland parcel.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.
Traditional Orchards	To be undertaken on all orchard planted trees. Undertake a condition assessment for orchard trees. Record failed planting.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.
Urban Tree (Created and Retained)	To be undertaken on all individual planted trees within public realm. Undertake a condition assessment for individual trees. Record failed planting.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.
Line of Trees (Retained)	To be undertaken on all retained line of trees. Undertake a condition assessment for line of trees.	Years 1, 2, 3, 5, 10, 20 and 30. Surveys to be completed between May and August.



Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Hedgerows	To be undertaken on all planted and retained hedgerows. Undertake a condition assessment for hedgerows. Record failed planting. Collect a botanical species list. Check for presence of INNS.	Years 1, 2, 3 5, 10, 20 and 30. Surveys to be completed between May and August.

5.3 Monitoring Reports

Following completion of habitat creation and initial enhancement works, monitoring reports would be prepared and submitted to Kirklees Council each monitoring year. The monitoring reports would be completed by a suitably experienced ecologist, and would review progress against the aims and objectives, and the targeted habitats and conditions, with remedial measures identified if required.

5.4 Adaptive Management

The proposed habitat creation and enhancement within the Site will be monitored as outlined within this EDS to inform the requirement of any 'adaptive management'. For example, if habitats are not meeting the criteria for the habitat types proposed within the BNG assessment (such as habitat created is modified grassland rather than other neutral grassland). In addition, if habitat creation or enhancements are not meeting the specified condition (for example poor rather than moderate) then the proposed management of these habitats will be amended and this EDS will be updated.

This will be an iterative process in which management actions are followed by targeted monitoring outcomes. These, in turn, inform the ongoing management.

The monitoring will also pick up any unexpected, external influences (for example dealing with a new plant disease, or an invasive species that is thriving due to climate change etc).

During the monitoring surveys and reporting process information on the day-to-day management for that period from Harron Homes Limited (persons responsible for the land management) will be obtained to ensure management prescriptions as outlined within the document are being followed and divergence from the prescription's methods from extenuating circumstances. This information will be captured in the subsequent monitoring reports.

The regular robust monitoring set out in this EDS and production of monitoring reports to be supplied to Kirklees Council, should identify issues early on. This will enable conscious decisions in relationship to the changes in implementation of management strategies on the habitat types.



6.0 Wildlife Enhancement Plan

6.1 Scheme of Integrated Bat Boxes

Approximately 10% of dwellings (a total of nine dwellings) will contain an integrated bat box, to provide roosting opportunities for bats. The boxes shall face south, south-west or south-east and will be positioned in properties across the development Site which are close to existing and proposed good bat foraging habitat and commuting routes, thereby increasing the likelihood of them being occupied. Properties which will include bat boxes are illustrated in Drawing 1 – Hedgehog Highways, Bird and Bat Box Plan

Bat box specification and positioning is provided in Table 6-1 below. If this model of box is not available at the time of construction, a suitable alternative shall be selected through consultation with the appointed Ecological Clerk of Works (ECoW).

Table 6-1: Bat boxes integrated into buildings, specification and mounting instructions

Type	Specification
Ibstock Enclosed Bat Box C (or similar) Quantity: 9	 Available from: https://www.nhbs.com/ibstock-enclosed-bat-box-c Further information and installation instructions: - The bat box model is available in two colour variations, smooth red and smooth cream which allow integration with the colouring of the building brickwork; - Boxes should be integrated into building brickwork at a height of at least three metres and not directly above any doors or windows; - Bat boxes should be installed upright with the entrance slot at the base (as pictured above), and facing south, southeast or south-west; - The box is designed to only be attractive to bat species and is designed to be maintenance free. - This box is designed for pipistrelle bats (<i>Pipistrellus spp.</i>); - The interior contains several roosting zones, offering different conditions, allowing bats to alter their position in accordance with the weather conditions prevalent at the time.

6.2 Scheme of Integrated Bird Boxes

Approximately 10% of dwellings (nine dwellings in total) will contain an integrated bird nesting feature, comprising of seven AfS Swift S Bricks (suitable for swifts and house sparrows) and two starling boxes. Both house sparrow and starling were recorded using the Site, are noted within the Kirklees BAP and are Red Listed bird species.

