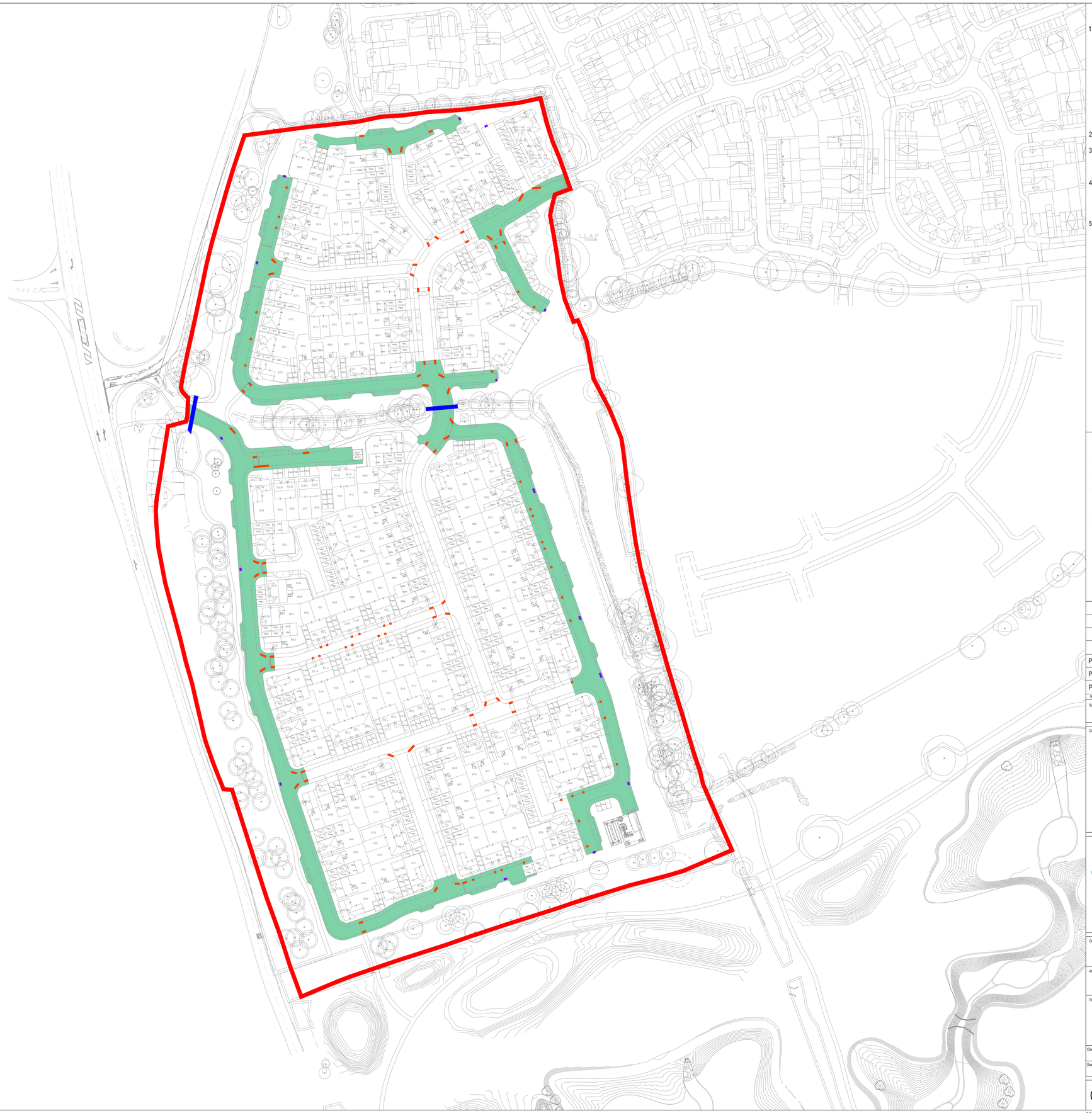

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LEGEND:

- Dropped Kerb (Pedestrian/Cycle Use + Access to Refuse V.C.P)
- Dropped Kerb (Ecological Use)
- Mammal Tunnel
- Wildlife Corridor Features

Notes:

- Dropped kerbs for pedestrian/cyclist use may also benefit ecology.
- Pedestrian/cyclist dropped kerbs to be accompanied with tactile paving to WBC specification.
- Ecology to further benefit from dropped kerbs applied to vehicle crossovers serving individual parking spaces that are not detailed on this plan.
- Shared surfaces also apply to private drives not detailed.
- All kerbing types remain subject to detailed design and approval with WBC.

Rev.	Date	Description	Drn / Chk'd / App'd
P03	05/07/2024	Third Issue	MD/EL/KM
P02	02/07/2024	Second Issue	MD/EL/KM
P01	25/06/2024	First Issue	EL/KM/KM

Suitability:

S2 - Suitable for Information

Client Logo:

CALA

JNP GROUP
CONSULTING ENGINEERS
● Amersham ● Brighouse ● Bristol ● Glasgow
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www.jnpgroup.co.uk

Client:

CALA Homes

Job:

Hogwood Farm Parcels 4 & 5

Title:

Indicative Ecological Permeability Plan

Classification: FI_60_20

Scale @ A1: 1:1000

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number: C86557 - JNP - 66 - XX - DR - T - 7016

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Landscape Architecture
Masterplanning
Ecology

hda

HOGWOOD FARM, FINCHAMPSTEAD

HEDGEROW MITIGATION AND COMPENSATION STRATEGY – PARCELS 4 AND 5

Prepared for CALA Homes Thames Ltd

by

Hankinson Duckett Associates

HDA ref: 868.1

July 2024

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Contents **Page**

1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This report describes a Hedgerow Mitigation and Enhancement Strategy in relation to Parcels 4 and 5 of the development of approximately 110ha of land at Hogwood Farm, Finchampstead. The Parcels 4 and 5 development area comprises approximately 9ha of land, hereinafter referred to as 'the site'. The site centre is located by National Grid Reference SU 7653 6421. The study was commissioned by CALA Homes Thames Ltd in May 2024.

1.1.2 The Parcels 4 and 5 site is located to the north-west of the village of Finchampstead, Berkshire. In general terms, it comprises two fields supporting ruderal vegetation, bare ground, a small area of scrub and a hardstanding construction access track and compound area. The fields are bounded by areas of woodland, including ancient and aged woodland, in addition to native hedgerows with wet and dry ditches. The Parcels 4 and 5 site is bordered to the south by the existing Suitable Alternative Natural Greenspace (SANG) (delivered as part of the wider Hogwood Farm development); to the north by Parcels 2 and 3 of the development which are currently under construction; to the east by a future development parcel which currently comprises modified grassland and bare ground; and to the west by the A327 and Sheerlands Road, with ancient woodland and fields beyond. The location and boundary of the Parcels 4 and 5 site is shown in *Appendix A*.

1.1.3 The Parcels 4 and 5 site is part of a larger area covering a total of 110ha, hereinafter referred to as the 'wider site'. The wider site includes residential properties associated with Parcel 1 and a construction site associated with Parcel 2 in the north-west and a SANG in the south which comprises a mix of wetland, species-rich grassland, scrub and woodland habitats. In general terms, the western area of the wider site is comprised of three fields of disturbed ground dominated by short ruderal vegetation with scattered areas of tall ruderal vegetation and large spoil heaps bordered by mature trees and woodland with scrub field margins. The central and eastern areas of the site are comprised of areas of hardstanding and construction/disturbed ground bordered by mature treelines and woodland. The south-eastern areas of the site comprise two fields of semi-improved grassland fields intersected by a ditch with associated scrub and scattered trees. A species-rich hedgerow with trees adjacent to Park Lane is present along the southern boundary. Woodland shaws and copses are located in the northern, western and central areas of the site, including mixed, broadleaved and broadleaved plantation woodland types, some of which are included on Natural England's Inventory of Ancient Woodland. Wetland habitats within the site include drainage ditches and small streams associated with the field boundaries and several ponds in poor condition are located across the site. The wider site is bordered to the north by a construction site, the Bohunt School and the Hogwood Industrial Estate; to the east by Park Lane beyond which lie residential dwellings

and park homes; to the south by Park Lane and farmland; and to the west by A327 Reading Road and Sheerlands Road beyond which lie farmland and woodland. The wider area is dominated by agricultural land interspersed with woodland and residential properties.

1.1.4 Further information on the extent and composition of habitats, including hedgerows, across the Parcels 4 and 5 site and the wider site is provided in *Appendix A*.

1.2 Development proposals and context

1.2.1 Planning permission (O/2014/2179 and 140764) was granted in January 2017 for a hybrid application. This comprises:

- Outline permission for demolition of all existing buildings on site; up to 1,500 new dwellings; employment floor space; a Neighbourhood Centre; a primary school; sports pitches and associated pavilion building; highways infrastructure; associated landscaping, public realm, open/green space and sustainable urban drainage systems; and
- Full permission for a 29.7ha Suitable Alternative Natural Greenspace (SANG) in the south of the site.

The hybrid planning permission was subsequently amended by a Section 73 application (181194) which was approved in November 2018.

1.3 Scope and purpose of report

1.3.1 This Hedgerow Mitigation and Compensation Strategy has been prepared in response to the presence of native hedgerows within the Parcels 4 and 5 site and the wider site during the initial Phase 1 habitat survey (HDA, 2018).

1.3.2 Condition 23 of the outline planning permission states that:

"Prior to or concurrent with the submission of a Reserved Matters application for any sub phase of the development, a detailed hedgerow mitigation and compensation strategy shall be submitted to and approved in writing by the local planning authority for that sub phase of the development. Each detailed hedgerow mitigation and compensation strategy shall include the following:

(a) No loss of native species-rich hedgerows or other ecologically important hedgerows, unless necessary to facilitate the development and a package of mitigation and/or compensation is provided.

(b) Details of the buffer zones required to protected the retained important and/or species rich hedgerows, such buffer zones to be a minimum of 10m unless there are exceptional circumstances - The buffer zones required to protect the retained hedgerows should be free from any development including residential gardens.

(c) Details of measures to ensure that removal of any hedgerow does not adversely effect the ecological permeability of the site.

(d) A detailed method statement for the translocation of any important and/or species rich hedgerows to be removed as a result of the sub phase of the development, unless mitigation could be better achieved in ecological terms through new hedgerow creation.

(e) A detailed hedgerow compensation strategy to address all other significant negative impacts on the local hedgerow network as a result of the sub phase of the development.

(f) Management arrangements for the receptor site that will secure the long term future of the translocated habitats and species.

The mitigation and compensation strategy shall be implemented in accordance with the approved plans unless otherwise agreed in writing by the local planning authority.

1.3.3 In accordance with the requirements of Condition 23, this document provides a Hedgerow Mitigation and Compensation Strategy for Parcels 4 and 5. This has been produced to ensure that opportunities currently provided by hedgerows within the Parcels 4 and 5 site are maintained following development.

2 BASELINE CONDITIONS

2.1 The following hedgerows and other significant boundary features (e.g. treelines, woodland belts) currently associated with the Parcels 4 and 5 development site comprise the following. Numbers in brackets refer to target notes shown in *Appendix A.*

- **Northern site boundary and northern section of eastern site boundary (4):** Native defunct hedgerow with trees comprising a hedgerow of Field Maple, Hazel, Blackthorn and Ash, with Ash and Oak mature trees and a dry ditch below.
- **Southern section of the eastern site boundary (7):** Belt of 'aged' lowland mixed deciduous woodland comprised of Pedunculate Oak and coppiced Ash with Wild Cherry, Field Maple, Hazel, Hawthorn and Blackthorn. The ground layer includes Bramble, Cow Parsley, Ground Ivy, Germander Speedwell, Common Sorrel and Lords-and-ladies. A dry ditch is present along the western boundary of the parcel and a ditch, that was wet at the time of the survey, along the eastern boundary of the parcel. An approximately 6m wide section was previously cleared to facilitate the provision of a service corridor comprising a foul rising main and gravity sewer (HDA, 2021) under planning reference 211808 (discharge of conditions of planning consent 181194).
- **Western boundary (3):** A mixed woodland with species including Ash, Larch, Scots Pine, Beech, Pedunculate Oak and Black Poplar. The understorey is comprised of Elder, Hawthorn, Holly, Willow and Hazel. The ground layer is dominated by Bramble and Common Nettle with Bracken, Ground Ivy, Cleavers, Wood Avens, Herb Robert, White Bryony and Black Bindweed. Part of the central area of this woodland is listed on Natural England's Ancient Woodland Inventory;

this area is especially dominated by Larch and other introduced coniferous species. Sixteen trees were previously cleared to facilitate the provision of a temporary construction access and permanent emergency access (HDA, 2020) under planning reference 213645 (discharge of conditions of planning consent O/2014/2179 (as varied by s.73 planning permission 181194)).

