



STRATA STERLING BARNSELEY WEST

BARNSELEY WEST

FRAMEWORK BIODIVERSITY AND ECOLOGICAL MANAGEMENT PLAN

OCTOBER 2023

DATE ISSUED: OCTOBER 2023
JOB NUMBER: LD10361
REPORT NUMBER: 0014
VERSION: V1.0
STATUS: FINAL

STRATA STERLING BARNSELEY WEST

BARNSELEY WEST

FRAMEWORK BIODIVERSITY AND ECOLOGICAL MANAGEMENT PLAN

OCTOBER 2023

PREPARED BY:

Olivia Satur Ecologist



REVIEWED & APPROVED BY:

Tim Palmer Technical Director



This report has been prepared by Wardell Armstrong LLP with all reasonable skill, care and diligence, within the terms of the Contract with the Client. The report is confidential to the Client and Wardell Armstrong LLP accepts no responsibility of whatever nature to third parties to whom this report may be made known.

No part of this document may be reproduced without the prior written approval of Wardell Armstrong LLP.



CONTENTS

1	INTRODUCTION	1
2	HABITAT CREATION, ESTABLISHMENT AND MANAGEMENT	2
3	RETAINED HABITAT ENHANCEMENT MEASURES	6
4	CONCLUSION.....	7

APPENDICES

Appendix 1 Landscape Masterplan

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Strata Sterling Barnsley West Ltd to provide an Framework Biodiversity and Ecological Management Plan (BEMP) for a proposed mixed use development scheme located on land west of Barnsley, South Yorkshire, henceforth referred to as the 'Site'.

1.1.2 A Preliminary Ecological Appraisal report (PEA), a Biodiversity Offsetting Assessment and a series of protected species baseline reports have been produced by Wardell Armstrong (WA, 2023), to set out measures required to avoid/mitigate potential effects associated with the development proposals.

1.1.1 In general terms, this report outlines the management and maintenance of habitats and ecological mitigation measures to ensure that the development proposals are in line with the National Planning Policy Framework (NPPF, 2021) and published British Standards (2013) BS 42020:2013 Biodiversity - Code of practice for planning and development.

1.2 Objectives of the BEMP

1.2.1 This BEMP should be read in conjunction with the Preliminary Ecological Appraisal (PEA) and the Environmental Statement (Chapter 7) prepared by Wardell Armstrong LLP, 2023.

1.2.2 This BEMP includes measures for the establishment and management of existing and proposed habitats only. Species enhancement measures are provided separately within the ES Chapter (WA, 2023), and will be detailed within a Landscape Ecological Management Plan (LBMP) that will be submitted at a later date as a condition of discharge.

1.2.3 The broad objectives are to:

- establish and maintain newly created habitats;
- maintain and enhance retained vegetation;
- contribute to local and national objectives i.e. by enhancing the habitats to ensure Biodiversity Net Gain.

2 HABITAT CREATION, ESTABLISHMENT AND MANAGEMENT

2.1 Introduction

- 2.1.1 The following habitat creation and management guidelines have been prepared with respect to the development proposals and the Biodiversity Net Gain (BNG) assessment. The Landscape Masterplan for the Site which shows the location of the habitats to be created is provided in Appendix 1.

2.2 Woodland and Scattered Trees

- 2.2.1 New areas of mixed deciduous and broadleaved woodland are proposed, particularly around the periphery of the Employment Area. Further areas of woodland are proposed along stretches of the boundary of the Residential Area.
- 2.2.2 Scattered trees are also proposed throughout the strategic landscaping areas, within the species-rich grassland, wildflower meadow and wet meadow.
- 2.2.3 Native tree species will be used for both the woodland and scattered tree planting.

Establishment and Management

- 1.1.3 The following recommendations should be adhered to for the creation and management of new areas of mixed woodland:

- Where possible, trees should be planted during the dormant season (October to April), but not during prolonged cold spells where frost might penetrate to the roots. This is fundamental for all planting which is not container grown. All planting should follow established horticultural practices;
- Do not plant new specimens if the soil is waterlogged;
- Soil preparation including loosening of the soil to a depth equivalent to the height of the rootball and over a wide area. This will improve drainage whilst eliminating compaction;
- Incorporate organic matter (shredded bark, woodchip) to improve soil structure.
- All trees to be protected with 100 mm diameter, 600 mm high tube/ mesh rabbit protection, fixed with stakes as specified;
- Creation of protection zones around newly planted shrubs, in line with the BS 5837: 2012 Trees in relation to design, demolition and construction (BSI, 2012);
- Creation of protection zones around newly planted trees, in line with the BS 5837: 2012 Trees in relation to design, demolition and construction (BSI, 2012); and
- Sufficient spacing between trees (as defined by landscape architect).