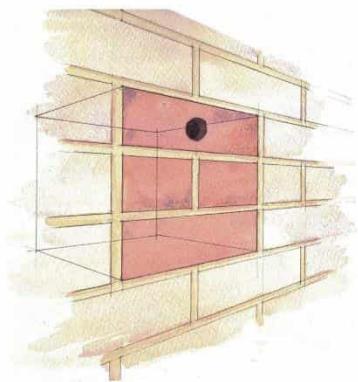


The boxes shall face east, south-east or north-east away from the prevailing wind, and in properties close to existing and proposed habitat features suitable for birds, thereby increasing the likelihood of them being occupied. Properties which shall include bird boxes are illustrated in Drawing 1 – Hedgehog Highways, Bird and Bat Box Plan

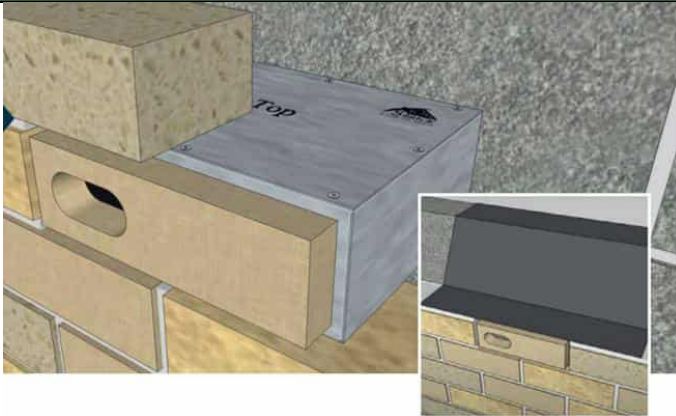
As swifts and house sparrows prefer communal nesting, the bird boxes will be placed on properties which are near to each other to increase the likelihood of swifts and house sparrows using the boxes. In contrast, starlings are highly territorial and therefore, nesting boxes will be placed further apart, but close to areas for foraging.

Bird box specification and positioning is provided in Table 6-2 below. If this model of box is not available at the time of construction, a suitable alternative shall be selected through consultation with the appointed Ecological Clerk of Works (ECoW).

Table 6-2: Bird boxes integrated into buildings, specification and mounting instructions

Type	Specification
Bird boxes integrated into buildings	
Starling Box - Smooth Brick (or similar) Quantity: 2	 Available from https://www.nhbs.com/starling-box-smooth-brick Further information and installation instructions: • This starling box model is available in various colour variations: red brick, buff brick, blue brick, and custom brick facing, which allow integration with the colouring of the building brickwork; • The boxes should be built into the fabric of the walls as close to the eaves as possible, facing east, northeast or southeast (away from prevailing winds); • The boxes should be installed with the entrance hole at the top, as pictured; and • The boxes should be erected with a clear flight path below, at a minimum height of 3-4m.
AfS Swift S Bricks	



Type	Specification
(or Similar) Quantity: 7	 Available from: www.actionforswifts.com Further information and installation instructions: • The brick can come in varying dimensions to fit the appropriate frame work: • 347.5mm x 150mm x 85mm (L x W x H); • 235mm x 175mm x 85mm (L x W x H); • 235mm x 200mm x 85mm (L x W x H); • 440mm x 130mm x 85mm (L x W x H); • S bricks should be placed a minimum of 4-5 metres high and close to eaves if possible; • They should be placed away from windows and doors to avoid conflict with residents; • Placed with a clear flyway for birds to approach and depart; • They should be grouped together in optimal locations.

6.3 Hedgehog Highways

Each rear garden, where possible, shall be made accessible to hedgehog, post-development, by creating a 'hedgehog highway'. Where boundaries and individual plots are enclosed by sold fencing, and ground levels are below 45cm height difference between gardens, 15cm x 15cm gaps will be included that allow hedgehog unimpeded access across the Site, and between gardens and the surrounding habitats.

The access gaps shall have appropriate signage on both sides, to deter householders from blocking the purpose made gaps. An example of a hedgehog highway gap with appropriate labelling is shown in Figure 6-1. Hedgehog highway signs can be purchased from a number of manufacturers, such as The British Hedgehog Preservation Society¹⁵.

