

UoR Standby Generator

Biodiversity Net Gain Report

Prepared on behalf of

University of Reading

Draft Report

09 June 2025

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UoR Standby Generator

Biodiversity Net Gain Report

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Biodiversity Net Gain Report

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Biodiversity Net Gain Report

BIODIVERSITY GAIN VALIDATION STATEMENT

This Statement provides the minimum information required for Wokingham Borough Council to validate the planning application for the Proposals, as set out in Article 7 of the Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended by The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024).

EPR hereby confirms that the Applicant believes that planning permission, if granted, would be subject to the biodiversity gain condition.

The on-site and off-site pre-development biodiversity value is taken to be the date that the Application is submitted. No activities resulting in a loss of on-site biodiversity value (degradation) have taken place between 30 January 2020 and this date.

A completed Statutory Biodiversity Metric Calculation Tool (published on 12th February 2024) has been submitted with the Application as part of the Information for Biodiversity Net Gain Pack. This shows the calculations of the pre-development biodiversity value of the onsite habitat on the date of application. The baseline on-site biodiversity value is calculated as follows:

- 0.04 Area Habitat units
- 0 Hedgerow units
- 0 Watercourse units

Plans, drawn to an identified scale and showing the direction of North, are included within this document (**Maps 1 and 2**) showing the on-site habitat existing on the date of application, including any irreplaceable habitat if present.

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Biodiversity Net Gain Report

1. INTRODUCTION

Scope

- 1.1 This report sets out the details of the Biodiversity Net Gain calculations completed for the Proposals, including:
- Assessment Methodology;
 - Summary of evidence underpinning Metric decisions;
 - Assumptions and Limitations;
 - Headline Results;
 - Summary of proposed significant on-site habitat enhancements;
 - Summary of proposed off-site habitat creation/enhancements; and
 - Overview of proposed arrangements for BNG delivery and monitoring.
- 1.2 It is equivalent to the 'BNG Design Stage Report' recommended by the Chartered Institute of Ecology and Environmental Management (CIEEM) in their Biodiversity Net Gain Report & Audit Templates guidance document (CIEEM, 2021a).

Description of Site

- 1.3 The Site consists of 0.01ha of other neutral grassland immediately west of the Mathematics Building of the University of Reading Whiteknights Campus. A semi mature Field Maple *Acer campestre* stands immediately south of the site boundary. The Root Protection Zone (RPZ) of this tree may encroach into the Site.

Description of Development

- 1.4 The Proposals are described in the application documents as follows:

"Installation of a standby generator to serve the HLS, Maths and IT departments. To include concrete slab base and fenced enclosure."

Legislation and Policy Context

- 1.5 A minimum 10% net gain in biodiversity, as measured by the Statutory Biodiversity Metric (DEFRA, 2024a,) is now a condition of most types of planning permission in England under the Environment Act 2021 and associated secondary legislation.
- 1.6 Guidance has clarified that where present on-site, the 10% gain requirement applies individually to three categories of habitat: 'Area Habitats', 'Hedgerows', and 'Watercourses'. This is

measured in 'units' which can be delivered on-site, off-site, or a combination of both, and must be secured for a minimum of 30 years.

- 1.7 The National Planning Policy Framework (NPPF) (DLUHC, 2023) requires local plans to “identify and pursue opportunities for securing measurable net gains in biodiversity” and enhance the natural and local environment by “minimising impacts on and providing net gains for biodiversity”.

- 1.8 Local Planning policy CP7 states that:

“Development:

A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or

B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or

C) That compromises the implementation of the national, regional, county and local biodiversity action plans

will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

- i) Mitigation measures can be put in place to prevent damaging impacts; or*
- ii) ii) Appropriate compensation measures to offset the scale and kind of losses are provided.”*

Guidance

- 1.9 The following guidance documents have informed the BNG assessment and overall approach:

- DEFRA's Biodiversity Gain Guidance, available at: <https://www.gov.uk/government/collections/biodiversity-net-gain>;
- The Statutory Biodiversity Metric User Guide (DEFRA, 2024);
- The UK Habitat Classification Version 2.0 (UKHab Ltd, 2023);
- Biodiversity Net Gain. Good Practice Principles for Development – A Practical Guide (Baker et al., 2019);
- Biodiversity Net Gain Report and Audit Templates (CIEEM, 2021a);
- Good Practice Requirements for Delivering Biodiversity Net Gain (On- and Off-Site) (CIEEM, 2021b); and
- BS8683:2021 Process for designing and implementing Biodiversity Net Gain – Specification (BSI, 2021).

2. ASSESSMENT METHODOLOGY

Metric Version and Assessors

- 2.1 The Statutory Biodiversity Metric and Condition Assessments published 12th February 2024 were used for this BNG assessment.
- 2.2 The calculations were carried out by Liam Mayle and reviewed by Alison Hogan, both experienced ecologists and BNG practitioners.