- **Between Parcel 4 and 5 (6)**: A treeline of mature Ash and Pedunculate Oak trees with relic species-rich hedgerow of Hazel, Holly, Field Maple, Hawthorn and Blackthorn beneath. The ground layer vegetation is sparse and mostly comprised of Bramble with occasional Cowslip and Creeping Thistle.
- **Southern site boundary (10):** Plantation lowland mixed deciduous woodland comprised of White Poplar, Pedunculate Oak, Ash and Field Maple. Understorey comprised of Holly, Dog Rose, Common Nettle, Cow Parsley, Cleavers, Curled Dock, Bramble and Ground Ivy. A dry ditch is present along the southern boundary of the wooded strip.

2.2 The location and further descriptions of each of the above hedgerows/linear features are provided by the Phase 1 Habitat Survey Plan and Target Notes provided in *Appendix A*.

3 HEDGEROW MITIGATION AND COMPENSATION STRATEGY

3.1 Introduction

3.1.1 This section identifies the effects of the Parcels 4 and 5 development proposals on existing hedgerows, together with avoidance, mitigation and compensation measures to ensure that the habitat and connectivity provided by the hedgerow resource of the site and wider site is not compromised by the Parcels 4 and 5 development.

3.2 Hedgerow retention, loss and remediation

3.2.1 *Table 1* below identifies the extent to which hedgerows and other significant boundary features (e.g. treelines, woodland belts) associated with the Parcels 4 and 5 development area will be affected by the development works. Measures to off-set adverse effects on the Parcels 4 and 5 site hedgerow resource are also identified. Each hedgerow/linear feature is addressed in turn.

Table 1: Impacts on existing hedgerows and avoidance/mitigation measures

NORTHERN SITE BOUNDARY AND NORTERN SECTION OF EASTERN BOUNDARY	
Description:	Native defunct hedgerow with trees. Hedgerow comprises of Field Maple, Hazel, Blackthorn and Ash, with Ash and Oak mature trees and a dry ditch below.
Impacts:	The features associated with the northern site boundary will be retained and enhanced within the Parcels 4 and 5 development scheme. A single Field Maple and a group of mixed broadleaves (approximately 13m in length) will

	be removed from the centre of the eastern boundary[1] associated with widening of the existing access route.
Impact avoidance, reduction and mitigation measures:	• A green buffer dominated by meadow grassland and scattered trees will be established along the length of the hedgerow on the southern and western side of the hedgerow within the Parcels 4 and 5 site. The buffer has a minimum width of approximately 1m but is generally 5-10m wide with a maximum width of 11m (CSA, 2024). • The retained hedgerow and woodlands will be protected during construction works in accordance with BS5837:2012 unless otherwise agreed with a suitably qualified arboriculturalist. • The retained hedgerow and trees would be subject to sensitive management to maximise its value to wildlife as described in the Parcels 4 and 5 LEMP (HDA, 2024a) and summarised in *Section 3.4* below.

SOUTHERN SECTION OF EASTERN BOUNDARY WOODLAND BELT AND DITCHES	
Description:	A strip of aged broadleaved woodland bordered by two ditches is present along the eastern site boundary. Previous application for a service corridor resulted in a 6m section being cleared.
Impacts:	The woodland belt and ditch corridor will be retained and enhanced within the Parcels 4 and 5 development scheme. It will however be crossed by access infrastructure at one point for a footpath, this is associated with the area of previous clearance for the service corridor so no additional impacts are anticipated.
Impact avoidance, reduction and mitigation measures:	• A green buffer dominated by rough and meadow grassland habitats will be established along the length of the woodland belt. The buffer has a width of approximately 12-18m wide (CSA, 2024). • To reduce the impact of the access infrastructure, the proposed footpath through the woodland utilises an existing area of clearance associated with service corridor to result in no additional loss. • The retained woodland will be protected during construction works in accordance with BS5837:2012 unless otherwise agreed with a suitably qualified arboriculturalist. • The retained woodland would be subject to sensitive management to maximise its value to wildlife as described in the Parcels 4 and 5 LEMP (HDA, 2024a) and Ancient Woodland Mitigation Strategy (HDA, 2024b) and summarised in *Section 3.4* below.

WESTERN BOUNDARY	
Description:	Mixed woodland belt with species including Ash, Larch, Scots Pine, Beech, Pedunculate Oak and Black Poplar. Includes an area of Ancient Woodland dominated by Larch and other introduced coniferous species.
Impacts:	The woodland will be crossed by access infrastructure at one point for a road. This is located at an historic access point, which was subsequently widened to a temporary construction access and permanent emergency access (HDA, 2020). It is now proposed that this access route is changed to a permeant access route, which will require the removal of two trees (a Beech tree to the north of the existing construction track and a Holly tree to the south of the existing construction track)[2]. The rest of the woodland will be retained, protected and enhanced within the Parcels 4 and 5 development scheme.
Impact avoidance, reduction and mitigation measures:	• A green buffer dominated by rough and meadow grassland habitats will be established along the length of the woodland belt. The buffer has a width of approximately 15m (CSA, 2024). • To reduce the impact of the access infrastructure, the proposed permanent road through the woodland utilises an existing area of clearance associated with a historic track and subsequent temporary

[1] Identified as removal of T332 and G56 in the Tree Survey and Arboricultural Impact Assessment (RPS, 2024).
[2] Identified as removal of T852 and T855 in the Tree Survey and Arboricultural Impact Assessment (RPS, 2024).

	construction access and permanent emergency access to result in highly limited additional loss. • The woodland will be protected during construction works in accordance with BS5837:2012 unless otherwise agreed with a suitably qualified arboriculturalist. • The retained woodland would be subject to sensitive management to maximise its value to wildlife as described in the Parcels 4 and 5 LEMP (HDA, 2024a) and Ancient Woodland Mitigation Strategy (HDA, 2023b) and summarised in *Section 3.4* below.

TREELINE THROUGH CENTRE OF THE SITE	
Description:	Treeline of mature Ash and Pedunculate Oak trees with relic species-rich hedgerow of Hazel, Holly, Field Maple, Hawthorn and Blackthorn beneath. The ground layer vegetation is sparse and mostly comprised of Bramble with occasional Cowslip and Creeping Thistle.
Impacts:	Three Leyland Cypress proposed to be removed from western end[3] for a footpath. An approximately 9m section of Hawthorn and Field Maple hedgerow to be removed from eastern end[4] to widen existing gap for a road. The remaining central section of the treeline/hedgerow through the centre of the Parcels 4 and 5 site will be retained and enhanced.
Impact avoidance, reduction and mitigation measures:	• A green buffer either side of the treeline/hedgerow dominated by rough and meadow grassland habitats will be established along the length of the treeline/hedgerow. The buffer has a width of approximately 4-10m wide (CSA, 2024). • The retained treeline/hedgerow will be complemented by adjacent landscape planting including scrub and tree planting and creation of adjacent areas of rough and meadow grassland (CSA, 2024). • To reduce the impact of the access infrastructure, the proposed footpath and road utilise existing gaps within the treeline/hedgerow to reduce the loss required. • The retained treeline/hedgerow will be protected during construction works in accordance with BS5837:2012 unless otherwise agreed with a suitably qualified arboriculturalist. • The retained treeline/hedgerow and scrub planting would be subject to sensitive management to maximise its value to wildlife as described in the Parcels 4 and 5 LEMP (HDA, 2024a). The approach to treeline/hedgerow management is summarised in *Section 3.4* below.

WOODLAND ALONG SOUTHERN SITE BOUNDARY	
Description:	Plantation lowland mixed deciduous woodland comprised of White Poplar, Pedunculate Oak, Ash and Field Maple. Understorey comprised of Holly, Dog Rose, Common Nettle, Cow Parsley, Cleavers, Curled Dock, Bramble and Ground Ivy. A dry ditch is present along the southern boundary of the wooded strip.
Impacts:	The section of woodland along the southern site boundary of the Parcels 4 and 5 site will be retained and enhanced.
Impact avoidance, reduction and mitigation measures:	• A green buffer of approximately 4 to 8m wide will be established and the woodland will be complemented by adjacent landscape planting along the southern site boundary including tree and scrub planting and creation of adjacent areas of rough and meadow grassland (CSA, 2024). • The retained woodland will be protected during construction works in accordance with BS5837:2012 unless otherwise agreed with a suitably qualified arboriculturalist. • The existing woodland and proposed grassland, tree and scrub planting would be subject to sensitive management to maximise its value to wildlife

[3] Identified as G54 in the Tree Survey and Arboricultural Impact Assessment (RPS, 2024).
[4] Identified as H48 in the Tree Survey and Arboricultural Impact Assessment (RPS, 2024).

	as described in the Parcels 4 and 5 LEMP (HDA, 2024a). The approach to management is summarised in *Section 3.4* below.

3.2.2 In total approximately 22m of hedgerow/groups of mixed broadleaves and 6 trees will be lost to the proposed Parcels 4 and 5 development.

3.2.3 In order to compensate for the loss of these sections of hedgerow and trees from Parcels 4 and 5, planting has been included within the soft landscape proposals for the Parcels 4 and 5 development area as described above and result in approximately 530m of scrub, treelines and hedgerow planting. Additional hedgerow planting (along with other linear habitats such as woodland and scrub) have been incorporated into the SANG and will be incorporated into future Phases of the development.

3.3 Additional measures to ensure functional connectivity of retained hedgerows

3.3.1 A Detailed Ecological Permeability Scheme has been prepared for the Parcels 4 and 5 development which describes measures to be incorporated into the hard and soft landscape to maintain continued functionality of the hedgerow network and other opportunities for the movement of wildlife across the Parcels 4 and 5 site, the wider site and the surrounding area. Measures detailed in the scheme, not already described above in relation to hedgerow retention and protection are summarised below. Full details can be found in the 'Detailed Ecological Permeability Scheme – Parcels 4 and 5' (HDA, 2024c):

Lighting:

3.3.2 The retained hedgerows/treelines and plantation woodland/ woodlands are located within 'lighting exclusion zones' and/or 'lighting restriction zones'. These areas will either be subject to no lighting or restricted lighting levels to ensure that the habitat remains suitable for use by nocturnal wildlife.

Road crossing points:

3.3.3 A number of measures will be included within the road system to: (i) reduce the likelihood of small animals entering the carriageway; and (ii) if in the event that small animals do enter the road system, that they can safely exit the carriageway. These include:

- Minimisation of the number of points at which hedgerows are crossed by roads.
- Locating road crossing points at existing gaps.
- Where possible crossing points approach hedgerow corridors perpendicularly to minimise loss of hedgerow habitat.
- To reduce the likelihood of small animals entering the carriageway, small tunnels (e.g. www.aco.co.uk/products/climate-tunnel or similar) will be installed flush with or below road/footpath surfaces to allow small animals to safely cross roads crossing through key hedgerows/linear features. The locations of the tunnels to

be provided are shown on the 'Parcels 4 and 5: Indicative Ecological and Pedestrian Permeability Plan' (JNP, 2024) provided in *Appendix C.*

- Dropped kerbs will be provided where hedgerows are crossed by roads to allow small animals crossing the road to easily exit the carriageway (see *Appendix C*).
- Where hedgerows are crossed by roads, the carriageway will be designed to minimise risk of small animals becoming trapped in gully pots. This will involve the use of a selection of the following measures at the locations shown in *Appendix C*:
    - Provision of wildlife kerbs to allow animals to bypass gully pots.
    - Offsetting of gully pots to provide a gap between the kerb and the gully pot.
    - Installation of gully pot ladders to allow animals to escape.

3.4 Hedgerow, woodland and scrub management

3.4.1 In addition to the infilling of existing gaps, planting of new hedgerows to re-connect habitat corridors within the site and creation of new complementary habitats adjacent to the retained hedgerows and woodland, the 'Landscape and Ecological Management Plan – Parcels 4 and 5' (HDA, 2024a) identifies long-term management works which will be implemented to maintain and enhance the value of native hedgerows, woodland and scrub at the site for wildlife.

Hedgerows

3.4.2 These measures will apply to both the existing native hedgerows and new native hedgerow planting once established, and are summarised below:

- Existing standard trees within the hedgerows will be maintained and where appropriate suitable plants will be excluded from the cutting regime to provide new mature trees.
- Existing mature and newly established native hedgerows within areas of informal open space will be trimmed no more frequently than once every 2-3 years on a rotational cutting scheme. This will encourage bushier hedges and fruiting of hedgerow plants in addition to reducing maintenance costs.
- All native hedgerows will be trimmed between January and February, allowing the majority of hedgerow fruits to be eaten by birds and other wildlife prior to cutting.
- No more than one third of hedgerows within the management area will be trimmed within the same 12 months.