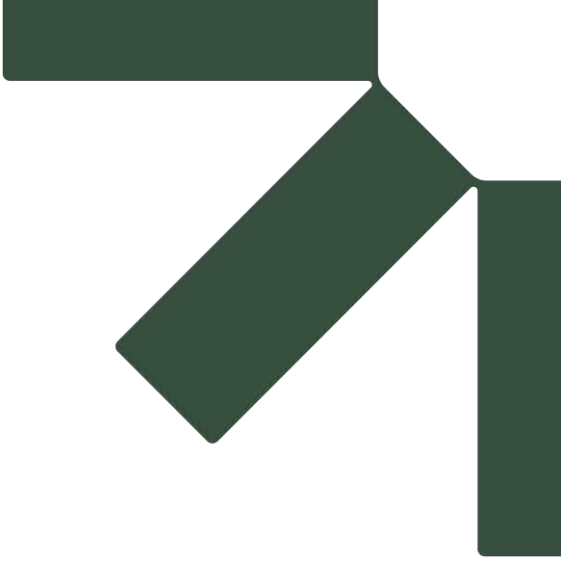
¹⁵ [2 x Hedgehog Highway Signs for £5 - The British Hedgehog Preservation Society Online Shop \(britishhedgehogs.org.uk\)](http://2xHedgehogHighwaySignsfor£5-TheBritishHedgehogPreservationSocietyOnlineShop(britishhedgehogs.org.uk))





Figure 6-1: Appropriate signage above a hedgehog highway





Drawing 1 – Hedgehog Highways, Bird and Bat Box Plan

Ecological Design Strategy

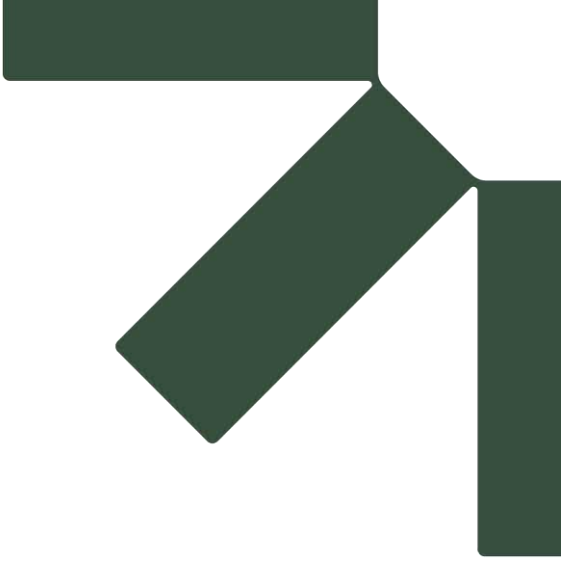
Roslyn Avenue, Netherton

Harron Homes Limited

SLR Project No.: 424.065860.00001

1 October 2026





Drawing 2 Baseline Habitat Map

Ecological Design Strategy

Roslyn Avenue, Netherton

Harron Homes Limited

SLR Project No.: 424.065860.00001

1 October 2026



LEGEND

Site Boundary

Individual Tree Location

● Tree (200)

