



Biodiversity Net Gain Assessment

Farleigh and Meadhurst Schools, Uppingham

Presented to: **Uppingham School**

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Table of Contents

1.0 INTRODUCTION	1
1.1 Context and Purpose	1
1.2 Proposed Development	2
2.0 METHODOLOGY	3
2.1 Overview	3
2.2 Biodiversity Metric.....	3
2.3 Habitat Distinctiveness.....	3
2.4 Habitat Condition	4
2.5 Baseline Assessment.....	4
2.6 Post Development Biodiversity Unit Calculation	4
2.7 Proposed Scheme	5
2.8 Future Auditing	5
3.0 ASSUMPTIONS AND APPLICATION OF PROFESSIONAL JUDGEMENT	6
3.1 Baseline Habitats	6
3.2 Future Habitats	6
4.0 RESULTS	7
4.1 Baseline	7
4.2 Proposed Scheme	8
5.0 CONCLUSIONS.....	10
6.0 DISCLAIMER	11

Tables

- TABLE 1 - ON-SITE AREA HABITAT BASELINE SCORE
- TABLE 2 - ON-SITE LINEAR HABITAT BASELINE SCORE
- TABLE 3 - POST-DEVELOPMENT AREA HABITAT SCORE
- TABLE 4 - POST-DEVELOPMENT LINEAR HABITAT SCORE

Figures

- FIGURE 1 - HABITAT SURVEY PLAN

Drawings

- DRAWING 1 - OUTLINE PLANTING PLAN

Appendices

- APPENDIX A - DEFRA METRIC 4.0 CALCULATION TOOL (ISSUED SEPARATELY)

1.0 Introduction

1.1 Context and Purpose

Delta-Simons Limited ("Delta-Simons") was instructed by Uppingham School ("the Client") to undertake a Biodiversity Net Gain (BNG) Assessment to determine whether the redevelopment of the school ("the Proposed Development") at land off north of Uppingham in Rutland (hereafter referred to as "the Site") can achieve a net gain in biodiversity.

The revised National Planning Policy Framework (NPPF, 2023) states, "Planning policies and decisions should contribute to and enhance the local environment by...(d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...", it also places greater emphasis on achieving a measurable net gain in biodiversity.

This assessment was carried out in adherence to the five rules contained within the Biodiversity Metric 4.0 User Guide (Natural England, 2023):

- Rule 1: Competency requirements must be complied with.
- Rule 2: Biodiversity unit outputs are unique to this metric. The results of other metrics, including previous versions of this metric, are not comparable to those of this metric. The three types of biodiversity units generated by this metric (area, hedgerow and watercourse) cannot be summed, traded, or converted between modules.
- Rule 3: The trading rules of this metric must be followed.
- Rule 4: Losses and deterioration of irreplaceable or very high distinctiveness habitat cannot be accounted for through this metric.
- Rule 5: In exceptional ecological circumstances, deviation from this metric methodology may be permitted by the relevant consenting body or planning authority.

In addition, use of the metric during this assessment was informed by the eight principles as contained within the Biodiversity Metric 4.0 User Guide (Natural England, 2023):

- Principle 1: This metric does not change existing biodiversity protections, statutory obligations, or policy requirements. The use of this metric does not override the ecological mitigation hierarchy and other requirements (such as consenting or licensing processes, for example woodlands).
- Principle 2: This metric should be used in accordance with established good practice guidance and professional codes.
- Principle 3: This metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.
- Principle 4: Biodiversity units are a proxy for biodiversity and should be treated as relative values.
- Principle 5: This metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.
- Principle 6: Habitat interventions need to be realistic and deliverable within a relevant project timeframe.
- Principle 7: Created and enhanced habitats should seek, where practical and reasonable, to be local to any impact and deliver strategically important outcomes for nature conservation.
- Principle 8: The metric does not enforce a minimum habitat size ratio for compensation of losses. However, proposals should aim to maintain habitat extent (supporting more, bigger, better and more joined up ecological networks) and ensure that proposed or retained habitat parcels are of sufficient size for ecological function.