Woodland and scrub

3.4.3 These measures will apply to the existing woodland and new scrub planting once established, and are summarised below:

- Standing dead or decaying timber and fallen deadwood will be retained where safe to do so to provide wildlife habitat.
- Scrub habitats within the management area shall be reviewed each winter and techniques for scrub control, i.e. cutting back with or without stump treatment, will be implemented as and where deemed necessary. Such work will be undertaken outside of the bird nesting season.
- Where appropriate, once established scrub will be coppiced on a short rotation of approximately 5 years in order to prevent succession into woodland. No more than 20% of the scrub will be coppiced in any one year. Selected areas of scrub may be left to succeed to woodland where appropriate.

3.4.4 Full details of hedgerow, woodland and scrub management proposals are provided in the 'Landscape and Ecological Management Plan – Parcels 4 and 5' (HDA, 2024a).

4 SUMMARY AND CONCLUSION

4.1 The Parcels 4 and 5 development scheme will result in a net gain in hedgerow/treeline/scrub habitat associated with this part of the Hogwood Farm site. In addition, functional habitat connectivity across the residential area of the Parcels 4 and 5 site provided by the hedgerow resource would be maintained through implementation of the measures described in *Section 3* above, in combination with the provision of new landscape features within the development scheme. A holistic view of ecological permeability of the Parcels 4 and 5 development scheme is provided in the 'Detailed Ecological Permeability Scheme – Parcels 4 and 5' (HDA, 2024c).

4.2 In addition to the specific measures relating to the Parcels 4 and 5 development area, the emerging landscape scheme for the wider site, including the 29.7ha SANG, provide substantial opportunity to provide new areas connective habitat and habitat for species associated with hedgerows.

4.3 Notwithstanding this, where appropriate the detailed landscape schemes for future development phases should seek to retain existing hedgerows and include new sections species-rich hedgerows as boundary features and within areas of informal open space with the aim of achieving no net loss in hedgerow habitats across the development area.

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HDA Document Control and Quality Assurance Record

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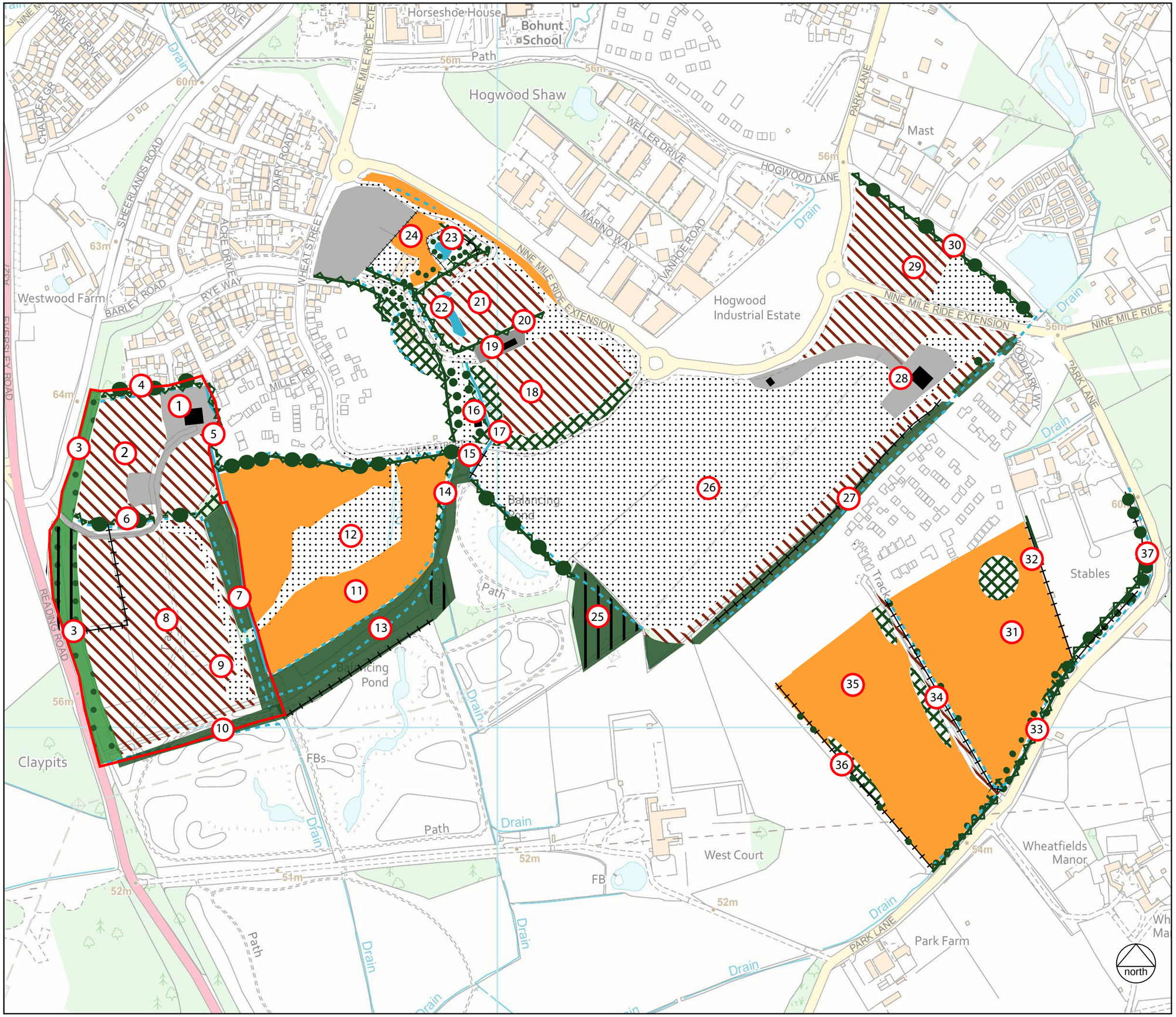
Project Reference: 868.1
Document Title: Hedgerow Mitigation and Compensation Strategy – Parcels 4 and 5
Commissioning Party: CALA Homes Thames Ltd

Issue	Description	Date of Issue	Signed
1	Hedgerow Mitigation and Compensation Strategy – Parcels 4 and 5	July 2024	[redacted]

	Personnel	Position
Author	Sarah Thornton-Mills MCIEEM	Principal Ecologist
Approved for issue	Clare Bird MCIEEM	Associate Ecologist

APPENDIX A

Phase 1 Habitat Survey and Target Notes



KEY

- Parcels 4 and 5 boundary
- Lowland mixed deciduous woodland - (w1f)
- Other woodland - mixed - mainly broadleaved (w1h5)
- Ancient Woodland
- Scattered trees
- Native hedgerow - (h2a)
- Native hedgerow with trees - (h2a - 11)
- Non-native and ornamental hedgerow - (h3b)
- Mixed scrub - (h3h)
- Ruderal - (81)
- Developed land - sealed surface - (u1b)
- Modified grassland - (g4)
- Standing open water - (r1)
- Wet ditch / Dry ditch - (50)
- Bare ground - (510)
- Buildings
- Fence
- 45 Target notes

CLIENT:
CALA Homes (Thames) Ltd

PROJECT:
Hogwood Farm, Finchampstead

TITLE:
Parcels 4 & 5 - Phase 1 Habitat Survey Plan

SCALE AT A3:
NTS

DATE:
June 2024

868.1/89

The Stables, Howbery Park, Benson Lane, Wallingford, OX10 8BA
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Landscape Architecture
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Ecology

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Target Notes – Arborfield

1. Site yard comprised a hardstanding area with mobile cabins.

2. Relatively sparse ruderal vegetation dominated by Common Nettle *Urtica dioica*, Spear Thistle *Cirsium vulgare*, Common Ragwort *Senecio jacobaea*, Bristly Oxtongue *Helminthotheca echioides* and Common Dandelion *Taraxacum officinale*. Small areas of scattered bare ground/ recently disturbed ground are present. Field margins vary between 1 – 5m and are more densely vegetation with the above species with the inclusion of Annual Meadow Grass *Poa annua*, Red Fescue *Festuca rubra*, Cleavers *Galium aparine*, Broad-leaved Dock *Rumex obtusifolius*, Cut Leaved Cranes Bill *Geranium dissectum*, Field Forget-me-not *Geranium dissectum* and Scarlett Pimpernel *Anagallis arvensis*.

3. Mixed woodland along the western boundary with species including Ash *Fraxinus excelsior*, Larch *Larix decidua*, Scots Pine *Pinus sylvestris*, Beech *Fagus sylvatica*, Pedunculate Oak *Quercus robur* and Black Poplar *Populus nigra*. Some of the trees are mature and have suitable bat roosting features. The understorey is comprised of Elder *Sambucus nigra*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*, Willow *Salix Sp.* and Hazel *Corylus avellana*. The ground layer is dominated by Bramble *Rubus fruticosus* and Common Nettle with Bracken *Pteridium aquilinum*, Ground Ivy *Glechoma hederacea*, Cleavers, Wood Avens *Geum urbanum*, Herb Robert *Geranium robertianium*, White Bryony *Bryonia dioica* and Black Bindweed *Fallopia convolvulus*. Part of the southern area of this woodland is listed on Natural England's Ancient Woodland Inventory; this area is especially dominated by Larch and other introduced coniferous species.

4. Native defunct hedgerow with trees comprising a hedgerow of Field Maple *Acer campestre*, Hazel, Blackthorn *Prunus spinosa* and Ash, with Ash and Oak mature trees and a dry ditch below.

5. Newly created culvert with a small area of standing water.

6. Treeline of mature Ash and Pedunculate Oak trees with relic species rich hedgerow of Hazel, Holly, Field Maple, Hawthorn and Blackthorn. Some of the mature trees have the potential to support roosting bats. The ground layer vegetation is sparse and mostly comprised of Bramble with occasional Cowslip *Primula veris* and Creeping Thistle *Cirsium arvense.*

7. Lowland mixed deciduous woodland comprised of Pedunculate Oak and coppiced Ash with Wild Cherry *Prunus avium*, Field Maple, Hazel, Hawthorn and Blackthorn. Mature trees are present, some of which have features of bat roosting potential. The ground layer includes Bramble, Cow Parsley *Anthriscus sylvestris*, Ground Ivy, Germander Speedwell *Anthriscus sylvestris*, Common Sorrel *Rumex acetosa* and Lords-and-ladies *Arum maculatum*. A dry ditch is present along the western boundary of the parcel and a ditch that was wet at the time of the survey along the eastern boundary.

8. A field of ruderal vegetation of varying height from 10cm to 50cm in height dominated by Spear Thistle, Common Nettle and Perennial Ryegrass and White Clover *Trifolium repens* with the occasional Creeping Buttercup *Ranunculus repens*, Common

Hogweed *Heracleum sphondylium*, Ragwort and Broad Leaved Dock and Cleavers. Small areas within the parcel are sparsely vegetated with areas of bare ground with occasional ruderal species mentioned above but include Scarlett Pimpernel and Bird Foot Trefoil *Lotus corniculatus*.

9. A small depression of bare ground that had standing water at the time of the survey with occasional Yellow Flag Iris present.

10. Plantation lowland mixed deciduous woodland comprised of White Poplar, Pedunculate Oak, Ash and Field Maple. Mature trees are present, some of which have features of bat roosting potential. Understorey comprised of Holly, Dog Rose *Rosa canina*, Common Nettle, Cow Parsley, Cleavers, Curled Dock *Rumex crispus*, Bramble and Ground Ivy. A dry ditch is present along the boundary along the southern boundary of the wooded strip.

11. Species poor modified grassland of varying sward length between 5cm – 40cm comprised of Perennial Ryegrass, Cocksfoot *Dactylis glomerata*, White Clover, Oxeye Daisy *Leucanthemum vulgare*, Creeping Buttercup with occasional Broad Leaved Dock, Dandelion and Scarlett Pimpernel. Field margins are approximately 4-6m wide and are comprised of Common Nettle, Spear Thistle, Common Vetch *Vicia sativa* and Cow Parsley.

12. Area of bare ground used for storage of construction materials.

13. Lowland mixed deciduous woodland comprised of Pedunculate Oak standards and coppiced Ash with Wild Cherry *Prunus avium*, White Poplar, Field Maple, Hazel, Willow, English Elm *Ulmus procera*, Holly, Hawthorn and Blackthorn. Mature trees are present, some of which have features of bat roosting potential. The ground layer includes Bramble, Wood Avens *Geum urbanum*, Herb Robert, Common Ivy, Wood Spurge *Euphorbia amygdaloides*, Violet *Viola sp.*, Greater Stitchwort *Stellaria holostea*, Common Nettle, Remote Sedge *Carex remota*, False Brome *Brachypodium sylvaticum* and Butcher's Broom *Ruscus aculeatus* present. Standing and fallen dead wood is present throughout the woodland area. The woodland becomes increasingly wet to the west where Willow becomes dominant and dry ditches border most of the woodland edges, a further dry ditch running centrally through the southern area of woodland is also present. The eastern area of this woodland is listed on Natural England's Ancient Woodland Inventory; here the dominant tree species is White Poplar in the south and Pedunculate Oak in the north. This area is demarcated in its western boundary by a small woodbank.

