

Biodiversity Net Gain Assessment

Land at The Lydhurst Estate,
Warninglid

June 2025

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Land at The Lydhurst Estate, Warninglid

03/06/2025

Lydhurst Estate
Warninglid Lane
Warninglid
West Sussex
RH17 5TG

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1. Introduction

Project Background

- 1.1 Phlorum Limited was commissioned by Rural Solutions to compile a Biodiversity Net Gain Assessment in relation to the proposed development of Land at The Lydhurst Estate, Warninglid (hereafter referred to as “the site”). The site address is The Lydhurst Estate, Warninglid Lane, West Sussex, RH17 5SJ.

Site Description and Context

- 1.2 The site comprised buildings (u1b5), other developed sealed surface (u1b6), modified grass (g4), other neutral grassland (g3c), ruderal vegetation (u81), flower beds (u1 846), introduced shrub (u1 847) and scattered trees (w32).
- 1.3 The site is located within the grounds of the Lydhurst Estate. The estate is private and includes several buildings within the wider ownership boundary, with the main house within the site boundary. The wider surroundings are predominantly rural, Warninglid village, with woodland and agricultural fields in the immediate and wider surroundings, to the east is a small urban area and there are scattered farm buildings around the area with minor roads. The site is within the High Weald Area of outstanding Natural Beauty (AONB) and is subject to statutory designations.
- 1.4 The National Grid Reference for the centre of the site is TQ24612593. The survey area extended over approximately 1.8 hectares (ha).

Description of Development

- 1.5 It is understood that the proposed development involves demolition and replacement of the existing main building (B1) and associated hard and soft landscaping.

Documentation Provided

- 1.6 This document has been developed with reference to the findings contained within the previous ecological report:
 -  Preliminary Ecological Appraisal (PEA) (2025).

2. Methodology

Establishing the Baseline Habitat

- 2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2km radius of the site. This was carried out in September 2024.
- 2.2 Phlorum carried out a Preliminary Ecological Appraisal on 2nd September 2024, with an updated site visit undertaken on the 10th April 2025 of the site, following the guidance set by the Joint Nature Conservation Committee, handbook for Phase 1 surveys (CIEEM 2017; JNCC 2010) for survey methodology.

Calculating Biodiversity Net Gain/Loss

- 2.3 A Biodiversity Net Gain (BNG) assessment involves making a comparison between the biodiversity value of the present habitat, prior to development (i.e. the baseline) and the predicted biodiversity value of the habitats following completion of the development (i.e. post-development). The comparison is made in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.
- 2.4 If the baseline habitat has recently been disturbed/cleared then the baseline is taken as 30th January 2020.
- 2.5 The calculation of Biodiversity Net Gain (BNG) was undertaken using The Statutory Biodiversity Metric (DEFRA 2023, as amended). The metric uses site habitats, as areas and linear lengths, to calculate a score for the site. Each habitat is scored according to its relative biodiversity value. This value is then adjusted depending on various factors, to calculate the 'biodiversity units' for each habitat.

Baseline Calculation

- 2.6 Site baseline habitats are assessed based on the following:
 -  Terrestrial areas;
 -  Terrestrial linear lengths; and
 -  Aquatic linear lengths.
- 2.7 The baseline habitat map from the Preliminary Ecological Appraisal is used to calculate the individual parcels of habitats on the site, such as terrestrial areas (e.g. woodland, grassland), terrestrial lengths (e.g. hedgerows) and aquatic lengths (e.g. streams, rivers). Each area is measured in *hectares* and each linear feature in *kilometres*.

- 2.8 The Statutory Biodiversity Metric calculator requires habitats present on site to be described using the UKHabs Classification System. As a result, the calculator in the technical data section includes a tool to translate Phase 1 habitats into UKHabs habitats.
- 2.9 Once the UKHabs habitat names, and areas/lengths have been measured the parcels need to be assessed against the following criteria:
-  Habitat Distinctiveness – The calculator creates an automated score based on the type of habitat present. Highly diverse habitats, particularly those habitats of Principal Importance under the NERC Act (2006) or Annex 1 habitats in the Habitats Directive (1992) score 'high', whilst sites with low diversity such as arable crops have 'low' scores.
 -  Habitat Condition – An assessment of the quality of the habitat parcel assessed during the baseline surveys.
 -  Strategic Significance – An assessment based on the information set out in local plans or policies.
- 2.10 The calculator realises the importance of individual trees but there is no UKHabs habitat for these in the area calculation. As a result, the 'Street tree helper', which allows numbers of trees to be converted to an area in hectares is used, regardless of if the tree is a street tree or isolated tree in another habitat. Trees are categorised as 'small', 'medium', 'large' or 'very large'. The condition of the tree can then be assessed as 'poor', 'moderate' or 'good'.
- 2.11 For the purpose of this assessment the size of the trees has been assessed during the site walkover.