Primary Habitat Classification

Heathland and Shrub - Hedgerows

— h2b - Non-native and Ornamental Hedgerow

Woodland and Forest

— w1g Other broadleaved woodland

Grassland - Modified Grassland

 g4 - Modified Grassland

Urban - Built-up Areas and Gardens

 u1b - Developed Land; Sealed Surface

Woodland and Forest - Broadleaved Mixed and Yew Woodland

 w1g - Other Woodland; Broadleaved

Secondary Codes

12 - Scattered Bracken

16 - Tall Forbs

28 - Ancient Woodland Site

32 - Scattered Trees

33 - Line of Trees

102 - Sheep Grazed

828 - Vegetated Garden

ROSLYN AVENUE, NETHERTON

BIODIVERSITY NET GAIN ASSESSMENT

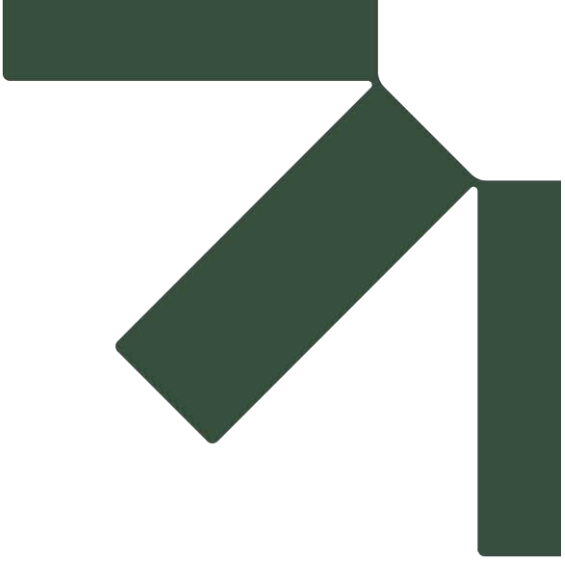
BASELINE HABITATS

DRAWING 1

Scale1:1,500 @ A3

DateSEPTEMBER 2026

415.065296.00001.0001.0 Baseline Habitats



Drawing 3 Post-Development Habitat Map

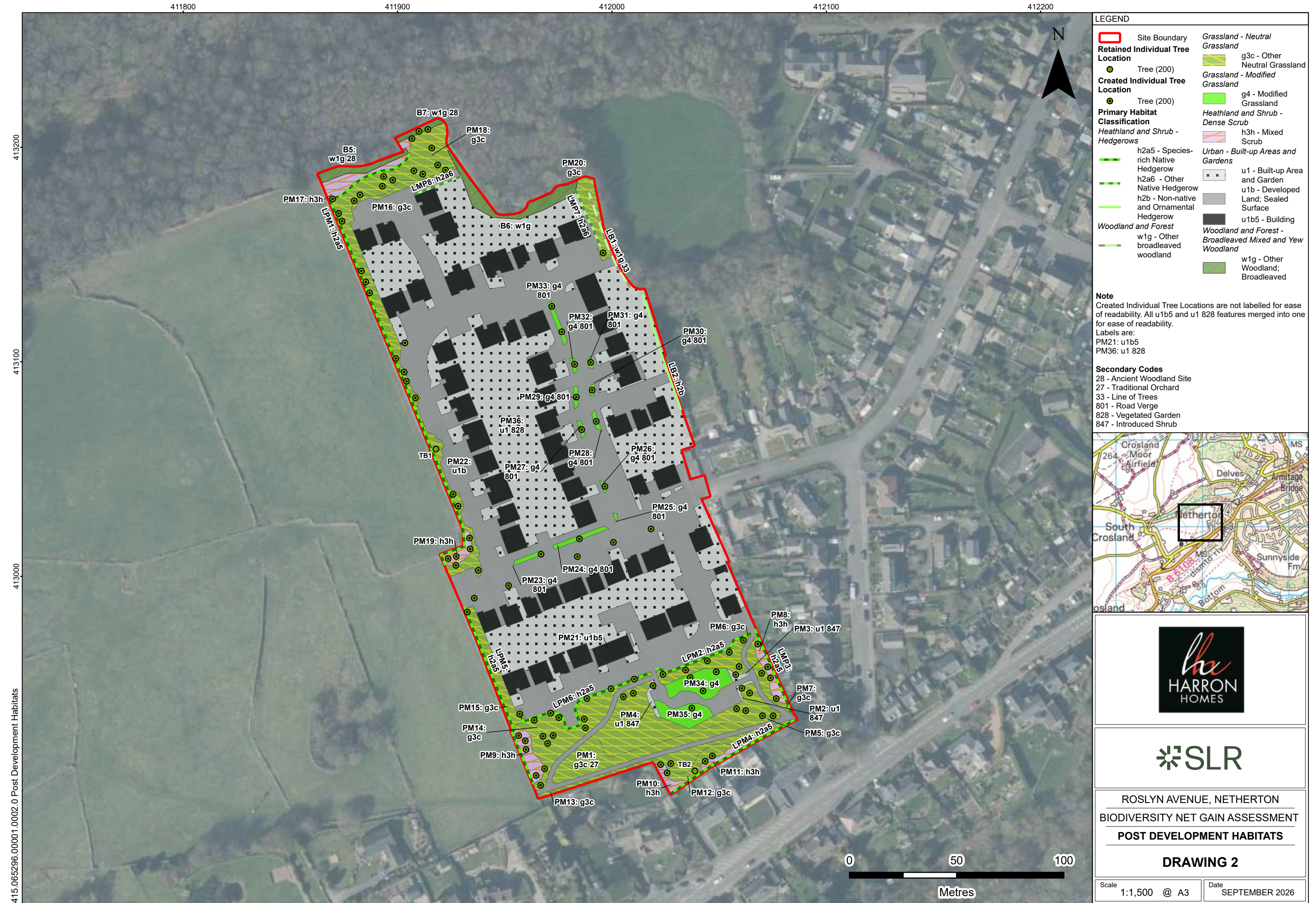
Ecological Design Strategy

Roslyn Avenue, Netherton

Harron Homes Limited

SLR Project No.: 424.065860.00001

1 October 2026



LEGEND

Site Boundary

Retained Individual Tree Location

Created Individual Tree Location

Primary Habitat Classification

Heathland and Shrub - Hedgerows

h2a5 - Species-rich Native Hedgerow

h2a6 - Other Native Hedgerow

h2b - Non-native and Ornamental Hedgerow

Woodland and Forest

w1g - Other broadleaved woodland

Grassland - Neutral Grassland

g3c - Other Neutral Grassland

Grassland - Modified Grassland

g4 - Modified Grassland

Heathland and Shrub - Dense Scrub

h3h - Mixed Scrub

Urban - Built-up Areas and Gardens

u1 - Built-up Area and Garden

u1b - Developed Land; Sealed Surface

u1b5 - Building

Woodland and Forest - Broadleaved Mixed and Yew Woodland

w1g - Other Woodland; Broadleaved

Note
Created Individual Tree Locations are not labelled for ease of readability. All u1b5 and u1 828 features merged into one for ease of readability.
Labels are:
PM21: u1b5
PM36: u1 828