Management (first five years of operation)

- 1.1.4 Long-term management of woodland will only include the areas of mixed woodland planted as a part of the proposals. **None of the management within this section should be applied to the retained Ancient Woodland.**

1.1.5 The following long-term management practices are recommended for the areas of mixed woodland:

- Deadwood and fallen limbs / trees should be left in place so as to create habitat for bats, birds, invertebrates, fungi, lichens and mosses;
- Where deadwood needs to be removed i.e. for safety reasons, brash piles should be created elsewhere within the woodland. These will provide suitable habitat for invertebrates and hedgehog;
- Thinning where required (removal of less desirable trees) to create more space for specimens to grow and to let allow light to the woodland floor, which will promote understory and ground flora;
- Thinning to be carried out at regular intervals (e.g. every 10-15 years for broadleaved trees), following the advice of a suitably qualified landscape architect or forestry contractor; and
- Thinning to be undertaken outside of the nesting bird season (March – September inclusive). If this is not possible, thinning to be undertaken after a suitable qualified ecologist (SQE) has checked the tree for active bird nests.

2.3 Native Hedgerow / Scrub

2.3.1 Species-rich native hedgerow will be created across the development, particularly to the south of Hermit Lane within the Employment Area. Areas of scrub area also proposed across the strategic landscaping areas. This includes areas of native scrub, the majority of which is proposed around the Ancient Woodland within the 15m buffer area. An area of rocky gorse scrub is also proposed to the south-east of the Site, and wet scrub is proposed around the SUDs basins.

Establishment and Management

2.3.2 The following management is recommended for all newly planted hedgerows and scrub habitat:

- New shrubs should be planted from mid-autumn – late winter.
- Do not plant new specimens if the soil is waterlogged or frozen.
- Soil preparation to ensure it is friable (has a crumbly texture) and is free from other growth.
- Roots should be protected (covered) prior to planting, particularly in windy and sunny weather.
- New shrubs should be well watered for the first two years.
- Plant hedgerows in double rows where possible, which will increase their biodiversity value.
- Newly planted shrubs will be provided protection (tubes) from grazing and support (stakes).
- Creation of protection zones around newly planted shrubs, in line with the *BS 5837: 2012 Trees in relation to design, demolition and construction* (BSI, 2012).

Management (first five years of operation)

- Occasional trimming of shrubs and hedgerows between November – February (inclusive); and
- Hedgerows to be trimmed on a 3-year rotation, incrementally raising the cutting height each year to ultimately achieve 3m in height.

2.4 Grassland

2.4.1 Areas of neutral grassland are proposed across the Site. This includes species-rich areas, which comprise the majority of the strategic landscaping areas. Areas of wildflower meadow have also been included, and wet meadow is proposed around the SUDs basins.

Establishment and Management

2.4.2 The following management is recommended for newly planted grassland:

- Seeds are best sown on the autumn or spring;
- Seeds must be surface sown and applied using a machine or by hand;
- Divide seeds into two or more parts and sow in overlapping sections to allow for even distribution and prevent running out; and
- Do not incorporate or cover seeds – firm in with a roll or by treading.

Management (First year)

1.1.6 The following management is recommended for the first year:

- Within the first growing season a flush of annual weeds is likely, this can be controlled by topping or mowing;
- Newly sown meadows to be mown regularly in first year to height of 40-60mm, with arisings removed;
- Annuals should be allowed to flower, with a cut in the mid-summer and arisings removed; and
- Perennial weeds such as dock should be removed.

Management (once established)

1.1.7 The following management is recommended once the habitat is established:

- An annual (autumn) hay cut, with arisings removed;
- Cut rotated each year so that at least half the area of grassland remains uncut for wildlife.

2.5 Drainage features

2.5.1 Across the Site, 11 SUDs basins, one pond and several swales are proposed.

Establishment and Management

2.5.2 Waterbodies should be allowed to fill naturally, and aquatic vegetation allowed to naturally colonise waterbodies.

Management (first five years of operation)

1.1.8 The following management is recommended for drainage features. All management should be undertaken outside of the amphibian and bird breeding season (October – February inclusive):

- Retaining a minimum of 25% water within permanent ponds to prevent them becoming choked with vegetation;
- Management of trees and shrubs adjacent to prevent complete shading;
- Desilting where necessary;
- Routine checks for fish and non-native invasive species;
- Removal of litter; and
- General condition checks and delivery of remedial works.