Post Development Calculation

- 2.12 The post development areas are calculated by initially assessing the areas/length of habitats retained, enhanced, and created plus any offsite areas created or enhanced.
- 2.13 A 'Habitat Condition' and 'Strategic Significance' assessment are carried out on the post-development habitats. Where habitats have been created or enhanced, additional factors are considered, such as time taken for each of these habitats to reach target condition (temporal multiplier) and the difficulty of recreating these habitats (difficulty multiplier).
- 2.14 The baseline biodiversity score and post-development score are then calculated and compared the biodiversity impact loss or gain is calculated for each habitat (e.g. terrestrial habitat, terrestrial linear and /or linear aquatic habitat).
- 2.15 If needed offsite enhancement and/or creation of habitats can be carried out and assessed.
- 2.16 The site, and if needed the offsite enhancement, are then managed for at least 30 years via legal agreements, such as planning obligations or conservation covenants.

Caveats

- 2.17 The BNG calculates habitats and only provide a score to represent the biodiversity on site. As a result, compensation and mitigation should be designed using appropriate expertise and common sense.
- 2.18 As only habitats are calculated an increase in biodiversity due to increase in fauna (e.g. birds, bats, insects, reptiles, amphibians, or other mammals) is not included. The creation of bird/bat/insect boxes, log piles, and/or hibernacula's can significantly enhance the ecosystems on a site, but these enhancement are not calculated by the BNG calculator. The BNG calculator is a good guide to help increase biodiversity but habitats need both flora (plants) and fauna (animals) enhanced to ensure healthy and sustainable ecosystems.
- 2.19 The existing levels of protection provided to certain habitats or protected species are not changed by this calculator. The impact on protected species are not considered by the calculator, and must be assessed separately.
- 2.20 In nature the boundaries between ecological habitats are not usually an easily defined line, unless human impact such a hard surface (e.g. buildings/roads), fences, ploughing, and/or felling has occurred. As a result, the habitat areas used are based on best judgement and therefore are subjective.
- 2.21 The calculator requires area measurements in *hectares* and linear measurements in *kilometres*, which for small sites can result in smaller areas/lengths not being recorded when only 2 decimals places area used.
- 2.22 As isolated trees are measured separately the overall area of all the habitat parcels can be greater than the actual site area.
- 2.23 The calculator cannot take account of all site-specific features and circumstances that may affect the true value of certain habitats or dictate the nature of habitat creation and enhancement. Such features and circumstances may make it impossible to satisfy trading rules for medium and high distinctiveness habitats, even where a clear net gain for biodiversity is being delivered. Under The Statutory Biodiversity Metric meeting the Trading Rules is a requirement and irreplaceable habitats cannot be lost on site.
- 2.24 Whilst the calculator provides a valuable guide as to how a development will affect biodiversity, it should be considered as a guide to be used in combination with pragmatic and knowledge-based judgement when reaching conclusions as to how effective biodiversity enhancement will be delivered.

3. Biodiversity Net Gain Assessment

Existing Habitats

- 3.1 The existing habitats identified on site during the Preliminary Ecological Appraisal were buildings (u1b5), other developed sealed surface (u1b6), modified grass (g4), other neutral grassland (g3c), ruderal vegetation (u81), flower beds (u1 846), introduced shrub (u1 847) and scattered trees (w32). The habitat map can be seen in Appendix A.
- 3.2 The landscape scheme can be seen in Appendix B.
- 3.3 Where relevant, the following habitats will be referred to using the UK Habitat Classification¹ to help inform the Biodiversity Net Gain (BNG) for the site.
- 3.4 The following habitats will be lost:
-  **Buildings:** The main building (B1) will be lost as part of the development.
 -  **Modified Grassland:** An extent of the grass lawns around the main building (B1) footprint will be lost as part of the development.
 -  **Other neutral grassland:** An extent of other neutral grassland will be lost in order to create the new access track.
 -  **Trees:** the two small cherry trees at the south of the site will be removed and one large conifer will be removed from the grassland roundabout in front of the main building.
 -  **Introduced Shrub:** A small area of introduced shrub will be lost from around the footprint of the main building (B1).
- 3.5 The following habitats will be retained:
-  **Buildings:** The smaller outbuilding (B2) will be retained as part of the development.
 -  **Introduced Shrub:** The ornamental shrubs will be retained around the retained building (B2).
 -  **Flower Beds:** The flower beds will be retained around the retained building (B2).
 -  **Modified Grassland:** The majority of the grass lawns around the main building footprint will be retained as part of the development.
 -  **Other neutral grassland:** The majority of the neutral grassland at the east of the site will be retained as part of the development
 -  **Scattered Trees:** All remaining scattered trees will be retained.
- 3.6 The following habitats will be created:

¹ UKHab Ltd (2023) The UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)
13362 BNG V1

-  **Buildings:** A new building will be created in the previous buildings (B1) footprint.
-  **Sealed surface (Hardstanding):** An access road will be created
-  **Modified Grassland:** New grass lawns around the new building footprint will be created as part of the development.
-  **Other neutral grassland:** The existing hardstanding access track will be replaced with wildflower grassland.
-  **Other neutral grassland:** An extent of the modified grassland at the south of the site will be improved in condition, through wildflower seeding. Extents of this will be in specific biodiversity sites
-  **Trees:** New tree planting of native species will be around the site. 28 medium sized trees are proposed with girths of 16-18cm, including a range of native and non-native species.
-  **Introduced Shrub:** Ornamental shrubs and herbaceous plants will be planted in the gardens around the new building.

Headline Results

- 3.7 The headline results, including total unit and percentage change are shown in Table 1 below.

Table 1: Results

	Habitat Area Units (Terrestrial area)	Habitat Length Units (Terrestrial linear length)	Aquatic Length Units (Aquatic linear length)
On-site Baseline	13.59	NA	NA
On-site post- intervention	14.97	NA	NA
Total net unit change	+ 1.38	NA	NA
Total net % change	+ 10.15%	NA	NA

- 3.8 The Trading Rules requirement of the BNG assessment are satisfied for the site. Results Summary
- 3.9 The existing area habitats on the site are considered by the Biodiversity Net Gain assessment to have a value of **13.59 units**. The post-development area habitats are considered by the Biodiversity Net Gain Assessment to have a value of **14.97 units**. This is a **+1.38 net change** in habitat units which equates to a **10.15% net gain/loss**.
- 3.10 This reflects the retention of the majority of the habitats on site. The building will be replaced, and a new access track will be created. The areas of grassland lost will be compensated for by creation of wildflower grassland, and new grassland created in place of the existing hardstanding access track. There will be new tree planting around the site.

3.11 There are no linear/aquatic habitat features on the site pre- or post-development.

3.12 Trading Rules for the site are satisfied.

4. Discussion

- 4.1 A Biodiversity Net Gain Assessment has been carried out for the proposed development of Land at The Lydhurst Estate, Warninglid Lane, West Sussex, RH17 5SJ. The site comprised buildings (u1b5), other developed sealed surface (u1b6), modified grass (g4), other neutral grassland (g3c), ruderal vegetation (u81), flower beds (u1 846), introduced shrub (u1 847) and scattered trees (w32).
- 4.2 It is understood that development proposals are for demolition and replacement of the existing building and associated hard and soft landscaping.
- 4.3 An overall net gain/loss of 10.15% in habitat units from the existing baseline has been calculated. The net gain reflects the replacement of a building, hardstanding, shrubs, modified grassland, other grassland and trees, with a new building, new access track, creation of new wildflower grassland, ornamental shrub and herbaceous planting and new tree planting.
- 4.4 Trading Rule requirement of the BNG assessment are satisfied.
- 4.5 There may also be significant gains for ecology on the site that are not captured by the BNG Assessment, such as species-specific enhancements including bird and bat boxes.
- 4.6 A Habitat Management and Monitoring Plan (HMMP) may be required to demonstrate how the post development habitat will be maintained, who is responsible for creating and enhancing it, and who is responsible for its maintenance, management and monitoring over a 30-year period.

5. Conclusions and Recommendations

Conclusions

- 5.1 A Biodiversity Net Gain Assessment has been carried out for the proposed development of the Land at the Lydhurst Estate, Warninglid. An overall net gain/loss of 10.15% in habitat units from the existing baseline has been calculated.
- 5.2 It should be noted that the BNG assessment does not capture other methods of ecological enhancement such as the inclusion of bat and bird boxes.