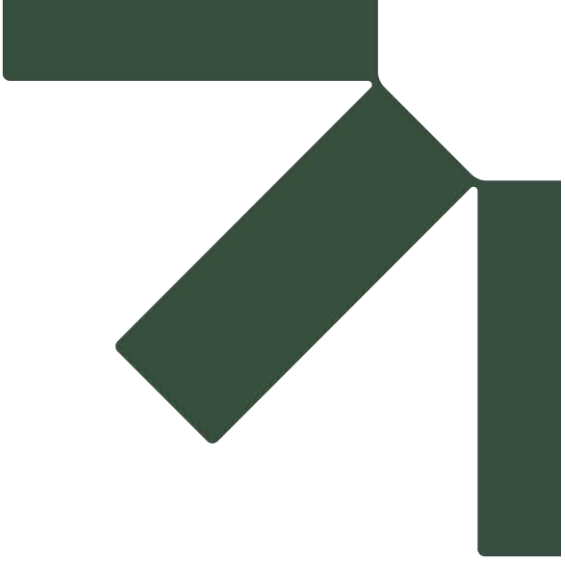
Secondary Codes
28 - Ancient Woodland Site
27 - Traditional Orchard
33 - Line of Trees
801 - Road Verge
828 - Vegetated Garden
847 - Introduced Shrub



ROSLYN AVENUE, NETHERTON
BIODIVERSITY NET GAIN ASSESSMENT
POST DEVELOPMENT HABITATS

DRAWING 2

Scale 1:1,500 @ A3 Date SEPTEMBER 2026



Appendix A BNG Calculations (supplied separately)

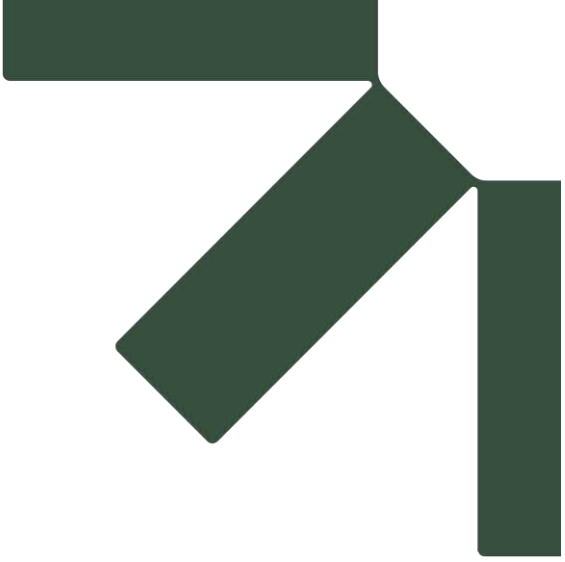
Ecological Design Strategy

Roslyn Avenue, Netherton

Harron Homes Limited

SLR Project No.: 424.065860.00001

1 October 2026



Appendix B Landscape Masterplan

Ecological Design Strategy

Roslyn Avenue, Netherton

Harron Homes Limited

SLR Project No.: 424.065860.00001

1 October 2026

Signage

"Sheer Drop" warning sign

Information board

Public footpath signage

NOTES

PROTECTION OF EXISTING VEGETATION

Existing vegetation to be retained on site shall be protected where necessary during works by a tree protective barrier, secured to a scaffold tubing framework with fluorescent tape to the top rail. Protective fencing shall be erected on the canopy drip line wherever possible. Laminated, waterproof A4 signs shall be fixed to the fence posts at 10m intervals bearing the words 'PROTECTED TREE ZONE - NO STORAGE OR OPERATIONS WITHIN FENCED AREA'.

Tracking of machinery, storage of chemicals and building materials shall not be permitted within the protected area. Leaks or spills should be removed immediately and the contaminated soil replaced. No bonfires shall be lit within 5m of the canopy spread. Any excavation work beneath the canopy spread shall be carried out by hand. All works affecting trees within the development shall be subject to BS 5837:2012.