3 RETAINED HABITAT ENHANCEMENT MEASURES

3.1 Introduction

- 3.1.1 Habitats which are to be retained on Site will be enhanced and managed following the methods as outlined above. Further management as to protect retained habitats are outlined below.

3.2 Woodland, Scattered Trees and Native Hedgerow

- 3.2.1 All of the existing woodland, including all the Ancient Woodland, plus a number of scattered trees across the Site will be retained. Some lengths of hedgerow will be retained where possible, including those along Hermit Lane.
- 3.2.2 All retained woodland, trees and hedgerow will be protected by a root protection zone, in line with *BS 5837: 2012 Trees in relation to design and construction* (BSI, 2012). The Ancient Woodland will be protected by a 15m buffer from the extent of the canopy. Buffers will be demarcated with fencing to exclude works and machinery encroachment.
- 3.2.3 **Retained Ancient Woodland will not be subject to any enhancement or management**, excluding removal of non-native invasive species such as Himalayan balsam *Impatiens glandulifera*.

3.3 Native Hedgerow

- 3.3.1 Hedgerows will be retained where possible, including those along Hermit Lane.
- 3.3.2 Retained hedgerows will be protected by root protection zones, in accordance with *BS 5837: 2012 Trees in relation to design and construction* (BSI, 2012). Buffers will be demarcated with fencing to exclude works and machinery encroachment.

4 CONCLUSION

4.1 Conclusion

- 4.1.1 In conclusion, the management prescriptions outlined above show that the Site can be managed to provide biodiversity benefits. The Site should be managed and maintained in accordance with the above recommendations for 30 years to align with the recommendations enhancing the habitats to ensure biodiversity value can be achieved on Site. The establishment of habitats such as species rich grassland and hedgerow will provide an overall benefit to wildlife. In addition, the Site can be managed to enhance and manage habitats which will benefit a range of faunal populations.



- GENERAL**
- Site Boundary
 - Drainage Easement (6m as indicated)
 - Active Travel Route (multi-user path with max gradient of 1:21)
 - Recreational Route (Non multi-user path)
 - Bark Mulch Route (Through Ancient Woodland)
 - Boardwalk / Bridge
 - Steps
 - Formal Play (NEAP / LEAP)
 - Informal Play
 - Allotments
 - Community Orchards
 - Existing Trees Retained
 - Trees
 - 15m Buffer for Ancient Woodland
 - Ancient Woodland Retained
 - Existing Hedgerow Retained
 - Proposed mixed 'Native' Hedgerow / Hedge
 - Proposed Swale
 - Permanent Water Body
 - Wet Meadow
 - Ornamental Planting
 - 'Traditional' Wildflower Meadow
 - Amenity Grass (Short mown)
 - Species Rich Grass
 - Rocky Gorse / Shrub
 - Wet Scrub Planting
 - Reedbeds
 - Native Shrub / Scrub Planting
 - Woodland Planting (Mixed deciduous & evergreen species)

rev	details	by	date
00	Issue for Planners	SH	29.07.2019
01	Revised issued for planning	RB	07.08.2019
02	Revised as per initial comments	RB	14.08.2019
03	Issue for Planning consultation	JM	11.05.2021
04	Final Issue for Planning	JM	26.05.2021
05	Issue for Planning	JM	29.06.2021
06	Issue for Planning with revised red lines	LY	12.07.2021
07	WIP for information. Waiting for inputs.	LY	21.04.2023

rev	details	by	date
08	Revised against updated Masterplan.	LY	06.10.2023
09	Revised against updated Masterplan.	AN	11.10.2023

Notes

1.0 Do not scale from drawing, use figured dimensions only
1.1 All dimensions to be checked onsite
1.2 This drawing to be read in conjunction with all other Gillespies drawings and specifications

Ordinance Information shown is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office @ Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. License No. 1000 17362

Project title
BARNSELY WEST

Drawing title
LANDSCAPE MASTERPLAN

© copyright GILLESPIES LLP, all rights reserved

Drawing number			
P11754-00-001-GIL-0100			
Drawing Status		Revision	
FOR PLANNING		09	
Date	Scale	Drawn	Checked
29.07.2019	1:2500 @ A1	RB	SH