6. References

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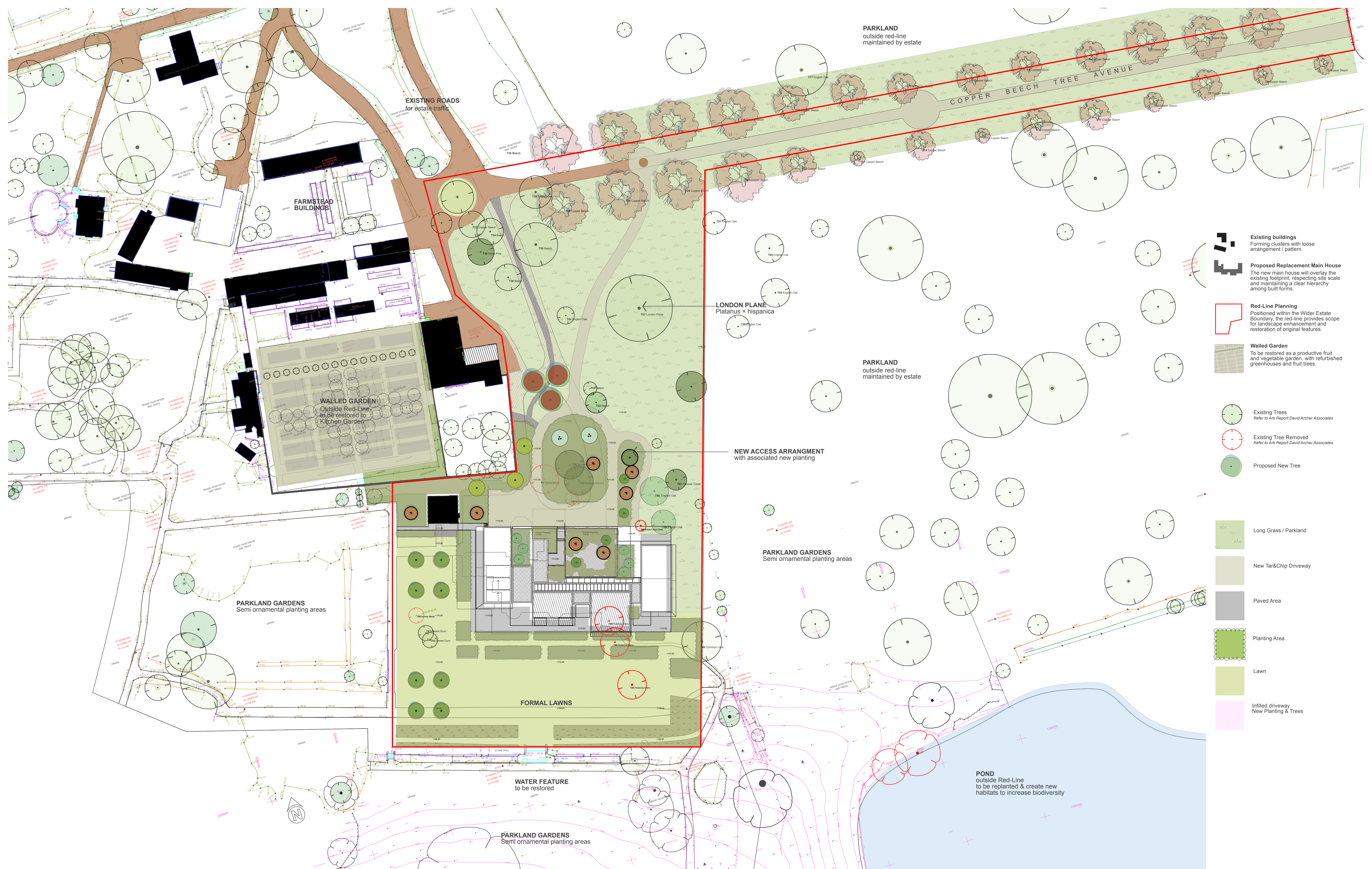
Figures and Appendices

Appendix A

Habitat Map

Appendix B

Post Development Landscape Plan



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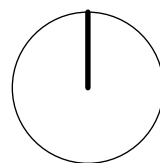
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General notes:

1. Only figured dimensions are to be worked from.
2. Contractors must check all dimensions on site.
3. Discrepancies must be reported to the Landscape architect before proceeding.
4. Not suitable for construction unless stated below
5. This drawing is to be read in conjunction with all relevant Architect's drawings, specifications and other Consultant's information.