14. Mixed Scrub comprised of Bramble, Blackthorn, Dog Rose and Pendulate Oak samplings over a dry ditch.

15. [redacted]

16. A wooden bat barn set between treelines of Pendulate Oak, Ash and Hazel.

17. Mixed scrub comprised of Bramble, Elder and Holly with large amounts of deadwood above a steep-sided wet ditch. Towards the eastern end of the scrub parcel, Elder becomes the dominant species with the inclusion of ruderals in the ground layer including Common Nettle, Spear Thistle, Cleaver and Broad Leaved Dock.

18. Ruderal vegetation comprised of Perennial Rye Grass, Spear Thistle, Common poppy *Papaver rhoeas*, Cocks Foot, Rosebay Willowherb *Chamerion angustifolium*, Annual Sow Thistle *Sonchus oleraceus*, Common Nettle, and Curled Dock.

19. Listed building with multiple features with bat roost potential including lifted roof tiles and cracks in the brickwork. Situated on an area of concrete hardstanding. Surrounded by scaffolding at the time of the survey.

20. Species-rich native hedgerow comprised of Hawthorn, Hazel, Blackthorn, English Elm and Ash.

21. Ruderal vegetation similar to TN 20 with the inclusion of Oxeye Daisy at high densities and occasional Red Campion *Silene dioica*.

22. A SUDS pond within a parcel of ruderal vegetation described in TN21. Sloping earth banks with occasional Pendulous Sedge *Carex pendula*.

23. A shaded pond approximately 30cm in depth. Tussocks of Pendulous Sedge and patches of encroaching Bramble, Willow, Pedunculate Oak and Alder, border the edge of the pond. The pond area is enclosed by a chicken-wire fence.

24. Modified grassland with a short sward length of approximately 20cm in length comprised of Perennial Rye Grass, Cocks Foot, Red Fescue, Meadow Buttercup, Broadleaved Dock and Dandelion.

25. Lowland mixed deciduous woodland. Dominant species within the woodland include Ash, Pedunculate Oak and Alder with a Hawthorn and Field Maple understorey. The ground layer includes Bramble, Wood Avens, Herb Robert, Ground Ivy, and Hairy Brome *Bromopsis ramosa*. There are fallen wood and dead-wood piles throughout the woodland area and multiple trees with possible bat roosting potential. The woodland, in part, is listed on Natural England's Ancient Woodland Inventory.

26. Large parcel of bare ground with large spoil heaps. During the time of the survey, excavators were topping soil within the parcel. Field margins were sparsely vegetated with ruderal species including Bramble, Curly Dock, Spear Thistle, Ragwort and Common Nettle.

27. Lowland mixed deciduous woodland. A thin strip of broadleaved woodland plantation behind this comprised of Ash, Lombardy Poplar, Field Maple, White Willow, Grey Willow, Dogwood, Hazel, Hawthorn, Blackthorn and Bramble with Common Ivy and Cleavers dominating the ground layer. Some of the trees have features of possible bat roosting potential. A ditch that had small pools of standing water is present along the southern side of the wooded strip.

28. Site compound on hardstanding area.

29. Short ruderal vegetation within the northern end of the parcel similar in species composition to TN18 with the inclusion of Ribwort Plantain *Plantago lanceolata*, Timothy *Phleum pratense*, Musk Mallow *Malva moschata* and Bristly Oxtongue. Bare ground is present across the southern area of the parcel with small field margins

approximately 1m in width comprised of similar short ruderal species as the northern area.

30. A dense, intact, species-rich native hedgerow with trees comprising Pedunculate Oak, Beech, Ash, Goat Willow *Salix caprea*, Black Poplar *Populus nigra*, Field Maple, Dogwood, Hazel, Holly, Bramble and Common Broom *Sarothamnus scoparius*. The hedgerow is approximately 15 years old and tree guards are present on some individual plantings with some mature trees present along the roadside, especially within the southern section of the hedgerow.

31. Modified grassland with species including Yorkshire Fog, Perennial Rye-grass, False Oat-grass *Arrhenatherum elatius*, Cock's Foot, Red Fescue, Common Bent, Creeping Buttercup, White Clover, Doves-foot Cranesbill *Geranium molle*, Common Vetch, Common Mouse-ear *Cerastium fontanum*, Scentless Mayweed *Tripleurospermum inodorum*, Creeping Thistle, Spear Thistle, Common Sorrel, Ragwort, Greater Willowherb *Epilobium hirsutum*, Cleavers, Broad-leaved Dock, Common Knapweed *Centaurea nigra*, Meadow Vetchling *Lathyrus pratensis*, Forget-me-not sp., Fleabane *Pulicaria dysenterica* and Self-Heal *Prunella vulgaris*. Along the treeline to the south, Hemp Nettle *Galeopsis tetrahit*, Lady's Thumb *Persicaria maculosa*, Scentless Mayweed, Prickly Sow-Thistle and Clustered Dock with wet flushes of Sedge and Soft Rush. There are two soil bunds/soil storage piles with tall ruderals dominated by Spear Thistle, Common Nettle, Broadleaved Dock and Smooth Hawksbeard *Crepis capillaris* with large patches of scrub within the grassland with species including Bramble, Elder, Silver Birch and Dog-rose with Common Nettle. There are also piles of deadwood near and within the scrub.

32. Non-native and ornamental species-poor hedgerow comprising Cherry Laurel *Prunus laurocerasus*, Leylandii Cypress *Cupressus x leylandii* and Elder, broken by Bramble scrub on the north-eastern edge of the grassland field (TN 31). To the south of the hedgerow, continuing along the field boundary is a wooden post and electric wire fence which is overgrown with tall grasses and ruderal vegetation.

33. An outgrown, defunct native species-rich hedgerow with trees adjacent to Park Lane, with a dry ditch below. Species within the hedgerow include Pedunculate Oak, Black Poplar, Gorse (*Ulex europaeus*), Holly, Grey Willow, Blackthorn, Bracken and Bramble. A treeline of Pedunculate Oak is present approximately 5m into the field from the hedgerow.

34. A ditch that was dry at the time of survey with scattered Bramble scrub and trees including Willow and Pedunculate Oak, some of which have possible bat roosting potential. Behind the ditch is a fence and a dirt track, used as an access route into the site. A scrub line is present along the eastern side of the track and is 1-2m wide comprised of Grey Willow, Dog Rose, Oak and Bramble scrub. Track supports ephemeral vegetation including Scentless Mayweed, Cocks Foot, Smooth Hawksbeard, Common Yarrow, Hawthorn saplings, Common Bent and Spear Thistle.

35. Modified grassland field with a similar species composition to Target Note 31, with more Bent dominant in the north and False Oatgrass and Fescue sp. dominated to the south. Occasional species include Greater Plantain, Ribwort Plantain, Greater Birds-foot Trefoil, Common Hogweed, Cleavers, Meadow Vetchling, Mouse-ear, Common Vetch, Common Fleabane, Creeping Buttercup, Red Fescue and Soft Rush.

Bramble scrub is present along many of the field boundaries, with Common Nettle also present. A wet flush is present within the west of the field and contains Common Horsetail, Common Nettle, Sow Thistle, Soft Rush and occasional Hemp Nettle.

36. Scattered semi-mature trees and scattered areas of dense scrub along fence line. Species present include Oak, Ash, Blackthorn, Dog Rose, Bramble and Common Nettle.

37. A line of scrub and trees with a dry ditch bordering Park Lane.

APPENDIX B

Proposed Habitat Connectivity Plans

KEY

Parcels 4 and 5 boundary

Proposed new bat boxes

Bat roosting opportunities on new buildings (indicative)

CLIENT:
CALA Homes (Thames) Ltd

PROJECT:
Hogwood Farm, Finchampstead

TITLE:
Parcels 4 & 5 - Proposed Bat Roosting Features

SCALE AT A3:
NTS

DATE:
July 2024

868.1/91

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Masterplanning
Ecology

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KEY

Parcels 4 and 5 boundary

New opportunity for nesting birds provided on new buildings (indicative)

CLIENT:
CALA Homes (Thames) Ltd

PROJECT:
Hogwood Farm, Finchampstead

TITLE:
Parcels 4 & 5 - Proposed Bird Nesting Features

SCALE AT A3:
NTS

DATE:
July 2024

868.1/92

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KEY

Parcels 4 and 5 boundary

Proposed hedgehog access points (indicative)

CLIENT:
CALA Homes (Thames) Ltd

PROJECT:
Hogwood Farm, Finchampstead

TITLE:
Parcels 4 & 5 - Proposed Wildlife Corridors

SCALE AT A3:
NTS

DATE:
July 2024

868.1/93

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KEY

- Parcels 4 and 5 boundary
- Proposed bat box location*
- Proposed bird box location*

* Position indicative

CLIENT:
CALA Homes Thames Ltd

PROJECT:
Hogwood Farm, Finchampstead

TITLE:
Parcels 4 & 5 Landscape Proposals and Bat and Bird Mitigation

SCALE AT A3:
NTS

DATE:
July 2024

868.1/94

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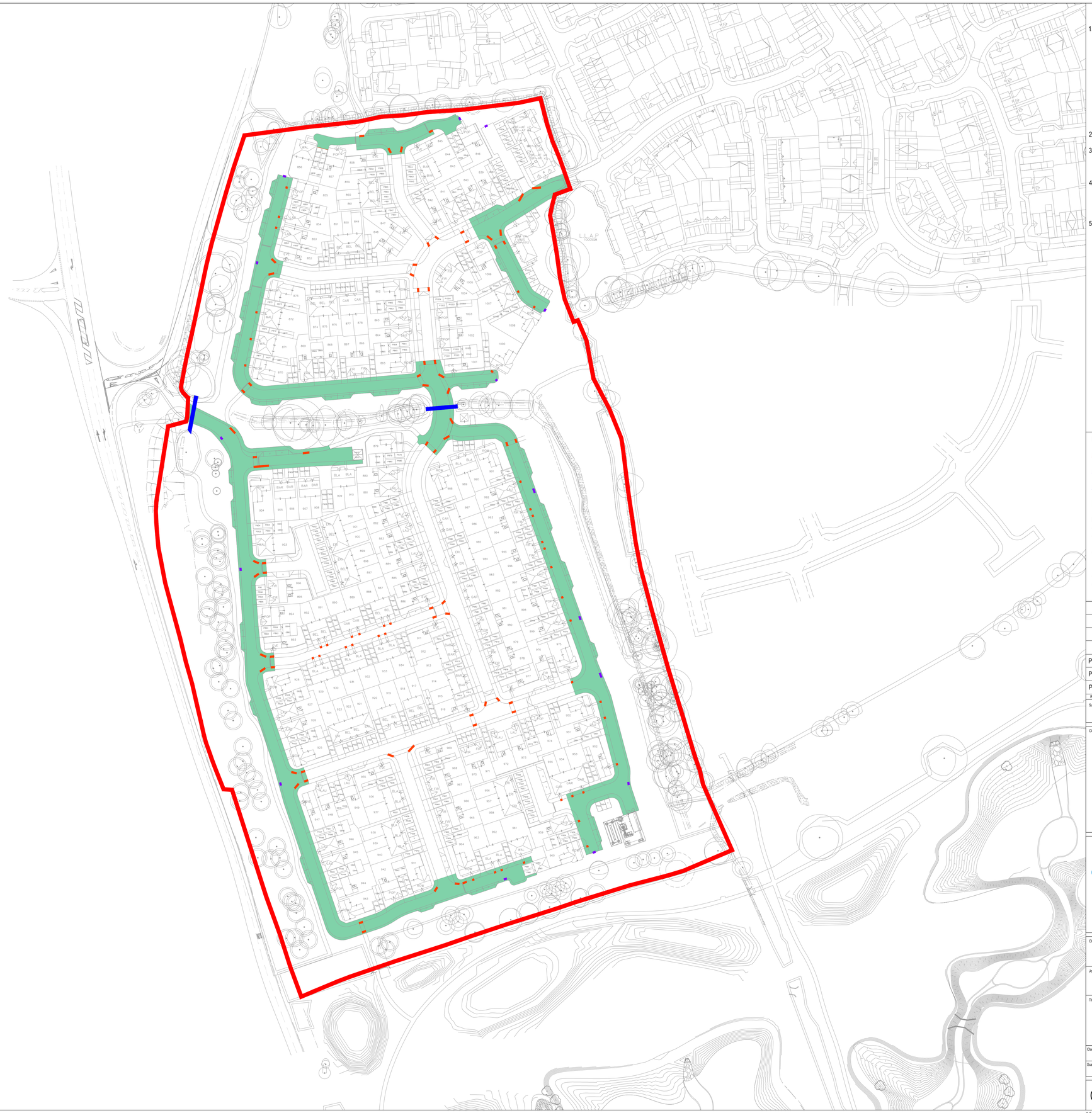
APPENDIX C

Parcels 4 and 5 Indicative Ecological and Pedestrian Permeability Plan (JNP, 2024)



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LEGEND:

- Dropped Kerb (Pedestrian/Cycle Use + Access to Refuse V.C.P)
- Dropped Kerb (Ecological Use)
- Mammal Tunnel
- Wildlife Corridor Features

Notes:

- Dropped kerbs for pedestrian/cyclist use may also benefit ecology.
- Pedestrian/cyclist dropped kerbs to be accompanied with tactile paving to WBC specification.
- Ecology to further benefit from dropped kerbs applied to vehicle crossovers serving individual parking spaces that are not detailed on this plan.
- Shared surfaces also apply to private drives not detailed.
- All kerbing types remain subject to detailed design and approval with WBC.