Baseline Surveys

On-Site

- 2.3 Baseline habitat and condition assessment surveys were carried out by Liam Mayle of EPR on 10th April 2025:
- 2.4 Habitat mapping was undertaken according to the UK Habitat Classification v.2.0 methodology (UKHab Ltd, 2023) and translated into BNG habitat categories where necessary.
- 2.5 Following the surveys, each area or length of habitat was assigned an individual 'Habitat ID', and mapped in ESRI ArcGIS software (**Maps 1 and 2**).

Off-Site

- 2.6 Off-site habitats are situated adjacent to the Site and so were assessed alongside the onsite habitats during the condition assessment visit.

Post-Development Plans

On-Site

- 2.7 The following plans produced by other technical consultants, submitted for approval with the Application, were used as the basis for the post-development calculations. These plans were imported into ArcGIS software and each line or polygon was assigned a BNG habitat type and target condition (**Map 2**):

- TCP-University of Reading-HLS, Maths and IT Buildings-22.4.25 (Appendix 1)

Off-Site

- 2.8 The above documents were also used as a basis for the confirmed off-Site habitats, as they are situated in the immediate vicinity of the Site.

Metric Inputs

- 2.9 As set out in the Statutory Metric User Guide (DEFRA, 2024), one of the key principles of the Biodiversity Metric is that "this biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice".

- 2.10 When completing a Metric, the assessor must therefore make a number of decisions based on available evidence (such as ecological survey data), professional judgement, and ecological expertise. The User Guide (DEFRA, 2024) also states that “Evidence for metric decisions should be provided and signposted within the ‘User Comments’ column of the biodiversity metric tool”.
- 2.11 To ensure that the Metric Calculation Tool remains as user-friendly as possible, the following paragraphs expand upon the User Comments to provide more detail on the decisions behind the data entered into the Metric, where this is considered necessary and proportionate.

On-Site Habitat Type and Condition

Target Conditions

- 2.12 Target habitat conditions have been predicted with reference to the relevant Condition Assessment sheet (DEFRA, 2024b), with full details and justifications set out in the separate spreadsheet submitted with the Application.
- 2.13 The Target Conditions are considered to be realistic and achievable, and will be delivered and maintained through the implementation of the Habitat Management and Monitoring Plan to be submitted alongside the Biodiversity Gain Plan to discharge the general biodiversity gain planning condition, should consent be granted. A draft version of the HMMP has been submitted with this Application.

Strategic Significance

- 2.14 The Wokingham Borough Council Core Strategy 2026 (adopted January 2010) and The Managing Development Delivery (MDD) local plan (adopted February 2014) were used to identify strategic significance. These documents refer to the need to retain and enhance woodland and hedgerow habitats.

Spatial Risk

- 2.15 All Off-Site habitats are within the Whiteknights Campus and fall within the same LPA boundary as the Site.

Assumptions and Limitations

- 2.16 The baseline condition assessment of the neutral grassland was completed in April, outside of the optimal flowering period for grasslands, so it is assumed that some criteria were passed on a precautionary basis.

General Limitations of Metrics

- 2.17 As acknowledged in the User Guide (DEFRA, 2024), the Statutory Biodiversity Metric includes several inherent limitations. Extracts are provided below:

The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.” (Principle 2).

“This biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.” (Principle 4)

This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.” (Principle 6)

- 2.18 In relation to Principle 2, protected and valued species are considered in detail as part of the EIA/EcIA. This also includes avoiding and mitigating impacts and promoting enhancements such as the provision of wildlife boxes, the latter of which should also be taken into account when assessing the overall BNG that can be delivered by the Proposals.

3. SUMMARY OF RESULTS

Introduction

- 3.1 The following should be read with reference to **Maps 1 and 2** and the completed Metric Calculation Tool (particularly the Assessor Comments column) and Condition Assessment spreadsheets submitted separately with the Application.

Description of Baseline

- 3.2 The total number of on-site baseline units is calculated as follows:
- Area Habitats: 0.04 units
 - Hedgerows: 0 units
 - Watercourses: 0 units
- 3.3 The Site is entirely covered by other neutral grassland in poor condition. A semi-mature Field Maple tree stands immediately south of the site boundary, and its Root Protection Zone (RPZ) may encroach into the Site.
- 3.4 The total number of off-site baseline units is calculated as follows:
- Area Habitats: 0.08 units
 - Hedgerows: 0 units
 - Watercourses: 0 units
- 3.5 The location for the off-site compensation is covered entirely by other neutral grassland in poor condition

The BNG Hierarchy

- 3.6 The Proposals were designed with ecological input from an early stage and due consideration has been given to the BNG Hierarchy throughout the masterplanning process.
- 3.7 The BNG Hierarchy, as set out in Article 37A of the Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended) requires developers to take the following steps in relation to BNG:
- Avoidance of adverse effects to on-site habitats of 'Medium' distinctiveness and above;
 - Insofar as they cannot be avoided, mitigating those effects; and
 - Insofar as they cannot be mitigated; compensating for those effects by prioritising in order, where possible:
 - 1) Enhancement of existing on-site habitats;
 - 2) Creation of new on-site habitats;
 - 3) Allocation of registered off-site gains; and finally

- 4) Purchase of national off-site biodiversity credits.