1.2 Proposed Development

It is understood from the drawing provided by Livingston Eyre Associates (4403-LEA-00-00-DR-L-1006 rev P03) dated 24/01/2024, that the proposed development comprises part demolition of a school building and re construction of a school building with associated hardstanding. Soft landscaping includes newly created lawn grasslands, scrub and shrub planting as well as additional tree and hedgerow planting. The majority of the existing landscape to the south and south-east is being retained.

2.0 Methodology

2.1 Overview

The approach used to assess biodiversity impacts resulting from the proposed development is detailed below. This assessment has been based on the Defra Metric 4.0 beta version (the Metric), the provided Outline Planting Plan (4403-LEA-00-00-DR-L-1006 rev P03) and a Site visit undertaken on 29th November 2023.

2.2 Biodiversity Metric

The quantitative assessment is based on the Metric to provide a transparent and repeatable measure of biodiversity at each of the stages identified above. The biodiversity score considers a number of factors including:

- Habitat distinctiveness;
- Habitat condition;
- Temporal risk: time required to reach target condition;
- Difficulty to create/restore; and
- Spatial area of loss/gain of each habitat.

The pre-development value is compared to the proposed habitat composition post development to assess the change in biodiversity value using biodiversity units as a proxy numeric value.

The Metric only considers habitats and does not take protected and notable species or associated enhancement measures such as bird/bat boxes into account.

2.3 Habitat Distinctiveness

Distinctiveness refers to the relative scarcity of the habitat and its importance for nature conservation. Habitats are assigned to distinctiveness bands. These are based on an assessment of the distinguishing features of a habitat or linear feature, including the consideration of species richness, rarity (at local, regional, national and international scales), and the degree to which a habitat supports species rarely found in other habitats.

The distinctiveness band of each habitat is preassigned in the Metric. The bands are based upon the UK habitat classification system. Where no directly comparable Defra habitat type was available to match the vegetation recorded by UK Habitat survey, the closest approximation was selected.

The Defra habitat typologies are split into five distinctiveness bands:

- **Very High** - Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 that are highly threatened, internationally scarce, and require conservation action;
- **High** - Priority habitats as defined in Section 41 of the NERC Act requiring conservation action;
- **Medium** - Semi-natural habitats not classed as Priority Habitat;
- **Low** - Habitat of low biodiversity value; and
- **Very low** - Little or no biodiversity value.

Under the supplementary habitat calculations for linear habitats, hedgerows are assigned a distinctiveness weighting based on their physical structure and the species composition of the woody element of the hedgerow, and their association with physical features (ditches and banks) that may enhance their ecological value by providing additional niches or enhanced capacity to provide habitat connectivity.

2.4 Habitat Condition

The condition of a habitat is defined by its particular quality. For example, a habitat is in poor condition if it fails to support the notable/protected species for which it is valued, or if it is in unfavourable condition due to degradation from external factors, such as pollution, erosion or invasive species. Condition assessment criteria is based on Common Standards Monitoring of protected sites in the UK where key attributes and positive and negative indicators are used. Habitat condition categories are as follows:

- Good;
- Fairly good;
- Moderate;
- Fairly poor;
- Poor;
- N/A - Agricultural; and
- N/A - other.

For linear features, condition assessment is based on the dimensions and other physical characteristics of a hedgerow or line of trees against a set of minimum requirements for the feature to be considered in a 'favourable' condition. The condition assessment is based on the Hedgerow Survey Handbook.

2.5 Baseline Assessment

The baseline biodiversity score for the Site has been determined using the PEA of the Site undertaken by Delta Simons on 29th November 2023. The baseline habitats are shown in Figure 1.

The baseline assessment for the Site has now been established and will not change throughout the development period. This is the baseline from which future audits can be compared.

The areas of the individual trees were generated using the Tree calculator tool.