Rev.	Date	Description	Drn / Chk'd / App'd
P03	05/07/2024	Third Issue	MD/EL/KM
P02	02/07/2024	Second Issue	MD/EL/KM
P01	25/06/2024	First Issue	EL/KM/KM

Suitability:

S2 - Suitable for Information

Client Logo:

CALA

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Client:

CALA Homes

Job:

Hogwood Farm Parcels 4 & 5

Title:

Indicative Ecological Permeability Plan

Classification: FI_60_20

Scale @ A1: 1:1000

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number: C86557 - JNP - 66 - XX - DR - T - 7016

Revision: P03

Document/Drawing Number

JNP Group Internal Project Number: C86557

Landscape Architecture
Masterplanning
Ecology

hda

HOGWOOD FARM, FINCHAMPSTEAD

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN – PARCELS 4 and 5

Prepared for CALA Homes Thames Ltd

by

Hankinson Duckett Associates

HDA ref: 868.1

September 2024

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APPENDICES

1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This document provides a Landscape and Ecological Management Plan (LEMP) in relation to Parcels 4 and 5 of the development of approximately 110ha of land at Hogwood Farm, Finchampstead. The Parcels 4 and 5 development area comprises approximately 9ha of land, hereinafter referred to as 'the site' and 'the management area'. The site centre is located by National Grid Reference SU 7653 6421. The study was commissioned by CALA Homes Thames Ltd in May 2024.

1.2 Development proposals and context

1.2.1 Planning permission (O/2014/2179 and 140764) was granted in January 2017 for a hybrid application. This comprises:

- Outline permission for demolition of all existing buildings on site; up to 1,500 new dwellings; employment floor space; a Neighbourhood Centre; a primary school; sports pitches and associated pavilion building; highways infrastructure; associated landscaping, public realm, open/green space and sustainable urban drainage systems; and
- Full permission for a 29.7ha Suitable Alternative Natural Greenspace (SANG) in the south of the site.

The hybrid planning permission was subsequently amended by a Section 73 application (181194) which was approved in November 2018.

1.2.2 This Parcel 4 and 5 LEMP has been prepared in response to Condition 21 of the planning consent which states:

"Prior to submission of any Reserved Matters application other than in respect to the Nine Mile Ride Extension South an outline Landscape and Ecological Management Plan shall be submitted to and approved in writing by the local planning authority. Thereafter, each Reserved Matters Application for any sub phase of the development shall include a detailed Landscape and Ecological Management Plan for that sub phase of the development. Each detailed Landscape and Ecological Management Plan shall be in accordance with the mitigation, contingency and enhancement measures contained within paragraph 7.5.5 to 7.7 of the submitted Environmental Statement revision 2 (Royal Haskoning DHV, September 2014) and the approved outline Landscape and Ecological Management Plan. The detailed Landscape and Ecological Management Plan(s) shall be implemented in accordance with the approved plan unless otherwise approved in writing by the local planning authority."

1.2.3 In accordance with Condition 21, this document identifies the measures included in the landscape scheme to maintain and enhance the habitat resource of the Parcels 4 and 5 site, and to ensure that retained and newly created habitats are managed to maximise their value for wildlife in the long-term. These measures reflect the recommendations included in paragraphs 7.5.5 to 7.7 of the Environmental Statement (Royal Haskoning DHV, 2014) and are in keeping with the 'Outline Site-wide Landscape and Ecological Management Plan' prepared for the wider site and the Parcels 4 and 5 site in its entirety (HDA, 2018a).

1.2.4 The extent of the Parcels 4 and 5 management area subject of this LEMP is shown on the plans in *Appendix A*. The LEMP does not cover land within private residential curtilages which will be subject to management by individual householders.

1.2.5 The main aims of this LEMP are to:

i. Describe habitat restoration, creation and landscape enhancement works proposed for the management area, including outline details of formal and informal landscape planting within areas of public open space;
ii. Describe measures to provide new and enhanced opportunities for protected and notable species recorded within the Parcels 4 and 5 site;
iii. Identify prescriptions for the establishment and long-term management of habitats and features of nature conservation interest; and
iv. Identify mechanisms to ensure successful establishment of these features and their long-term management.

1.2.6 The landscape planting and habitat creation, retention and enhancement works across the Parcels 4 and 5 management area are shown on the Landscape Masterplan and Soft Landscape Proposals provided in *Appendix A* and *B* (CSA, 2024a-f;). The landscape proposals for the site include:

- Development focused in the central areas of the Parcels 4 and 5 site, which are currently dominated by two fields of ruderal vegetation, bare ground, a small area of scrub and a hardstanding construction access track and compound. Which are of limited ecological value;
- Retention of the majority of existing boundary hedgerows, woodland and treelines, with buffers afforded between the development and boundary features. The buffers will comprise areas of informal green space dominated by semi-natural habitats such as scrub and tree planting and rough and meadow grassland.
- Provision of formal hedgerow and shrub planting across the proposed development area.
- Protection of areas of ancient and aged woodland located along the western and eastern site boundaries, respectively.
- Retained and newly created habitats will tie into the landscape structure of the wider site to complement off-site features and facilitate the movement of wildlife across the site and the wider area.

2 BACKGROUND

Designated sites

2.1 No statutory designations pertain to the Parcels 4 and 5 management area or adjacent land. The area of woodland located in the western part of the Parcels 4 and 5 management

area, is however listed on Natural England's Inventory of Ancient Woodland. Ancient woodland is defined as any wooded area that has been continuously wooded since at least 1600AD. Although ancient woodland is not subject to legal protection in its own right, ancient woodland habitats are regarded as irreplaceable under the 2023 National Planning Policy Framework (NPPF) and Natural England and the Forestry Commission have provided Standing Advice for ancient woodland (a material consideration in the planning process). Lowland Mixed Broadleaved Woodland is also identified as a Habitat of Principal Importance under Section 40 of the 2006 NERC Act and is therefore a material consideration in the planning process.

Habitats

2.2 In general terms, the Parcels 4 and 5 site currently comprises two fields supporting ruderal vegetation, bare ground, a small area of scrub and a hardstanding construction access track and compound area. The fields are bounded by areas of woodland, including ancient and aged woodland[1], in addition to native hedgerows with wet and dry ditches. The Parcels 4 and 5 site is bordered to the south by the existing Suitable Alternative Natural Greenspace (SANG) (delivered as part of the wider Hogwood Farm development); to the north by Parcels 2 and 3 of the development which are currently under construction; to the east by a future development parcel which currently comprises modified grassland and bare ground; and to the west by the A327 and Sheerlands Road, with ancient woodland and fields beyond. The location and boundary of the Parcels 4 and 5 site is shown in *Appendix A*.

Species

2.3 In addition to the ecological desk study and extended Phase 1 habitat survey, a suite of ecological surveys has been conducted at the Hogwood Farm site since 2008, including specialist surveys for the following species/species groups:

- Bats;
- Water Voles;
- Otters;
- Dormice;
- [redacted]
- Breeding birds;
- Reptiles; and
- Great Crested Newts.

[1] The presence of the areas of ancient and aged woodland is specifically addressed in the Detailed Ancient Woodland Assessment and Mitigation Strategy: Parcels 4 and 5 (HDA, 2024a).

2.4 The methodologies, habitat descriptions and results of the surveys conducted to inform the Environmental Statement are detailed in the *Chapter 7: Biodiversity, Flora and Fauna* (Royal Haskoning DHV, 2014). Where appropriate, additional surveys have subsequently been undertaken by HDA between 2017 and 2024 to update the earlier surveys and to inform ongoing development design works. In addition, further ecological surveys have been carried out of parts of the site by Stantec in 2020 in relation to the construction of the Nine Mile Ride Extension (NMRE) road within the wider site (Stantec, 2020a; Stantec, 2020b). With regard to the outcome of this work, a summary of key considerations for the Parcels 4 and 5 site is given below:

- **Bats:** One tree (Tree 338) adjacent to the site supports a low status, non-breeding bat roost for an individual Soprano Pipistrelle will be retained within the scheme. The location of this tree is shown in *Appendix C*. Bat roosting features are proposed on buildings and trees across the site to ensure the continued favourable conservation status of the local bat population (Detailed Bat Mitigation Strategy (HDA, 2024b)). Boundary features, such as existing treelines, woodland and hedgerows are used by low numbers of foraging and commuting bats.
- [redacted]
- **Breeding Birds:** Breeding bird surveys of the Parcels 4 and 5 site and wider site have recorded notable bird species including Lapwing, Skylark, Dunnock, Song Thrush, House Sparrow, Reed Bunting, Mistle Thrush and Red Kite.
- **Reptiles:** Historic surveys have identified low populations of Common Lizard, Slow-worm and Grass Snake across the wider site, with Slow-worm recorded in the Parcels 4 and 5 site (HDA, 2021). The most recent survey in 2023 recorded no reptiles across the site and wider site (HDA, 2024d).
- **Invertebrates:** No surveys for invertebrates have been undertaken as it is considered that the proposed development areas are unlikely to be of significant local interest for this group. Higher quality areas of invertebrate habitat within the Parcels 4 and 5 site include hedgerows, woodland and other boundary features.

[2] Following approval of a Natural England licence application to temporarily close four setts in the north-east of the wider site due to the proximity of the NMRE works (a main sett, the annex sett and two of the outlying setts), Stantec carried out temporary sett closures in 2020. As part of these works two replacement setts were constructed, one within the Green Corridor associated with Phase 2 in the north-west of the wider site and one within the SANG (Stantec, 2020).

- **Plants:** The management area is currently dominated by ruderal fields and bare ground and notable plant species or plant assemblages are unlikely to be present. Several invasive species included on Schedule 9 of the 1981 Wildlife and Countryside Act (as amended) have been recorded from the wider site and its surrounds. These include Rhododendron, Variegated Yellow Archangel and Japanese Knotweed. It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act. Measures to identify, reduce and minimise the risk of spreading invasive, non-native plant species are detailed in the 'Non-native Invasive Species Management Plan – Parcels 4 and 5' (HDA, 2024e) and in the management prescriptions set out in *Section 4* below.
- **Other species:** The findings of the survey work carried out indicates that the Parcels 4 and 5 site is unlikely to support Dormice, Otter, Water Voles or Great Crested Newts.

3 MANAGEMENT OBJECTIVES

3.1 Objectives of the Parcels 4 and 5 Landscape and Ecological Management Plan

3.1.1 This Parcels 4 and 5 LEMP is based on the following objectives, which are set out in the Site-wide Outline Landscape and Ecological Management Plan (HDA, 2018a). These are derived from: (i) current site conditions, (ii) nature conservation legislation, planning policy, and national and local nature conservation guidance, and (iii) future land use. The objectives are:

Objective 1: The ecological potential of the management area: maintain and enhance the biological interest and character of the management area.

Objective 2: The characteristics of the local landscape: Maintain and enhance the landscape attributes of the key habitats associated with the management area and its local environs.

Objective 3: Access and amenity: Provide an attractive environment and opportunities for informal recreation available to residents of the new development and existing residents of the surrounding area.

3.1.2 The objectives have been derived from the context of the proposed development, Condition 21 of planning consent, and the landscape and ecological character of the site and its surrounds. Further information on the management objectives, including background policy and guidance, is provided in the Site-wide Outline Landscape and Ecological Management Plan (HDA, 2018a).

4 MANAGEMENT PRESCRIPTIONS

4.1 This section describes the habitat creation and enhancement measures proposed within the management area and provides prescriptions for how they will be implemented and managed in the long-term to achieve the ecological and landscape objectives identified in *Section 3*. Measures to enhance the management area for protected and notable species are also provided. Where prescriptions relate to the creation, enhancement and

management of habitats in relation to wildlife and landscape objectives, prescriptions are divided, where appropriate, into those to be undertaken for their creation and management (generally the first one to three years) followed by measures for ongoing management. The location and extent of newly created and enhanced habitats proposed within the management area are summarised on the *Landscape Masterplan* provided in *Appendix A*, along with detailed drawings and an outline of seed mixes and plant species to be used in the *Landscape Proposals Plans* in *Appendix B.* Management schedules are given in *Appendix D* which set out the timings of prescribed activities.

4.2 Objective 1:

The ecological potential of the management area: maintain and enhance the biological interest and character of the management area.