TREE PLANTING

Tree planting to the front gardens of selected plots will break up the hard lines of the buildings and create focal points within the development. The tree species selected will maximise food and nectar sources for birds and invertebrates. Trees will be planted as Select, Heavy & Extra Heavy Standards to provide a reasonable degree of instant maturity to the development. Foundation design of new buildings shall accommodate proposed tree planting in accordance with NHBC guidelines.

Species to be selected from:

- Acer campestre (Ac)

Acer platanoides 'Laciniatum' (ApL)

Alnus incana (Ai)

Betula pubescens (Bpu)

Betula utilis var. jacquemontii (Buj)

Carpinus betulus (Cb)

Malus sylvestris (Ms)

Malus tschonoskii (Mt)

Prunus padus (Pp)

Prunus sargentii (Ps)
- Prunus subhirtella 'Autumnalis Rosea' (PsAR)

Pyrus calleryana 'Chanticleer' (PcC)

Quercus robur (Qr)

Sorbus aria (Sa)

Sorbus aucuparia (Sau)

Sorbus 'Embley' (SE)

Sorbus 'Joseph Rock' (SJR)

Tilia x euchlora (Te)

Tilia cordata 'Green Spire' (TcGS)

SHRUB PLANTING

A mix of evergreen and deciduous shrubs will be planted in selected front gardens to soften the development and to provide a valuable food source for birds and invertebrates. A mix of medium/low shrubs will be planted to shrub beds with medium/large varieties used for informal hedging.

Species to be selected from: () density/m2

- Berberis frikartii 'Amstelveen'(5), Berberis thunbergii 'Atropurpurea Nana'(5), Berberis cordifolia 'Silberlicht'(6), Ceanothus thrysiflorus repens(4), Chaenomeles superba 'Jet Trail'(4), Cornus stolonifera 'Flaviramea'(2), Cytisus 'Aligold'(4), Elaeagnus pungens 'Maculata'(3), Escallonia 'Apple Blossom'(4), Euonymus fortunei 'Emerald Gaiety'(6), Festuca spp(6), Geranium 'Johnson's Blue'(4), Hebe alibicans 'Red Edge'(4), Hebe 'Autumn Glory'(4), Hypericum x moserianum(4), Juniperus sabina 'Tamariscifolia' (3), Lavandula 'Hidcote'(6), Lonicera 'Maygreen'(4), Lonicera 'Silver Beauty'(4), Nepeta faassennii(4), Perovskia 'Blue Spire'(6), Phormium var, Potentilla 'Red Ace'(5), Prunus laurocerasus 'Zabelliana'(3), Pyracantha 'Orange Chamer'(3), Rubus x 'Betty Ashburner'(4), Spiraea 'Gold Flame'(4), Spiraea 'Shirobana'(4), Viburnum tinus 'Eve Price'(3)

HEDGE PLANTING

Hedges will be planted in selected plots to strengthen boundaries and improve screening. Ornamental hedge planting will consist of Beech, Escallonia & Laurel, which will contribute to all year round colour and texture.

NATIVE HEDGE PLANTING

Native hedgerows will be planted to improve wildlife foraging opportunities. Native hedge planting will consist of Blackthorn, Spindle, Dog rose, Guelder rose and Hazel. Hedges are to be planted as a double staggered row of 40-60cm high hedging plants.

NATIVE PLANTING

Areas of native species shrub mix are to be planted where shown to the boundaries of the site. This tiered planting, combined with the existing retained planting, will improve the ecological value of the site. Species to be planted in random groups to create a 'natural' effect and help create a buffer to the development.

KEY

- Proposed Extra heavy standard (14-16cm girth) tree
- Proposed heavy standard (12-14cm girth) tree
- Proposed selected standard (10-12cm girth) tree
- Proposed Beech hedging
- Proposed evergreen flowering hedge (Escallonia)
- Proposed evergreen hedging (Laurel)
- Proposed native hedge
- Proposed mixed native species shrub planting
- Proposed ornamental shrub planting
- Proposed turf
- Rear gardens
- Proposed amenity grass seed
- Proposed wildflower grass seed
- Proposed species rich grassland
- Proposed Tussocky grass
- Proposed 1800mm high close boarded timber fencing (detailed by others)
- Proposed 450mm high timber knee rail (detailed by others)
- Proposed screen walls in brick (detailed by others)
- Proposed 1200mm metal railings to LEAP (detailed by others)
- Proposed mowing line
- Footpath - Tarmac
- Footpath - Self binding crushed stone

DESIGN NOTES

This Landscape Masterplan has been designed using previously approved Ellis Healy Architecture "Proposed Landscape Plan" as a guide. SLR Ecological Impact Assessment has also helped inform this landscape masterplan from an ecological standpoint.