2.6 Post Development Biodiversity Unit Calculation

Biodiversity Units and Linear Units resulting from ecological mitigation for the Scheme to compensate for potential losses are referred to as post-development Biodiversity Units/Linear Units (BUs/LUs).

To calculate the BUs which may be achieved post-development, risk factors are introduced. The aim of a risk factor is to correct for a disparity or risk, associated with the uncertainty surrounding the creation of habitats. There are three main types of risk that are accounted for within the Metric. These are categorised as follows:

- **Spatial Risk** - these reflect ecological risks deriving from the change in location of the habitat or resource. By way of example, it may be that recreating a habitat in a new location distant from the area of loss could reduce its biodiversity value, through reduced connectivity and a decrease in habitat availability for the species affected by the development;
- **Temporal Risk** - the risk associated with the time required for created habitats to reach their target suitability and for the functionality of the habitat to be restored; and
- **Delivery Risk** - the risks associated with the actual delivery of the offset due to, for instance, uncertainty in the effectiveness of habitat creation/management.

Each risk multiplier is assigned a numerical score which enables post development Biodiversity Units to be calculated.

2.7 Proposed Scheme

In order to calculate the post-intervention score, the Landscape Proposal Plans (Drawing 1) have been used as well as assumptions for targeted habitat conditions as set out in Section 3.1.

2.8 Future Auditing

This Report sets out the predicted biodiversity impacts of the scheme based on a set of assumptions and professional judgement for target habitat conditions post-development. In order to ensure the development achieves the targets set out below, the scheme should be accompanied by an appropriate Landscape and Ecology Management and Monitoring Plan (LEMMP). The LEMMP should allow for regular monitoring of the habitat establishment and their progression to the desired condition target, allowing for changes to management regimes as necessary to achieve the targets set.

3.0 Assumptions and Application of Professional Judgement

3.1 Baseline Habitats

Professional judgement has been made in relation to the baseline habitats and their conditions based on the criteria provided within the Defra Metric Technical Supplement and User Guide.

3.2 Future Habitats

Professional judgement and translation tables included within the metric have been applied in order to translate habitats included within the Proposed Site Plan (Drawing 1) into UK Habitat Classifications suitable for use within the metric.

Assumptions and professional judgement have been applied in relation to the habitat target condition. These judgements are based on realistic targets according to the location and context of the development. Future management of the landscaping at the Site should be informed by an appropriate management and monitoring plan to achieve these target conditions.

4.0 Results

4.1 Baseline

Baseline habitats are shown in Figure 1 and consist of 0.11 ha buildings, 0.09 ha sealed surface footpaths, 0.04 ha gravel driveway, 0.3 ha pockets of modified (amenity) grassland and 0.03 ha introduced shrubs and scattered urban trees. Linear habitats comprise 102 m of native hedgerow and 125 m of ornamental hedgerow.

Overall, the baseline for the Site is calculated to provide 6.85 area BUs and 1.06 LUs.

Table 1, below, provides a summary of the baseline habitats, areas and biodiversity units for the Site. As trees do not provide a groundcover area, they are included in addition to the ground vegetation within the calculator, meaning that the total areas presented are higher than the area of the Site (Only include if relevant).

Table 1 - On-Site Area Habitat Baseline Score

Existing Habitats (Area)	Condition	Area (ha)	Biodiversity Units
Grassland - Modified Grassland	Poor	0.3	0.60
Urban- Introduces Shrubs	N/A	0.03	0.06
Urban - Developed land; sealed surface	N/A	0.09	0.00
Urban - Developed land; sealed surface	N/A	0.11	0.00
Urban- Artificial unvegetated; unsealed surface	N/A	0.04	0.00
Individual Trees- Urban tree (Small)	Moderate	0.0611*	0.49
Individual Trees- Urban tree (Medium)	Moderate	0.3298*	2.64
Individual Trees- Urban tree (Large)	Moderate	0.3823*	3.06
Total		0.57	6.85

*As trees do not provide a groundcover area, their areas are not included in the total within this table, meaning that the total areas presented remain the same as the area of the Site. Within the calculator, however, they are included in addition to the ground vegetation areas.