Scale 1:500

0 5 10 15 20 25 30 35 40 45 50



CLIENT
HORSFIELD FAMILY

PROJECT
LYDHURST ESTATE

SCALE
VARIOUS

PRINT SIZE
A1

STAGE
PLANNING

DATE
30/05/2025

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ND

DATE
30/05/2025

DRAWING NUMBER

0356-NDLD-L-LANDSCAPE LAYOUT

REVISION

P04

Tree Planting Strategy
The tree palette draws on a simple, mostly native selection that reflects the character of the existing estate. Both multistem and standard forms have been chosen for their seasonal interest, ecological value, and ability to sit quietly within the landscape.

Trees are placed to frame views and define spaces without blocking them, supporting the open, informal structure of the garden. Multistem species such as *Amelanchier lamarckii* and *Acer campestre* bring a softer, more intimate scale near the house, while larger standards like *Tilia x europaea* help tie the scheme into the wider setting.

Although not native, *Liquidambar styraciflua* has been selected in recognition of its presence elsewhere on the estate — a legacy of Victorian-era planting that adds richness to the autumn canopy.



Pinus pinea
P. pinea is an evergreen conifer making a round-topped evergreen tree with stiff, dark green needles to 15cm long. Cones rounded-ovoid, to 15cm long, shiny light brown. It will reach 15-20m when fully mature



Liquidambar styraciflua
Liquidambar styraciflua has attractive corky bark, but its main interest is its autumn colour when the leaves turn red, purple, and gold.



Tilia x europaea
A large, deciduous tree. The heart shaped leaves are green turning yellow in autumn. Fragrant flowers in summer are cream but scarcely visible. In the winter, the young twigs are red bronze.



Amelanchier lamarckii
Amelanchier are small deciduous trees or shrubs with showy white flowers in early spring, red to purple fruits and often good autumn colour



Carpinus betulus 'Fastigiata'
A medium-sized deciduous tree; crown narrow when young, becoming compact and ovoid. Fruiting catkins conspicuous and leaves turn golden yellow in autumn.

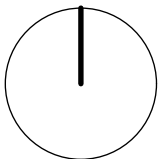


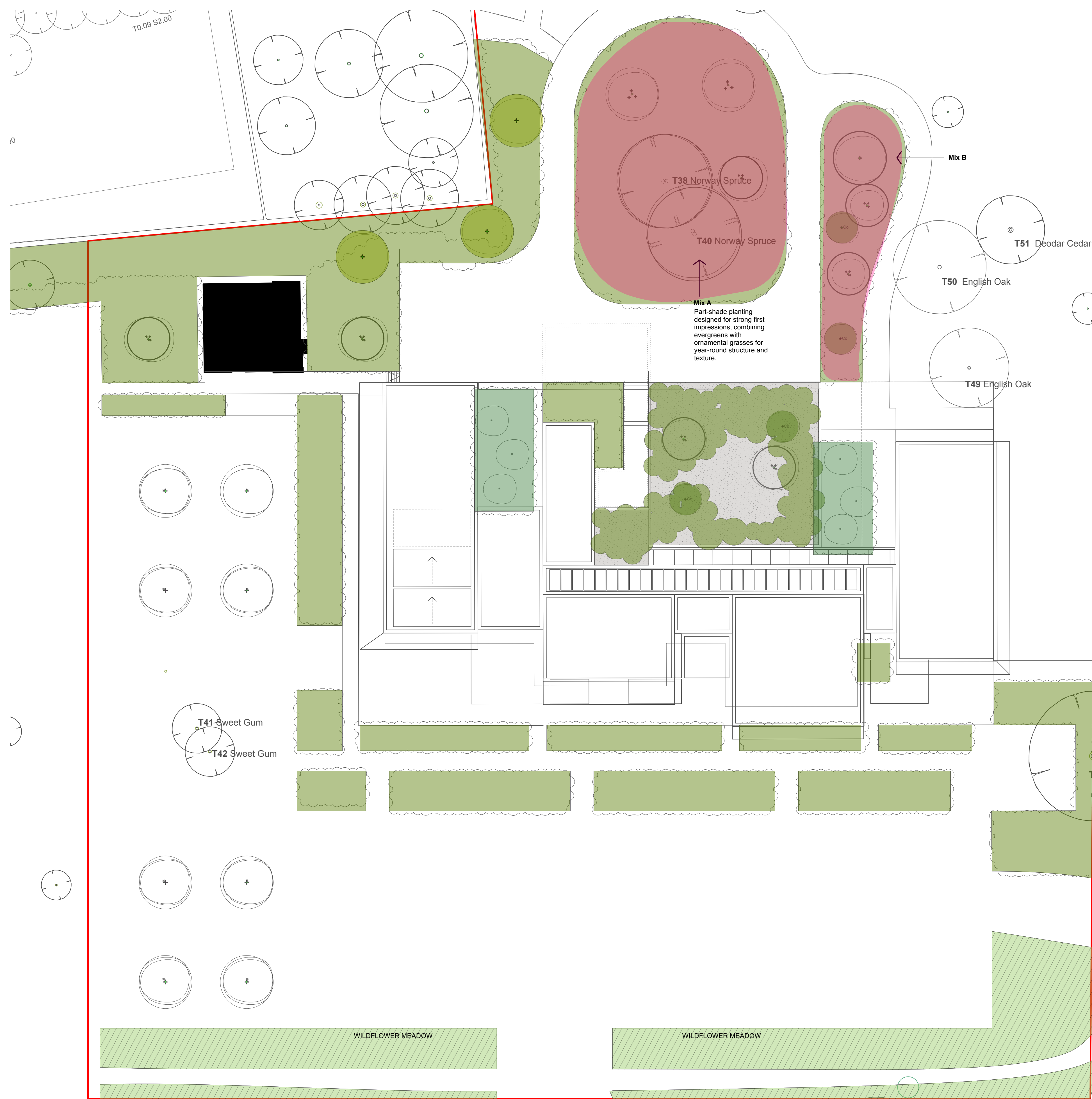
Corylus avellana (multistemmed)
Rounded leaves turning yellow in autumn, and yellow male catkins in early spring, followed by edible nuts in autumn.