PRESCRIPTIONS

4.2.1 **Grasslands**

4.2.1.1 The grassland within the management area falls into three main categories, depending on location and ground conditions. These are:

- Meadow grassland
- Rough grassland
- Amenity grassland

4.2.1.2 Each of these grassland types and measures for creation, enhancement and management are described below. The general distribution of meadow and amenity grassland are shown on the *Landscape Proposals Plans* provided in *Appendix B*. Rough grassland is not shown as this will form narrow linear bands in association with woodland edge, scrub, hedgerow/treelines and wetland habitats across the management area, as described below.

Meadow grassland

4.2.1.3 Meadow grassland with a diverse herb-rich sward will be established within a mosaic of grassland, scrub, wooded and hedgerow habitats around the margins and through the centre of the Parcels 4 and 5 site.

4.2.1.4 The management area is currently dominated by ruderal vegetation and bare ground. In order to enhance the grassland resource of the management area following development, species-rich meadow grassland will be created using conservation seed mixes such as ‘flowering meadow’ (Germinal Seeds Flowering Meadow Mix (WFG2) or similar).

4.2.1.5 The prescriptions for creation of meadow habitats within the management area is given below:

- Where new grassland is to be created, if necessary the weed burden will first be reduced using herbicide. Consideration will also be given to soil inversion if nutrient levels are expected to be very high.
- If time permits a 'stale seed bed' is to be established, allow the area to colonise with weeds from the existing soil seed bank following initial cultivation and an additional application of herbicide applied to remove any weed growth.
- Area should consist of min. 150mm deep existing retained topsoil (free from weeds):subsoil mix (50:50) over existing site subsoil layer. No imported topsoil should be used in these areas.
- A fine, firm and level seedbed will then be created prior to sowing with a species-rich meadow grassland seed mix using a seed mix appropriate to the ground conditions. All stones and debris greater than 50mm in size to be removed and disposed of off-site.
- Wildflower seeding is to be undertaken preferably in spring (early March to late June) or alternatively in autumn (mid-August to October). Sowing is to be undertaken by hand broad-casting on a calm day with no wind, the contractor should mix the seed evenly with a fine, dry sand to bulk up the sowing mix. Following seeding the area will be hand raked, lightly rolled and fully water to the full cultivation depth.
- Contractors will take the necessary precautions to ensure all grass areas are protected throughout the establishment period, with the use of fencing where appropriate.
- During the first year after sowing, from mid-summer onwards the meadow grassland will be regularly cut (every 6-8 weeks to a height of 10cm) to encourage strong root growth. All cuttings will be removed from the grassland and where appropriate, suitable amounts used to create 'habitat piles' or disposed of appropriately.
- The newly established meadow grassland will be mown to no less than 10cm in height once a year, at the end of August, and the cuttings removed. This will allow flowering and seed set of most species over the summer. Over time this should further reduce the fertility of the soil favouring increased dominance of flowering herbs.
- On rotation, selected areas of the meadow grassland (10%) will be left uncut during each mowing period in order to provide additional refuge habitat for reptiles, small mammals and invertebrates, and to encourage a more diverse flora.
- If required, injurious weed species (e.g. Creeping Thistle, Broad-leaved Dock, Common Ragwort) will be controlled, particularly whilst the grassland is becoming established. This will be achieved either through topping before flowering or using spot treatment with herbicide.

- No fertilisers, lime or farmyard manure will be added to the newly created areas of meadow grassland.

Rough/Tussocky Grassland

4.2.1.6 Bands of rough grassland (2-5m in width) will be sown with a meadow grassland mix (Germinal Seeds Flowering Meadow Mix (WFG2) or similar) adjacent to existing and proposed scrub and wetland edges, and along hedgerows, treelines and woodland edges across the management area. Where appropriate these could alternatively be created by allowing natural regeneration or derived from existing retained grassland. Creation of the rough/tussocky grassland will follow the same methodology outlined for the meadow grassland above and managed by cutting just once every 2-3 years in order to establish a tussocky sward favoured by small mammals, reptiles and hibernating invertebrates.

Amenity grassland

4.2.1.7 Areas of amenity grassland will be created and managed along roadside verges and footpaths, and within open space to create informal paths and areas suitable for recreation. These will be seeded using a low maintenance amenity grass mix (Germinal Seeds Low Maintenance seed mix (A22) or similar) or turfed using a low maintenance amenity grass mix (Rolawn - 'Medallion' or similar).

4.2.1.8 The prescriptions for creation of amenity grassland habitats are outlined below:

Areas sown with seed

- The creation of the amenity grassland sown from seed will follow the same methodology outlined for the meadow grassland above, with the addition of an application of a pre-seeding slow-release granular fertiliser (7:10:10 NPK) applied at a rate of 250kg/ha approximately 7 days prior to seeding and raked into the top surface.
- Once established, new areas of amenity grassland sown with seed will be incorporated into the long-term management regime as described below.

Areas laid with turf

- The creation of the amenity turf will follow the same methodology outlined for the meadow grassland above.
- Finished levels of turfed areas will be 30mm above adjacent paved surfaces.
- Lay turf with broken joints, well butted up, working from planks laid on previously laid turves, during appropriate season and weather condition. Adjust levels by raking out of filling with fine soil under turves. Consolidate by lightly and evenly firming with wooded beaters as laying proceeds. Do not use rollers.
- Dress turf with fine topsoil and brush in to fill joints and thoroughly water completed turf within 24 hours of laying.

- When grass is 50mm high, collect debris, litter and any stones later in dry conditions cut grass to between 25-30mm. Collect and dispose of all arisings.
- Once established, new areas of amenity grassland established using turf would be incorporated into the long-term management regime as described below.

4.2.1.9 The following long-term mowing and maintenance regime will be applied to the amenity grassland across the management area. To give the grasses the best chance of thriving, do not mow the grass too short, especially during periods of prolonged dry or cold weather. This mowing and maintenance regime for established amenity grassland will involve:

- Areas of amenity grass once established for twelve months, are to be cut on a monthly basis during each growing season (i.e. between March and October) to allow time between cuts for plants in lawn to flower. However, it will be weather permitting and should be reviewed to suit extreme weather i.e. extremely dry arid conditions it may be necessary to reduce the cut leaving the grass slightly longer. The height of flowering lawn shall not exceed 80mm before cutting, topped to a height of 50mm. In periods of drought, some dieback of grass is likely. Watering is a solution to this but is often unsustainable. In some years it may be necessary to reseed badly affected areas at the end of the season.
- Moss should be accepted for shaded areas, but kept in check by raking, which is best done in spring when the grass is growing well so that the grass can quickly recover and grow into the gaps created by moss collection.
- Most grass will be mown as required throughout the year, although the main mowing period is between March and October, during this period mowing should ideally be undertaken fortnightly.
- Any short grass that abuts a vertical obstacle will be strimmed at the same time as each grass cut to achieve a neat edge. In March and September of each year, all grass edges will be trimmed in accordance with the above paragraph, and re-cut to a straight line or smooth curve as appropriate using a half-moon edging tool or similar.
- Swathes of arisings will be collected up and composted or removed from the site.
- Any damage to the sward caused by animals (Moles, Rabbits [redacted] etc.) or by vehicles or general wear and tear, will be reinstated by top dressing, re-cultivation, re-seeding and watering, at the correct season, as necessary. Any reinstated areas to be protected and subject to establishment maintenance as itemised above. If grass growth is poor it may be necessary to apply a spring and / or autumn fertilizer to the sward, to encourage vigour. Similarly, turf aeration and scarification may also be necessary, to alleviate compaction and control the development of thatch.

4.2.2 **Native hedgerows**

4.2.2.1 Existing hedgerows bordering the management area are limited to a native defunct hedgerow with trees along the northern and northern section of the eastern site boundary.

4.2.2.2 Where possible, the hedgerow network within and bordering the site will be strengthened and enhanced through appropriate habitat creation, enhancement and management works. Along with creation of other linear habitats, this will contribute to enhanced habitat connectivity across the site, the wider site and the wider countryside. This will be achieved through the following measures:

Existing hedgerows:

- Where gaps occur in retained sections of hedgerow, these will be cleared of ruderal species and Bramble and filled using native hedgerow plants of local provenance. New hedgerow plants will be protected against pest damage using spiral guards (or biodegradable equivalent), maintained for no less than 3 years after planting. A one-metre weed-free zone will be maintained around new hedgerow plants using translocated herbicide (e.g. glyphosate) or mulch as required.
- Existing standard trees within the hedgerows will be maintained and where appropriate suitable plants will be excluded from the cutting regime to provide new mature trees.
- The hedgerows will be complemented by rough grassland buffers of up to 5m (*Section 4.2.1.6*) where appropriate to create an 'ecotone' habitat of high interest for biodiversity.
- Existing mature hedgerows will be trimmed no more frequently than once every 2-3 years on a rotational cutting scheme. This will encourage bushier hedges and fruiting of hedgerow plants in addition to reducing maintenance costs.
- All native hedgerows will be trimmed between January and February, allowing the majority of hedgerow fruits to be eaten by birds and other wildlife prior to cutting.
- No more than one third of hedgerows within the management area will be trimmed within the same 12 months.

New species-rich hedgerows:

- New species-rich hedgerow will be created along the eastern and southern site boundaries adjacent to the aged woodland. Species within the native hedgerow planting will include Hazel, Hawthorn, Privet, Blackthorn, Elder, Spindle and Dog rose.
- Further sections of native and ornamental hedgerows are proposed within the residential area.
- Newly planted hedgerows will be trimmed annually for the first 3 years in order to train them into a good shape. Following this period the new sections of hedgerow will be incorporated into the management regime for the existing hedgerows as

described above. A possible exception to this is where new ornamental hedgerows are proposed as part of the formal landscape associated with development areas; these hedges will be managed by cutting up to 3 times per year with all arisings removed.

- New hedgerow plants will be protected against pest damage using spiral guards (or biodegradable equivalent), maintained for no less than 3 years after planting. A one-metre weed-free zone will be maintained around new hedgerow plants using translocated herbicide (e.g. glyphosate) or mulch as required.

4.2.2.3 The above proposals, in combination with other scrub and tree planting described below, will maintain and improve habitat corridors across the management area and wider site.

4.2.3 **Tree and scrub planting and management**

4.2.3.1 Landscape proposals for structural planting include lines of native scrub planting along the western and northern site boundaries to form ecotones with the adjacent woodland and hedgerows and pockets of dense scrub along the treeline through the centre of the site and along the northern margin of the aged woodland located along the eastern site boundary, scattered individual trees and shrubs across the management area using a mix of native species appropriate to the local area. In combination with proposed grassland, hedgerows and wetlands this will create a varied mosaic of habitats, benefitting a range of species and providing habitat connectivity around the Parcels 4 and 5 site.

4.2.3.2 Individually planted standard trees will include Field Maple, Hornbeam, Beech, Wild Cherry, Silver Birch, Hazel, Apple, Small-leaved Lime, Alder and Wild Service Tree. The areas of scrub planting comprise a mix of Hawthorn, Holly, Privet, Wayfaring Tree, Honeysuckle, Dogwood and Guelder Rose.

Establishment Phase

4.2.3.3 The following works will be carried out to ensure establishment:

- Planting will be restricted to between late October and March, unless additional provision for watering during dry periods is made.
- Surface vegetation will be cleared using proprietary herbicide where appropriate and install scrub plants into isolated pre-prepared planting pits, backfilling with either retained topsoil (free from weeds) or imported topsoil (sandy loam, General Purpose grade to BS3882:2015) or a combination as necessary.
- Incorporate a soil conditioner/ameliorant in the form of peat free tree and shrub compost or well rotted spent mushroom compost into backfill material, incorporating a slow release fertiliser e.g. Enmag (or similar) at a rate of 5g per pit (scrub planting) or soil improver at a rate of 1kg per pit (tree planting), mixed thoroughly.