Table 2, below, provides a summary of the baseline linear habitats on Site (i.e. hedgerows).

Table 2 - On-Site Linear Habitat Baseline Score

Existing Habitats (Linear)	Condition	Length (km)	Linear Units
Species-rich Native Hedgerow	Moderate	0.102	0.94
Ornamental Hedgerow	Poor	0.125	0.13
Total		0.23	1.06

4.2 Proposed Scheme

Post-development habitat compositions are shown in Drawing 1 and detailed in Table 3 and 4, below. The majority of the Site post-development will comprise 0.25 ha buildings and associated sealed surface areas. Proposed soft landscaping includes 0.15 ha retained grassland and 0.07 ha newly created modified (amenity) grassland. All 0.03 ha of introduced shrubs to be retained and additional 0.01 ha of introduced shrubs planted alongside 0.02 ha mixed scrub planting. The majority of trees on Site are to be retained, however three small trees are to be lost in order to facilitate the Proposed Development, with a further five small trees transplanted to elsewhere within the Site boundary. A total of 14 newly planted small trees are included within the proposed soft landscaping specification for the Proposed Development.

A total of 0.065 km of species-rich native hedgerow to be removed during the construction phase of the Proposed Development but shall be reinstated 'like for like' within two years of the commencement of works. As a result, this length of hedgerow is included as retained within the BNG Metric. A total of 0.04 km of native species-rich hedgerow shall be lost as a result of the Proposed Development, alongside the loss of 0.04 km of ornamental hedgerow. Hedgerow planting comprising 0.056 km of species-rich and 0.095 km of species-poor native hedgerow is proposed alongside a line of trees 0.04 km in length along the western Site boundary.

Table 3, below, provides a summary of the post-development habitats, areas and biodiversity units for the Site.

Table 3 - Post-Development Area Habitat Score

Proposed Habitats (Area)	Target Condition	Area (ha) Retained	Area (ha) Created	Biodiversity Units Delivered
Urban - Developed land; sealed surface	N/A	0.03	0.22	0.00
Grassland - Modified Grassland	Poor	0.15	0.07	0.43
Urban - Introduced shrub	N/A	0.03	0.01	0.08
Urban - Artificial unvegetated, unsealed surface	N/A	0.04	-	0.00
Heathland and Shrub - Mixed Scrub	Moderate	-	0.02	0.13
Individual Trees- Urban trees (Small)	Moderate	0.0489*	0.057*	0.56
Individual Trees- Urban trees (Medium)	Moderate	0.3298*	-	2.64
Individual Trees- Urban trees (Large)	Moderate	0.3823*	-	3.06
Total		0.25	0.32	6.90

*As trees do not provide a groundcover area, their areas are not included in the total within this table, meaning that the total areas presented remain the same as the area of the Site. Within the calculator, however, they are included in addition to the ground vegetation areas.

Table 4, below, provides a summary of the post-development linear habitats, lengths, and biodiversity units for the Site.

Table 4 - Post-Development Linear Habitat Score

Proposed Habitats (Linear)	Target Condition	Length (km) Retained	Length (km) Created	Length (km) Enhanced	Linear Units Delivered
Species-Rich Native Hedgerow	Moderate	0.065	0.056	-	1.02
Ornamental hedgerow	Poor	0.085	-	-	0.09
Line of trees	Poor	-	0.040	-	0.06
Native hedgerow	Poor	-	0.095	-	0.35
Total		0.15	0.191	-	1.52

All of the hedgerows to be delivered on-Site have been combined to provide the above length measurement.

5.0 Conclusions

The above assessment results in a total net unit change of:

Area Units = +0.05 **Total net % change = 0.71%**

Linear Units = +0.45 **Total net % change = +42.61%**

See the attached completed Defra Metric for detailed results (Appendix A).

Based on the information currently available, this assessment indicates that the Proposed Development demonstrates a net gain in area and linear Biodiversity Units whilst meeting the Metric Trading Rules for both area and linear habitats.