Client

GILLESPIES

5th Floor, Phoenix House, 3 South Parade, Leeds, LS1 5DQ
P: 0113 247 0000 F: 0113 247 0000 E: design@gilispies.co.uk



- LEGEND**
GENERAL
- Site Boundary
- Drainage Easement
(6m as indicated)
- Active Travel Route
(multi-user path with max gradient of 1:21)
- Recreational Route
(Non multi-user path)
- Steps
- Informal Play
- Community Orchards
- Existing Trees Retained
- Trees
- 15m Buffer for Ancient
Woodland
- Ancient Woodland Retained
- Existing Hedgerow Retained
- Proposed mixed 'Native' Hedgerow /
Hedge
- Permanent Water Body
- Wet Meadow
- 'Traditional' Wildflower Meadow
- Amenity Grass
(Short mown)
- Species Rich Grass
- Rocky Gorse / Shrub
- Wet Scrub Planting
- Native Shrub / Scrub Planting
- Woodland Planting
(Mixed deciduous & evergreen species)

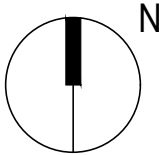
01
0103

Employment Strategic Landscape Masterplan
Scale 1: 2000 @A1

rev	details	by	date	rev	details	by	date
00	Draft Issue	BK	02.10.2023				
01	Revised as per comments 03/10/23 & Drainage Easement	BK	04.10.2023				
02	Updated Red Line Boundary & Landscape to Unit 8	BK	05.10.2023				
03	Updated as per comments 06 & 09/10/23	BK	10.10.2023				

Notes

- 1.0 Do not scale from drawing, use figured dimensions only
- 1.1 All dimensions to be checked onsite
- 1.2 This drawing to be read in conjunction with all other Gillespies drawings and specifications



Project title

BARNSELY WEST

Drawing title

**Employment Strategic
Landscape Masterplan**

Drawing number

P11754-00-001-GIL-0103

Drawing Status

PLANNING

Revision

03

Date	Scale	Drawn	Checked
02.10.2023	1:2000 @ A1	BK	LY

© copyright GILLESPIES LLP, all rights reserved

GILLESPIES

5th Floor, Phoenix House, 3 South Parade, Leeds, LS1 5DZ
P: 0113 247 0550 F: 0113 247 0660 E: design.leeds@gillespies.co.uk

STOKE-ON-TRENT

Sir Henry Doulton House
Forge Lane
Etruria
Stoke-on-Trent
ST1 5BD
Tel: +44 (0)1782 276 700

BIRMINGHAM

Two Devon Way
Longbridge Technology Park
Longbridge
Birmingham
B31 2TS
Tel: +44 (0)121 580 0909

BOLTON

41-50 Futura Park
Aspinall Way
Middlebrook
Bolton
BL6 6SU
Tel: +44 (0)1204 227 227

BRISTOL

Temple Studios
Temple Gate
Redcliffe
Bristol
BS1 6QA
Tel: +44 (0)117 203 4477

BURY ST EDMUNDS

Armstrong House
Lamdin Road
Bury St Edmunds
Suffolk
IP32 6NU
Tel: +44 (0)1284 765 210

CARDIFF

Tudor House
16 Cathedral Road
Cardiff
CF11 9LJ
Tel: +44 (0)292 072 9191

CARLISLE

Marconi Road
Burgh Road Industrial Estate
Carlisle
Cumbria
CA2 7NA
Tel: +44 (0)1228 550 575

EDINBURGH

Great Michael House
14 Links Place
Edinburgh
EH6 7EZ
Tel: +44 (0)131 555 3311

GLASGOW

24 St Vincent Place
Glasgow
G1 2EU
Tel: +44 (0)141 428 4499

LEEDS

36 Park Row
Leeds
LS1 5JL
Tel: +44 (0)113 831 5533

LONDON

Third Floor
46 Chancery Lane
London
WC2A 1JE
Tel: +44 (0)207 242 3243

NEWCASTLE UPON TYNE

City Quadrant
11 Waterloo Square
Newcastle upon Tyne
NE1 4DP
Tel: +44 (0)191 232 0943

TRURO

Baldhu House
Wheal Jane Earth Science Park
Baldhu
Truro
TR3 6EH
Tel: +44 (0)187 256 0738

International office:

ALMATY

29/6 Satpaev Avenue
Hyatt Regency Hotel
Office Tower
Almaty
Kazakhstan
050040
Tel: +7(727) 334 1310