- Trees will be planted in pits min. 1000 x 1000 x 700-800mm deep, For very large stock pit dimensions should be increased accordingly.
- Newly planted trees and shrubs will be protected against pest damage using suitable guards.
    - Where rabbits are a known issue, scrub areas are to be enclosed by min 900mm high rabbit proof fencing (specification outlined in Soft Landscape Proposals Plan (CSA 2024c and d).
    - If additional deer protection fencing is required, scrub areas are to be fully enclosed by min. 1.8m plastic mesh fencing, in areas where rabbits are also a known issue an additional 300mm high section of galvanised mesh (chicken wire) to be fixed to the lower portion of the deer fencing (specification outlined in Soft Landscape Proposals Plan (CSA 2024c and d).
    - Small/feathered trees protected by biodegradable 'Nature Tubex Tree Shelter' by Green-tech Ltd. (or equal and approved), should Red or Fallow Deer be present then tree guard/shelter should be increased to 1.8m).
    - Coniferous trees and/or Beech transplants only protected by open mesh tree guards.
    - Standard trees and scrub planting will be protected by biodegradable spiral guards (Green-tech Ltd. Or equal and approved) (specification outlined in Soft Landscape Proposals Plan (CSA 2024c and d).
- All scrub plants to be installed with a min. 500mm square, proprietary 'Treebio Biodegradable Weed Mat' mulch mat (by Green-tech Ltd. Or equal and approved), securely pegged in place and weighted down with bark mulch.
- Trees and shrubs will be kept free of weeds for up to five years after planting (or less if closed canopy is achieved earlier) to enhance growth rates, by the application of a translocated herbicide (except within 5m of any waterbody where hand pulling or mulching will be required) at a minimum frequency of 3 applications per annum generally in May, July and September. Any failed trees or shrubs within the first five years after planting will be replaced (and maintained for a subsequent five years).
- Within areas of dense tree and shrub planting, grassland between the mulched/treated bases will be subject to strimming until a closed canopy has formed except where tussocky interlying grassland or natural regeneration of interlying vegetation is preferred.
- Any trees that are staked will have their ties checked 3 times per year (or as herbicide spraying takes place) and replaced as necessary if too tight/loose or broken. Stakes shall remain in position until trees are self-supporting.
- Trees will be pruned to remove dieback or broken/vandalised branches as they arise.

- Newly planted trees and scrub will be watered regularly in the first year after planting to prevent plant loss. Watering of trees in the first growing season is dependent on size and should follow the guidelines below:
    - Feathered – 36 litres per month;
    - Standard – 45 litres per month.

  Watering should be reduced/stopped in periods of wet weather. Water trees in second growing season during dry spells in weather.

Maintenance Phase

4.2.3.4 Newly established and existing trees will be managed in the long-term to enhance the biodiversity of the management area, protect public safety, ensure their long-term health and viability, and to maintain the visual landscape character of the area. This will involve the following:

- Annual inspections of all trees will be carried out by a suitably qualified arboriculturist in order to identify dangerous trees and branches requiring removal.
- Standing dead or decaying timber and fallen deadwood will be retained where safe to do so to provide wildlife habitat.
- Fallen, dying and dead mature trees will only be replaced with young trees where appropriate. Any replacement trees will be protected from pest damage and weeds as outlined in the establishment section above.

4.2.3.5 In order to maintain a mosaic of trees, scrub, grassland and wetland habitats within the management area it will be necessary to prevent encroachment of scrub into areas of grassland and marginal vegetation. This will be achieved through:

- The introduction of a long-term mowing regime for the rough and meadow grassland patches within the management area (as outlined in *Section 4.2.1*) will help to prevent scrub encroachment.
- Scrub habitats within the management area shall be reviewed each winter and techniques for scrub control, i.e. cutting back with or without stump treatment, will be implemented as and where deemed necessary. Such work will be undertaken outside of the bird nesting season.
- Where appropriate, once established scrub will be coppiced on a short rotation of approximately 5 years in order to prevent succession into woodland. No more than 20% of the scrub will be coppiced in any one year. Selected areas of scrub may be left to succeed to woodland where appropriate.

4.2.3.6 It is expected that the above proposals would enhance the tree and scrub resource and enhance habitat connectivity across and around the management area and wider site. The locations of existing hedgerow/linear scrub habitats and the extent of retained and

proposed woodland, hedgerow, scrub and scattered tree planting across the site is shown in *Appendix A*.

4.2.4 **Wetlands**

4.2.4.1 A number of the existing ditches within the site will be retained and enhanced, including the ditch located along the eastern margin of the aged woodland on the eastern site boundary and the ditch associated with the treeline in the centre of the site. Where it is unavoidable that retained ditches are crossed by access infrastructure, the number of crossing points and length of culverts have been kept to a minimum.

Establishment:

- Any man-made debris will be removed and disposed of as appropriate.
- In-channel works will be carried out to establish and extend areas of marginal and aquatic vegetation. This will include measures to create a more dynamic channel including re-profiling of bankside habitats to create berms and ledges to allow for a gentler gradient into the water for colonisation of aquatic vegetation.

Maintenance:

- Checks for the presence of non-native invasive plant species will be carried out at least once annually, if presence is recorded they will be subject to control. Using a methodology appropriate to the species present and the presence of the watercourse.
- Aquatic and marginal vegetation will be managed by cutting or hand pulling on an 'as needed' basis to maintain at least 50% open water areas and a variety of edge habitats.
- Any removed aquatic or marginal vegetation will be left at the ditch edge for up to three days to allow any wildlife to re-enter the ditch. Some piles may be left to provide refuge opportunities for amphibians and reptiles, but generally all arisings will be removed from site.
- Removal of sediment from the ditch will be as required. No more than 50% of marginal vegetation or silt will be removed from any one ditch during management in any one year. This work would be carried out during the winter.
- Management of self-seeded scrub will be carried out during the winter months to prevent excessive shading and encroachment into the wetland areas. Where not controlled by mowing of the grassland (see *Section 4.2.1*) this will be carried out through hand pulling and cutting.
- The function of the ditch network should be reviewed annually with regard to site surface water drainage requirements and remedial work, such as reprofiling, carried out if necessary, in the winter months.

4.2.5 **Woodlands**

4.2.5.1 Bands of broadleaved woodland are situated along the western, southern and part of the eastern site boundaries. One section of the broadleaved woodland located along the western site boundary is listed as ancient woodland on Natural England's Inventory of Ancient Woodland and the broadleaved woodland located along the southern and eastern site boundaries is considered to be aged woodland. The landscape scheme for Parcels 4 and 5 provides a range of habitats to complement the existing woodland habitats present.

Existing Woodland

4.2.5.2 Existing areas of ancient, aged and mature woodland within and bordering the site will be retained and enhanced within the development scheme[3]. In combination with the enhancement measures described above, including the creation of new hedgerow and scrub linkages and 'ecotone' habitats on woodland edges, the introduction of management to the existing woodland within the management area is expected to benefit a range of species. The proposed management (for the on-site areas of woodland which are not listed as 'ancient woodland' or 'aged woodland') will focus on:

Management and enhancement:

- *Removal of debris:* All man-made debris and abandoned items/waste (e.g. old fencing materials, farm equipment and redundant tree guards) will be cleared from the woodland.
- *Non-native invasive species:* The ecological value of many areas of existing woodland within the wider site is compromised by the presence of Rhododendron which outcompetes native shrub species and creates heavy shading compromising the ground flora. Rhododendron, and any other non-native species will be removed from the woodland areas using appropriate means of control. Ongoing checks for the presence of non-native invasive plant species will be carried out at least once annually across all areas of woodland, and if presence is recorded these will be subject to control using a methodology appropriate to the species present.
- *Selective thinning of trees and understorey:* Dense vegetation cover including trees and native shrubs will be thinned or coppiced where appropriate to encourage growth of ground flora and new saplings.
- *Establishment of woodland buffers:* A buffer zone of scrub, rough and meadow grassland will be established along the length of the woodland belt along the eastern site boundary (only area of woodland not classified as either ancient or

[3] Please note that a '*Detailed Ancient Woodland Assessment and Mitigation Strategy: Parcels 4 and 5*' (HDA, 2024a) has been produced for proposed works within and in proximity to the areas of ancient and aged woodland within this site. This details specific management works for the area of ancient and aged woodland and are not repeated in this document which focuses on the other areas of woodland located within the Parcel 4 and 5 application area.

aged woodland). The buffer is approximately 15m wide. All grassland within the buffer will be established in accordance with the prescriptions described in *Section 4.2.1* above and scrub within the buffer will be established in accordance with the prescriptions described in *Section 4.2.3*.

- *Maintenance and enhancement of deadwood interest:* Where safe to do so standing and fallen deadwood habitats within the woodland will be retained. Arisings from woodland management would be used to construct log/brash piles throughout the woodland and woodland edges to benefit a range of species including invertebrates, small mammals and reptiles.
- *Bat and bird boxes:* A varied selection of bat and bird boxes will be provided to enhance roosting and nesting habitat for a range of woodland species.

4.2.6 **Deadwood habitats**

4.2.6.1 Where safe to do so any standing and fallen deadwood arising from trees within the Parcels 4 and 5 site will be retained *in situ*. Where this is not possible, these arisings will contribute to log and brash piles that would be constructed at appropriate locations along woodland and scrub edges or hedgerow bases using additional arisings from other tree, hedgerow, woodland and scrub management works. Approximate locations of the proposed hibernacula and log and brash piles are shown within the *Detailed Reptile Strategy – Parcels 4 and 5* (HDA, 2024d).

4.2.7 **Ornamental planting**

4.2.7.1 In addition to provision of new native species planting in areas of open space, the landscape proposals also include formal ornamental shrub (including ground cover and climbing species), tree and hedgerow planting within residential areas of the development. These will be planted with a range of nectar-/pollen-rich flowers and fruit bearing shrubs and trees which benefit native wildlife such as invertebrates, bats and birds.

4.2.7.2 The extent of proposed ornamental planting is shown in *Appendix A*. Measures for the establishment of ornamental shrubs, trees and climbing plants within the site are given below along with maintenance of such planting within communal areas of the residential development. The maintenance of planting within curtilages of residential properties will be the responsibility of the new householders.

4.2.7.3 Ornamental tree, hedgerow, shrub and herbaceous planting works will be carried out during the construction phase of the development:

- Planting will be restricted, where possible, to between late October and April where possible to reduce need for supplementary watering.
- Where necessary newly planted trees will be protected against pest damage using guards around individual trees. Pests are likely to be restricted to rabbits, but it

may be necessary to replace guards with taller ones if, following the annual inspection, it is found that deer damage is an issue. Alternatively temporary fencing can may be used to ensure adequate protection (see section 4.2.3.3 and Soft Landscape Plan (CSA, 2024).

4.2.7.4 The following works would be carried out to ensure establishment:

- Trees and shrubs will be kept free of weeds for up to five years after planting (or less if closed canopy is achieved earlier) to enhance growth rates, by the application of a translocated herbicide at a minimum frequency of 3 applications per annum generally in May, July and September. Alternatively/in combination mulch may be used. Any failed trees or shrubs within the first five years after planting will be replaced.
- Any trees that are staked will have their ties checked 3 times per year (or as herbicide spraying takes place) and replaced as necessary if too tight/loose or broken. Stakes shall remain in position until trees are self-supporting.
- Trees will be pruned to remove dieback or broken/vandalised branches as they arise.
- Newly planted trees and shrubs will be watered regularly in the first year after planting to prevent plant loss. Watering of trees in the first growing season is dependent on size and should follow the guidelines below:
    - Feathered – 36 litres per month;
    - Standard – 45 litres per month.

  Watering would be reduced/stopped in periods of wet weather. Water trees in second growing season during dry spells in weather.
- New ornamental hedgerows within the formal landscape associated with the development area will be managed by cutting up to 3 times per year with all arisings removed.

4.2.7.5 Newly established and existing trees will be managed in the long-term to enhance the biodiversity of the Parcels 4 and 5 site, protect public safety, ensure their long-term health and viability, and to maintain the visual landscape character of the area. This will involve the following:

- Annual inspections of all the trees will be carried out by a suitably qualified arboriculturist in order to identify dangerous trees and branches requiring removal.
- Standing dead or decaying timber and fallen deadwood will be retained where safe to do so, to provide wildlife habitat.
- Fallen, dying and dead trees and shrubs will only be replaced with young trees where appropriate. Any replacement trees will be protected from pest damage and weeds as outlined in the establishment section above.

4.2.8 **Protected and notable species**

4.2.8.1 This detailed LEMP identifies how the above measures will indirectly benefit protected and notable species recorded using the site and its surrounds such as bats, [redacted] reptiles, birds and invertebrates. The following management tasks will also be carried out in order to provide specific features aimed at target species/species groups:

4.2.8.2 *Bats:*

- Management works will have regard to the presence of trees around the margins of the Parcels 4 and 5 site which either support roosting bats or have potential to support roosting bats, the current extent of which are shown on the plan in *Appendix C*. Where works to trees with potential to support roosting bats are proposed (e.g. for reasons of health and safety) the advice of a suitably qualified ecologist will be sought prior to works commencing.
- Artificial bat boxes will be installed on retained mature trees and new buildings to provide a range of opportunities for roosting bats (see 'Detailed Bat Mitigation Strategy – Parcels 4 and 5' (HDA, 2024b)). As deliberate (or reckless) disturbance to bats or their roost sites constitutes an offence under the 1981 Wildlife and Countryside Act (as amended) and the 2017 Conservation of Species and Habitats Regulations (as amended), once erected, close inspection of bat roosting features/repairs would only be carried out by a licenced bat worker. If any works are necessary which may result in an offence being committed under this legislation then a suitably qualified ecologist would be contacted to advise on the best course of action.