The retention of the majority of medium and large trees within the Site, alongside the provision of significant tree planting within the Proposed Development appears to be the most significant factor in achieving a gain in area BUs.

The assessment indicates that the Proposed Development will achieve a significant net gain in linear Biodiversity Units. This is primarily a result of the re-instatement of species-rich native hedgerows following the construction of the proposed buildings, alongside additional native hedgerow planting included within the Outline Planting Plan.

It should be noted that any habitat creation is required to be managed in perpetuity to ensure habitats meet the target conditions (which for the purposes of BNG is considered to be 30 years). Monitoring of this should be implemented through an appropriate LEMMP.

The requirement for further consideration of Biodiversity Net Gain will depend on the current approach and requirements of the LPA.

6.0 Disclaimer

The recommendations contained in this Report represent Delta-Simons' professional opinions, based upon the information referred to in Section 1.0 of this Report, exercising the duty of care required of an experienced Ecology Consultant. Delta-Simons does not warrant or guarantee that the Site is free of Bats or other protected species.

This Report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed as defined in Section 1.0 of this Report. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

Figure 1 - Habitat Survey Plan



Legend

- Site boundary
- g4 - modified grassland
- u1 - built-up areas and gardens
- u1b - developed land, sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- h2a - Hedgerow priority habitat
- h2b - Other hedgerows
- Individual tree



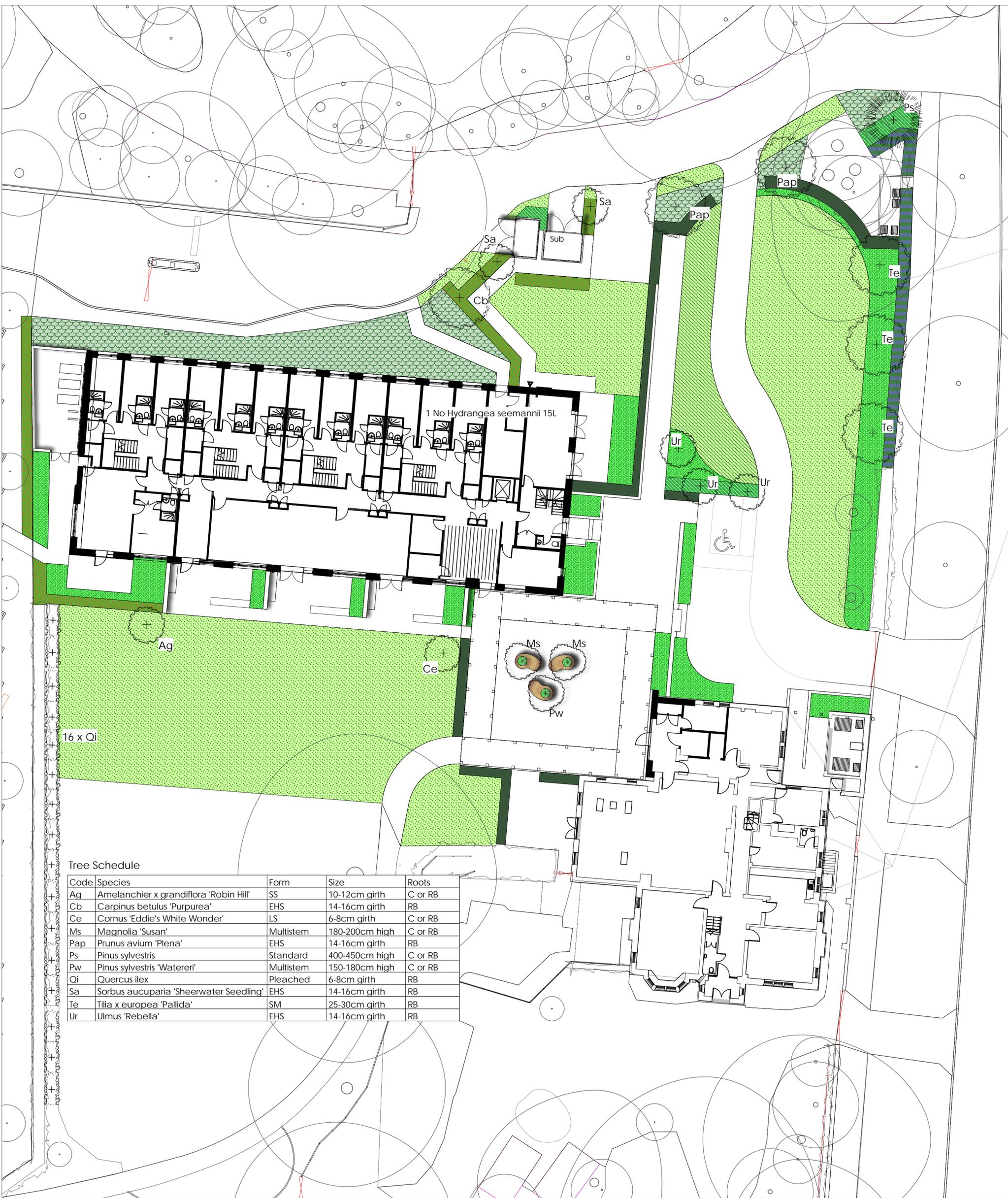
Figure			
Habitat Survey Plan			
Job			
Farleigh and Meadhurst Schools, Uppingham			
Client			
Savills			
Figure No.	Revision	Date	
1	A	16/01/2024	
Drawn	Checked	Scale	
BB	BH	1:400 @ A3	
Job No.	Central GR		
92871.564129	486577E 299921N		