Acer campestre
A. campestre is a medium-sized deciduous tree with a compact bushy crown. Leaves with 5 blunt lobes, turning yellow or red in the autumn. Flowers small, green, forming typical winged maple fruits

Quantity	Species	Girth / Size	Form
0			
2	<i>Acer campestre</i>	WRB 2.0m clear stem	Multistem
3	<i>Liquidambar styraciflua</i>	WRB 18-20cm	Standard
1	<i>Pinus pinea</i>	WRB 18-20cm	Standard
7	<i>Amelanchier lamarckii</i>	WRB 2.0m clear stem	Multistem
8	<i>Carpinus betulus 'Fastigiata'</i>	WRB 18-20cm	Standard

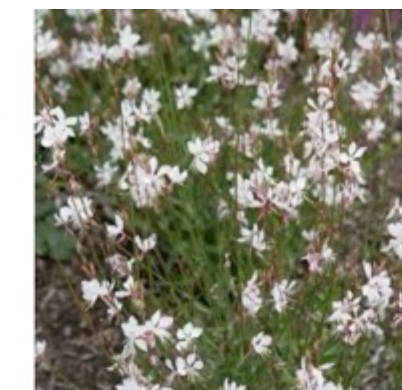




Mix A



Taxus baccata sphere



Gaura lindheimeri



Pennisetum alopecuroides 'Hameln'



Sesleria autumnalis



Sarcococca confusa



Lavandula angustifolia 'Alba'



Cistus x argenteus 'Paper Moon'



Ballota pseudodictamnus



Teucrium chamaedrys



Calamintha nepeta



Hyssopus officinalis



Achillea millefolium



Brunnera macrophylla



Miscanthus sinensis



Rosmarinus officinalis

Mix B



Pittosporum tobira



Persicaria amplexicaulis



Helenium 'Moerheim beauty'



Sesleria autumnalis



Tellima grandiflora



Echinacea pallida



Achillea millefolium



Sanguisorba officinalis 'Tanna'



Miscanthus sinensis



Rosmarinus officinalis



Lonicera pileata



Euonymus japonicus



Sarcococca confusa



Hebe rakaiensis



Libertia grandiflora

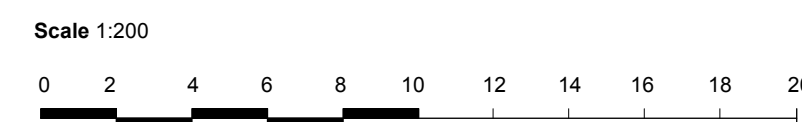
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0356-NDLD-L-3050-PLANTING MIXES A/B

REVISION
P03