Due to the layout of the site changing, this masterplan has made adjustments to the various landscape features where needed, but has maintained the design principles and the ecological elements previously identified.

- REV.J

Shrub beds & trees updated to suit latest Site Layout 652-PL01 -I (JM)

Aug 26
- REV.H

Cornus alba removed from the generic list and play area amended (SF)

July 26
- REV.G

Footpath materials added (MBN)

Mar 26
- REV.F

Shrub bed numbering & tree codes added, LEAP shape updated (MBN)

Jan 26
- REV.E

Site updated to latest Site Layout 652-CO-001-C, signage added (MBN)

Dec 25
- REV.D

Site updated to latest Site Layout 652-PL01-E (MBN)

Oct 25
- REV.C

Site updated to latest Site Layout 652-PL01-C & adjustments to POS area in line with latest typology drawing 652-PL022-A(MBN)

Oct 25
- REV.B

Tree spec & Orchard area increased for BNG requirements (MBN)

Jul 25
- REV.A

Site re-designed to latest Harron Site Layout (MBN)

Jul 25

Sue Farmer BA MALD MLI Landscape Architect		client	Harron Homes
fd landscape		project	Residential Development ROSLYN AVENUE, NETHERTON
Westleigh Hall Wakefield Road Denby Dale Huddersfield HD8 8QJ telephone 01484 861611 fax 01484 861616 isdn 01484 866900 email info@fdalandscape.co.uk www.fdalandscape.co.uk		drawing title	LANDSCAPE MASTERPLAN
scale 1:500 @A1	date Mar 25	drawn by MBN	drawing no R/2837/1J

Appendix C LEAP Planting Details

Ecological Design Strategy

Roslyn Avenue, Netherton

Harron Homes Limited

SLR Project No.: 424.065860.00001

1 October 2026



SOFT LANDSCAPING

All soft landscaping for the POS & LEAP area is fully detailed in POS Landscape Masterplan R-2837-6 and POS Details drawing R-2837-7.