DO NOT SCALE.
NOT FOR CONSTRUCTION.



Drawing 1 - Outline Planting Plan



Tree Schedule

Code	Species	Form	Size	Roots
Ag	Amelanchier x grandiflora 'Robin Hill'	SS	10-12cm girth	C or RB
Cb	Carpinus betulus 'Purpurea'	EHS	14-16cm girth	RB
Ce	Cornus 'Eddie's White Wonder'	LS	6-8cm girth	C or RB
Ms	Magnolia 'Susan'	Multistem	180-200cm high	C or RB
Pap	Prunus avium 'Plena'	EHS	14-16cm girth	RB
Ps	Pinus sylvestris	Standard	400-450cm high	C or RB
Pw	Pinus sylvestris 'Watereri'	Multistem	150-180cm high	C or RB
Qi	Quercus ilex	Pleached	6-8cm girth	RB
Sa	Sorbus aucuparia 'Sheerwater Seedling'	EHS	14-16cm girth	RB
Te	Tilia x europeae 'Pallida'	SM	25-30cm girth	RB
Ur	Ulmus 'Rebella'	EHS	14-16cm girth	RB

KEY

-  Existing Trees/Hedges Retained
-  Proposed Trees As Schedule
-  Hedge to Road Frontage Ilex to match existing, 450mm topsoil
-  Garden Hedge Taxus, various heights, 450mm topsoil
-  Mixed Hedge Native species, 450mm topsoil
-  Tall Ornamental Planting 450mm topsoil, mulch
-  Low Ornamental Planting 450mm topsoil, mulch
-  Woodland Planting 450mm topsoil, mulch
-  Lawn Turf on 200mm topsoil
-  Reinforced Lawn Washed Turf on fibre-reinforced rootzone

UPPINGHAM SCHOOL, MEADHURST
FOR UPPIINGHAM SCHOOL

Outline Planting Plan

DRAWING NO: 4403-LEA-00-00-DR-L-1006 REVISION NO: P03

Scale: 1:200 @ A2

Date: 24/01/2024

Status: Information

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P03 Revised to suit new layout LJS 24.01.24

P02 Revised to suit new layout, trees, climbers, pots added LJS 06.12.23

Appendix A - Defra Metric 4.0 Calculation Tool (Issued Separately)