4.2.8.3 [redacted]

- [redacted]

4.2.8.4 *Birds:*

- Tree, scrub, woodland and hedgerow management will only be carried out outside the bird breeding season (usually taken as March to early September inclusive) unless preceded with a nesting bird check by the project ecologist or other suitably qualified personnel.
- Bird boxes will be installed on retained mature trees and proposed buildings to provide a range of nesting opportunities (See *Detailed Ecological Permeability Scheme – Parcels 4 and 5* (HDA, 2024f)).
- Standing deadwood will be retained wherever possible to maximise natural opportunities for hole-nesting birds.

4.2.8.5 *Reptiles, amphibians and invertebrates:*

- Arisings from hedgerow, woodland, tree, scrub and marginal habitat management will be used to construct log and brash piles along ditches, hedgerow, woodland and scrub edges to provide opportunities for refuge and hibernation (See *Detailed Reptile Strategy – Parcels 4 and 5* (HDA, 2024d)).

Non-native plants:

4.2.8.6 Rhododendron and an unidentified Cotoneaster species have been identified within the wider site. In addition, Variegated Yellow Archangel and Japanese Knotweed have been identified in the wider area (HDA, 2024e). Cotoneaster *Cotoneaster horizontalis*, Entire-leaved Cotoneaster *Cotoneaster integrifolius*, Himalayan Cotoneaster *Cotoneaster simonsii*, Hollyberry Cotoneaster *Cotoneaster bullatus*, Small-leaved Cotoneaster *Cotoneaster microphyllus*, Rhododendron *Rhododendron ponticum*, Variegated Yellow Archangel *Lamiastrum galeobdolon* and Japanese Knotweed *Fallopia japonica* are all listed under Schedule 9 of the 1981 Wildlife and Countryside Act (as amended). It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act.

4.2.8.7 The following works will be implemented:

- Prior to development commencing: An updated survey of the site will be undertaken at an optimal time of year (between May and August) to identify the presence, location and area covered by any non-native invasive species listed on Schedule 9 of the 1981 Wildlife and Countryside Act (as amended), not previously identified on site.

- Monitoring: All parts of the management area would be subject to annual inspections to identify the presence of any regenerating/newly established non-native invasive species.
- Control: Where the presence of a non-native invasive species is identified, control measures will be put in place to prevent further spread with the aim of eradication from the management area. Measures would be appropriate to the species present and the location in which it is growing.

4.3 Objective 2:

Maintain and enhance the landscape attributes of the key habitats associated with the management area and its local environs.

4.3.1 The management area is located within the 'J2: Arborfield Cross and Barkham Settled and Farmed Clay' Landscape Character Area as defined by Wokingham District Council (Wokingham District Council, 2019), for which the key characteristics are:

- A gently undulating landscape, underlain by London Clay with localised areas of River Terrace Gravels. Shallow wooded valleys follow the course of the Barkham Brook, which is geologically marked by areas of alluvium.
- Consistent pattern of waterbodies including streams, drainage channels, ditches and open waterbodies of various sizes resulting from the clayey and loamy soils which impede drainage.
- Wooded context provided by characteristic mature hedgerow and in-field trees, combined with woodland belts, with BAP priority habitats and ancient woodland, and the wooded horizons of the surrounding hills.
- Arable farming dominates, with pasture on higher ground and horse paddocks near settlement. Fields are large and geometric, bound by fragmented hedgerows supported by post and wire.
- Small-scale wet woodland and wetland habitats scattered on the edge of the area, often designated as LWS.
- A dense settled character influenced by modern development including the new garden village on the site of Arborfield Garrison and the southern edge of Wokingham which incorporates an industrial estate.
- Older scattered settlement of farms, hamlets and small nucleated villages at Barkham and Arborfield Cross. The buildings have traditional vernacular of timber framing and clay tiles, exemplified by the Conservation Area at Arborfield Cross.
- A network of busy local roads cross the area. They tend to be rural in character, with ditches, hedges and hedgerow trees, sometimes opening directly onto the arable fields.
- Public rights of way run between the settlements and provide access for recreational use.

- A rural character away from development and roads, with views across to adjacent character areas including across the Loddon Valley.
- A historic road, now represented by footpaths, lanes and Victorian carriageways, that appears on Norden's map of 1607, connecting Swallowfield Park via Arborfield Cross and the Coombes (in LCA L1), with Wokingham.

4.3.2 The profile for the *J2: Arborfield Cross and Barkham Settled and Farmed Clay Landscape Character Area* identifies the following landscape guidelines relevant to the Hogwood Farm Site:

- ***Conserve woodlands, including ancient woodland, BAP priority habitats and remnant standard trees****. Continue to promote appropriate management through natural regeneration, control of non-native species and coppicing as a management tool for neglected woodland.*
- ***Increase the extent of native deciduous woodland****, using locally occurring native species in order to provide screening of roads and development and linking woodland habitats. Seek to avoid introduction of coniferous boundaries and shelterbelts.*
- ***Conserve and manage hedgerows with standard trees*** *as important wildlife habitats and landscape features, as well as the links they provide across the landscape and between areas of woodland. Reinstate or repair hedgerows with native species where there are opportunities to do so. Plan for the next generation of hedgerow trees with a programme of tree planting.*
- ***Conserve, enhance and manage wetland and woodland habitats*** *including within LWS. Protect the habitats from development, changes in land use and encroachment by secondary woodland and scrub. An appropriate wetland and woodland management regime is critical.*
- ***Conserve and enhance the integration of urban edges*** *through wooded boundaries and large-species trees to provide visual screening and create a positive interface between the built up and rural areas particularly around Wokingham town, Arborfield Garrison, and Finchampstead.*
- ***Enhance sense of place through careful design*** *(including siting, massing, scale, materials and landscape – and sensitive lighting to retain dark skies at night) to minimise the potential impacts of any new development on valuable attributes.*
- ***Reduce and prevent further noise and light pollution*** *through the sensitive siting of any new development, including infrastructure, and especially any proposed night-time lighting.*

4.3.3 Proposed habitat creation and enhancement works within the management area and wider site, and long-term management to maximise value of these habitats for wildlife, will contribute to achieving these objectives.

PRESCRIPTIONS

4.3.4 **Enhancing the local woodland habitat resource**

4.3.4.1 The Arborfield Cross and Barkham Settled and Farmed Clay character area identifies the '*effects on tree health or species composition of woodland and wet woodland as a consequence of pathogens and climate change'* and '*loss of structure and species diversity of the woodland belts has occurred in the past through cessation of coppice management.'* Woodland belts are located within the Parcels 4 and 5 site and the landscape proposals include new scrub planting and standard tree planting which is expected to enhance the woodland/scrub/tree resource of the Parcels 4 and 5 site and its surrounds.

4.3.5 **Conservation of hedgerows and shelterbelts**

4.3.5.1 A key habitat associated with the Arborfield Cross and Barkham Settled and Farmed Clay character area is hedgerows. The landscape proposals include the retention and enhancement of the majority of the hedgerow network in addition to the provision of additional hedgerow planting within the development area.

4.3.5.2 The proposed enhancements to the hedgerow network within and along the margins of the management area and wider site will also contribute to 'green infrastructure', enhancing habitat connectivity across the management area and its surrounds, and will help the new development to integrate into the local landscape.

4.3.6 **Conservation of wetlands**

4.3.6.1 The Arborfield Cross and Barkham Settled and Farmed Clay character area identifies that '*drainage operations have resulted in loss of wetland habitats*'. The landscape proposals include the enhancement of the ditch network within the site.

4.4 **<u>Objective 3:</u>**

Access and amenity: Provide an attractive environment and opportunities for informal recreation available to residents of the new development and existing residents of the surrounding area.

4.4.1 In addition to the built development and associated garden planting, the formal landscape scheme for the Parcels 4 and 5 site includes establishment and management of amenity grassland and ornamental tree and shrub planting. Beyond the formal areas a network of semi-natural habitat types including woodland, hedgerows, native scrub and meadow grassland and rough grassland features are proposed, with access facilitated by a variety of footpath types. In combination, the formal and informal landscaped areas will create an attractive setting for residents and visitors to the Parcels 4 and 5 development. The

landscape creation and enhancement measures are identified in *Section 4.2*. Measures to help maximise the amenity value of the site are described below.

Provide an attractive setting for recreation

4.4.2 The landscape proposals described in *Section 4.2* above and provided in *Appendix A* have been developed to create an attractive setting for informal recreation within the Parcels 4 and 5 site. Footpaths within the open space of the Parcels 4 and 5 site will be regularly maintained and kept clear of encroaching scrub and overhanging trees so they are perceived to be safe by users.

Maintain trees and other management items in safe and serviceable condition

4.4.3 Trees, paths and other management items will be maintained in a safe condition through regular inspection and maintenance work as required.

4.4.4 Tree safety inspections will be carried out annually as a minimum (more frequently where there are exceptional weather events) and any maintenance works carried out as required.

4.4.5 Any site furniture (including bollards, informal play equipment, fencing and any signage or safety equipment) will be maintained in a serviceable and safe condition in line with manufacturer recommendations. All furniture will be inspected for damage and cleaned on a regular basis. Any vandalism would be repaired as soon as possible, particularly if the damage could pose a risk to the health and safety of the public. Where appropriate any timber products will be routinely stained or preserved, in line with manufacturer recommendations.

Maintain the site free from litter

4.4.6 The management area will be inspected, and litter removed on a monthly basis. Fly-tipped waste will be cleared, and appropriate action taken if encountered, including monitoring for invasive species.

Provide information to local residents

4.4.7 All dwellings within the proposed development will be provided with a resident's sales pack. 'Living with Wildlife' leaflets will be included with each sales package or provided on occupation of each dwelling of the new development. These documents will inform residents of the nature conservation interest and sensitivity of the habitats within the site and its surrounds, and measures that can be taken to avoid impacts on the associated features of nature conservation interest.

5 MONITORING

5.1 The outcome of the management works prescribed above would be subject to review on at least an annual basis (but more frequently during establishment) to assess the success of these works in achieving the desired objectives. If necessary, the prescriptions will be revised to improve outcomes. Any amendments to the prescriptions provided in this LEMP would be subject to the approval of the local planning authority.

6 IMPLEMENTATION OF MANAGEMENT

6.1 It is expected that the habitat creation and establishment works would be led by the developer after which either the local planning authority, a management company or an appropriate other would take on the long-term management. Management would be secured and, if necessary appropriately funded, through a legal obligation.

6.2 The management activities for the implementation phase (during the construction phase of the proposed development), the establishment phase (expected to last up to three years following construction), and during a typical year, are summarised below. These could form the basis for 'milestones' to facilitate monitoring of the habitat restoration and management works. Management Schedules detailing the timing of works are provided in *Appendix D*.

6.3 Implementation Phase:

- Carry out vegetation clearance works including removal of unretained hedgerow, woodland, scrub, trees and ruderal/grassland habitats to allow for construction and landscaping works.
- Undertake enhancement works to the existing ditches within the site including removal of debris, in-channel works including bank and channel re-profiling etc.
- Preparation of soil and sow meadow, rough and amenity grassland seed mixes/turf on newly cleared areas of land and commence cutting regime as appropriate.
- Carry out new and infill hedgerow planting and commence new rotational cutting regimes.
- Plant new trees, scrub and shrubs in formal and informal areas as specified and commence management.
- Protect plantings with tree guards or temporary fencing/dead hedging as appropriate.
- Maintain bases of new tree, shrub and hedgerow planting free of weeds.
- Manage retained trees within the management area for safety.
- Create habitat piles using arisings from woodland, hedgerow and tree management.
- Install bird and bat boxes where appropriate.
- Implement measures for the control of invasive species.

- Create paths and install site furniture (including bollards, play equipment, fencing and any signage or safety equipment).

6.4 Establishment Phase:

- Manage trees and other management items for safety.
- Manage meadow, rough and amenity grassland.
- Maintain habitat piles/deadwood habitats.
- Continue management of hedgerows, scrub, treelines and woodland habitats.
- Maintain bases of new tree, shrub and hedgerow planting free of weeds and remove any protective guards after 3 years if appropriate. Loosen tree ties as required.
- Replace failed plantings as necessary.
- Cut marginal and bankside vegetation around the ditches and remove excess silt and aquatic vegetation as required.
- Maintain paths and site furniture as necessary.
- Maintain management area free of litter.
- Monitor the management area and carry out control of non-native invasive species as necessary.
- Monitor success of management activities and revise management plan as appropriate.

6.5 Typical year:

- Manage trees and other management items for safety.
- Continue the cutting regime of meadow, rough and amenity grassland.
- Maintain and create new habitat piles/deadwood habitats.
- Continue management of hedgerows, scrub, treelines and woodland habitats.
- Continue control/management of scrub habitats where appropriate.
- Cut marginal and bankside vegetation around the ditches and remove excess silt and aquatic vegetation as required.
- Maintain paths and site furniture as necessary.
- Maintain management area free of litter.
- Monitor the management area and carry out control of non-native invasive species as necessary.
- Monitor success of management activities and revise management plan as appropriate.

7 REFERENCES

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APPENDIX A

Landscape Masterplan (CSA Environmental, 2024a)