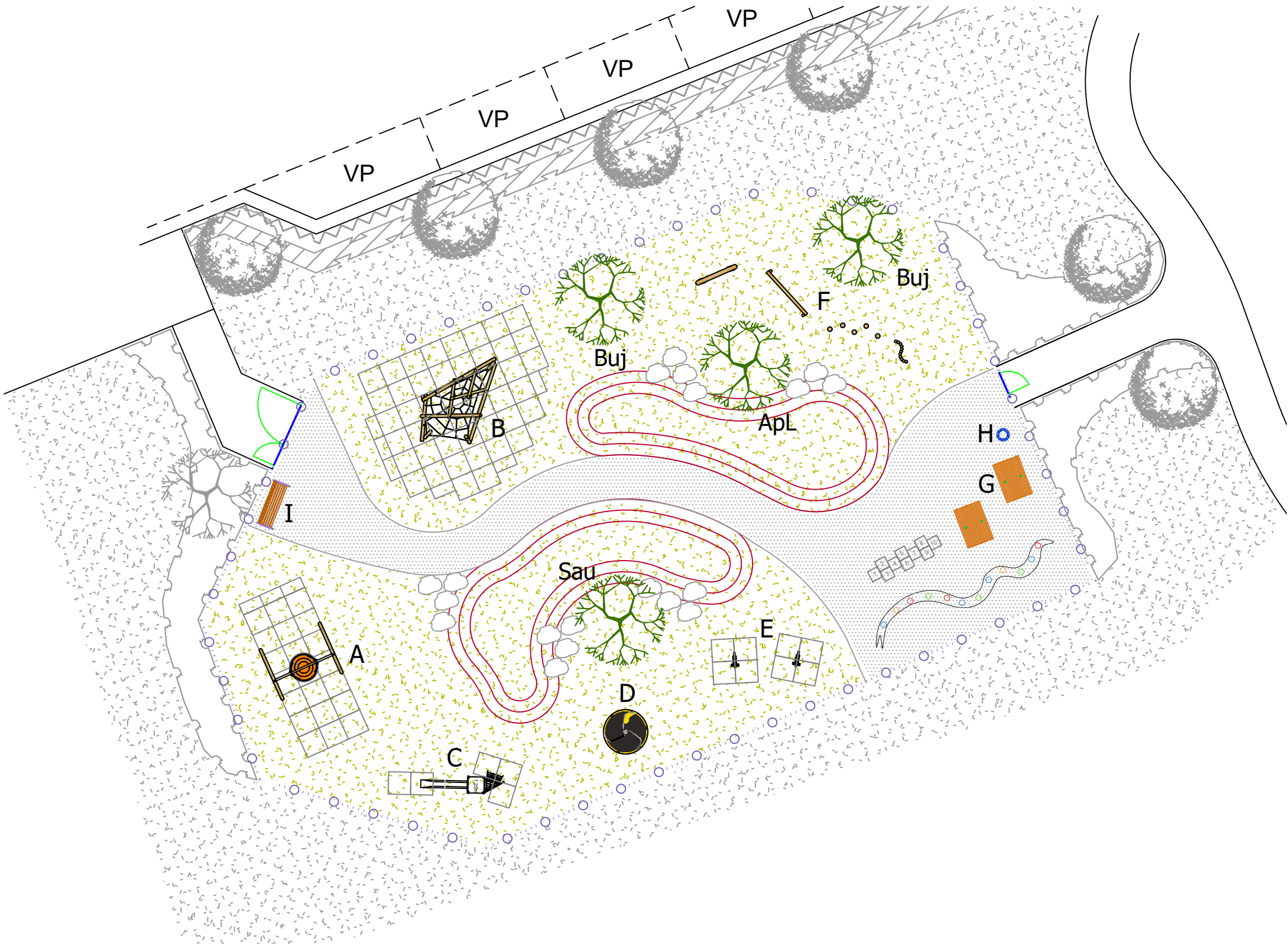
EARTH MOUNDS

Grassed earth mounds shaped to break up the LEAP, with boulders to help create areas for informal play including climbing and exploration. Emorsgate EL1 species rich flowering lawn seed is used on the mounds and can be cut at varying lengths to help create informal play.

FENCING AND GATES

Play area to be enclosed by RoSPA approved 1000mm high metal bow topped railing. To be anti trap and be fitted with anti vandal connectors. To be made from hot dip galvanised steel to BS EN1462 and finished in RAL 9005 - Jet Black.

A 1000mm high mono hinge single leaf self-closing metal gate is to be installed as the main access gate, with a separate double leaf gate 2.4m wide. The double leaf gate is to allow access for maintenance vehicles max 3m wide. Both gates to be finished in RAL 1018 - Zinc Yellow.



NOTES

Play equipment to be erected all in accordance with manufacturers instructions and on surfacing as specified, to the manufacturers recommended depths to comply with critical fall heights and the requirements of BS EN 1176. Areas requiring safety surface to meet FFH requirements for each piece of play equipment and shall be surfaced with jungle mulch safety surface, such as that supplied by Playsmart UK or similar approved.

PLAY AREA SCHEDULE

- A SWING
1 nr Timber Team Swing Frame Only with Shackles + Orange Team Swing Seat & Chains from Playdale Ltd
- B. CLIMBING ROPES
1 nr Little Monkeys - Spider Monkey climbing rope frame from Playdale Ltd
- C. SLIDE & CLIMBER
1 nr Littlebeck Lite (Stainless Slide) from Playdale Ltd
- D. ROUNDABOUT
1 nr Inclusive Orbital (1 No Seat Station), Yellow colour, from Playdale Ltd
- E. ROCKERS
2 nr Timber Sheep Springer from Playdale Ltd
- F. LOG TRAIL
11 nr Timber Joined Logs, 1 NR Timber Log Walk (600mm), 1 nr Timber Single Balance Beam, 1 nr Timber Wobble Board from Playdale Ltd

FURNITURE

- G. 2 nr Broxap BX31 2002 Land Picnic Bench supplied in FSC treated softwood. Tel: 0844 800 408
- H. 1 nr Furnitubes Boston BOS 490 T Root mounted timber slatted Litter Bin. Tel: 020 8378 3200
- I. 2 nr Broxap BX17 4022 Edale Rustic 3 Slat Seat in Iroko with extended legs for ground fixing into concrete foundations. Tel: 0844 800 408

SURFACING

GENERAL SURFACING
Hard surface path within the LEAP to be black tarmacadam surface. Roadcraft Playground paint is to be used on the floor to create educational games such as Hop-scotch and/or Number Dragon on the tarmac area. Other painted games available at www.roadcraft.com/collections/playground-markings.

GRASSED AREAS
Areas of species rich flowering lawn (Emorsgate EL1) is to act as safety surfacing and will be cut at varying lengths. Grasslock safety matting is to be installed under play equipment where shown and will help prevent erosion of the grass.

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	project Residential Development ROSLYN AVENUE, NETHERTON	
	drawing title POS LANDSCAPE DETAILS	
	scale 1:200 @A2	date Jan 26
drwn by MBN		drawing no R/2837/8