3.8 **Table 3.1** sets out a summary of how the BNG Hierarchy has been applied by the Proposals.

Table 3.1: Application of the BNG Hierarchy

Action	Evidence of application
Impact Avoidance:	N/A
Mitigation:	N/A
Compensation:	
Habitat enhancements (on-site)	N/A
Habitat creation (on-site)	N/A
Off-site gains allocated to Application	Planting of five small Hazel trees, managed to achieve Poor condition at minimum. Enhancement of grassland area beneath newly planted trees to achieve Moderate condition
Purchase of Biodiversity Credits	N/A

Headline Results

3.9 As set out in the Metric Calculation Tool submitted with the Application, the Proposals are predicted to deliver the following net unit change:

- +0.06 area habitat units, or +151.03%

3.10 Gains will be delivered offsite and will achieve the target of 10% net gain and satisfy the metric's trading rules.

Off-Site Proposals to Deliver Net Gain

3.11 Five small Hazel trees will be planted immediately south of the Site.at the recommendation of the project arboriculturalist, due to the proximity of the Site boundary to the existing Field Maple and associated RPZ south of the Site. The newly planted trees will achieve Poor condition at minimum, but will deliver additional gains if managed to achieve a higher condition.

3.12 To satisfy the metric's trading rules, the loss of the onsite neutral grassland must be compensated for with the same broad habitat type, i.e. grasslands. To achieve this, a minimum of 0.04 Area Habitat Units will need to be delivered through the creation or enhancement of grassland habitat. Therefore, the grassland that lies beneath the newly planted trees will be enhanced from Poor to Moderate condition. 10% loss of grassland in this area has been allowed for due to the mulching of the newly planted trees.

4. PROPOSALS FOR DELIVERY AND MONITORING

Delivery

On-Site

- 4.1 No gains will be delivered onsite.

Off-Site

- 4.2 Off-Site gains will be delivered on land owned by the Applicant. A Habitat Management and Monitoring Plan (HMMP) will set out the proposed details of how the target habitat types and conditions required to achieve the BNG results reported in Section 3 will be achieved. This will be through a combination of habitat creation and enhancement measures, followed by ongoing management for a minimum period of 30 years for the 'significant' off-site enhancements described in Section 3.
- 4.3 Should planning consent be granted, the HMMP will be submitted to Wokingham Borough Council alongside a Biodiversity Gain Plan to discharge the biodiversity gain planning condition. The mechanism for securing the delivery of significant on-site enhancements is to be agreed with Wokingham Borough Council, but could take the form of a planning condition, planning obligation or conservation covenant.

Monitoring

- 4.4 The successful establishment of newly created habitats, and progress of all habitats towards their post-development Target Conditions, will need to be regularly monitored to ensure that the predicted BNG will be realised on the ground. The HMMP will set out details of the proposed monitoring actions and frequency thereof.

Conclusion

- 4.5 This Technical Report has set out the methodology and results of the Statutory Biodiversity Metric calculations completed for the Proposals, which predict a net change of **+0.06 Area habitat units (+151.03%)**.
- 4.6 Net gains will be delivered through off-site habitat creation and enhancement on land owned by the Applicant.
- 4.7 Should planning consent be granted, full details of the arrangements for the delivery of minimum 10% BNG will be set out in a Biodiversity Gain Plan and Habitat Management and Monitoring Plan and submitted to Wokingham Borough Council for approval.
- 4.8 It is therefore concluded that the Proposals as envisaged, combined with off-site gains to be agreed with Wokingham Borough Council, would comply with the statutory minimum requirements for 10% biodiversity net gain as a condition of planning permission in England under the Environment Act 2021 and Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended), as well as with the NPPF and local planning policy.

5. REFERENCES

The British Standards Institution (BSI) (2021). *BS 8683:2021 Process for designing and implementing Biodiversity Net Gain – Specification*. British Standards Limited, 2021.

Chartered Institute of Ecology and Environmental Management (CIEEM) (2021). *Biodiversity Net Gain Report & Audit Templates. Version 1 July 2021*. CIEEM, Winchester.

CIEEM, CIRIA and IEMA (2019). *Biodiversity net gain. Good practice principles for development*.

Department for Environment, Food and Rural Affairs (DEFRA) (2024). *The Statutory Biodiversity Metric User Guide. February 2024*.

DEFRA (2024a). *The Statutory Biodiversity Metric Calculation Tool. February 2024*.

DEFRA (2024b). *The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology. February 2024*.

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DLUHC (2024). *Planning Practice Guidance: Biodiversity Net Gain*. Published 12th February 2024.

His Majesty's Stationery Office (HMSO) (2015). *The Town and Country Planning (Development Management Procedure) (England) Order 2015*. HMSO, London.

HMSO (2021). *Environment Act 2021*. HMSO, London.

HMSO (2024a). *The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024*. HMSO, London.

HMSO (2024b). *The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations 2024*. HMSO, London.

HMSO (2024c). *The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024*. HMSO, London.

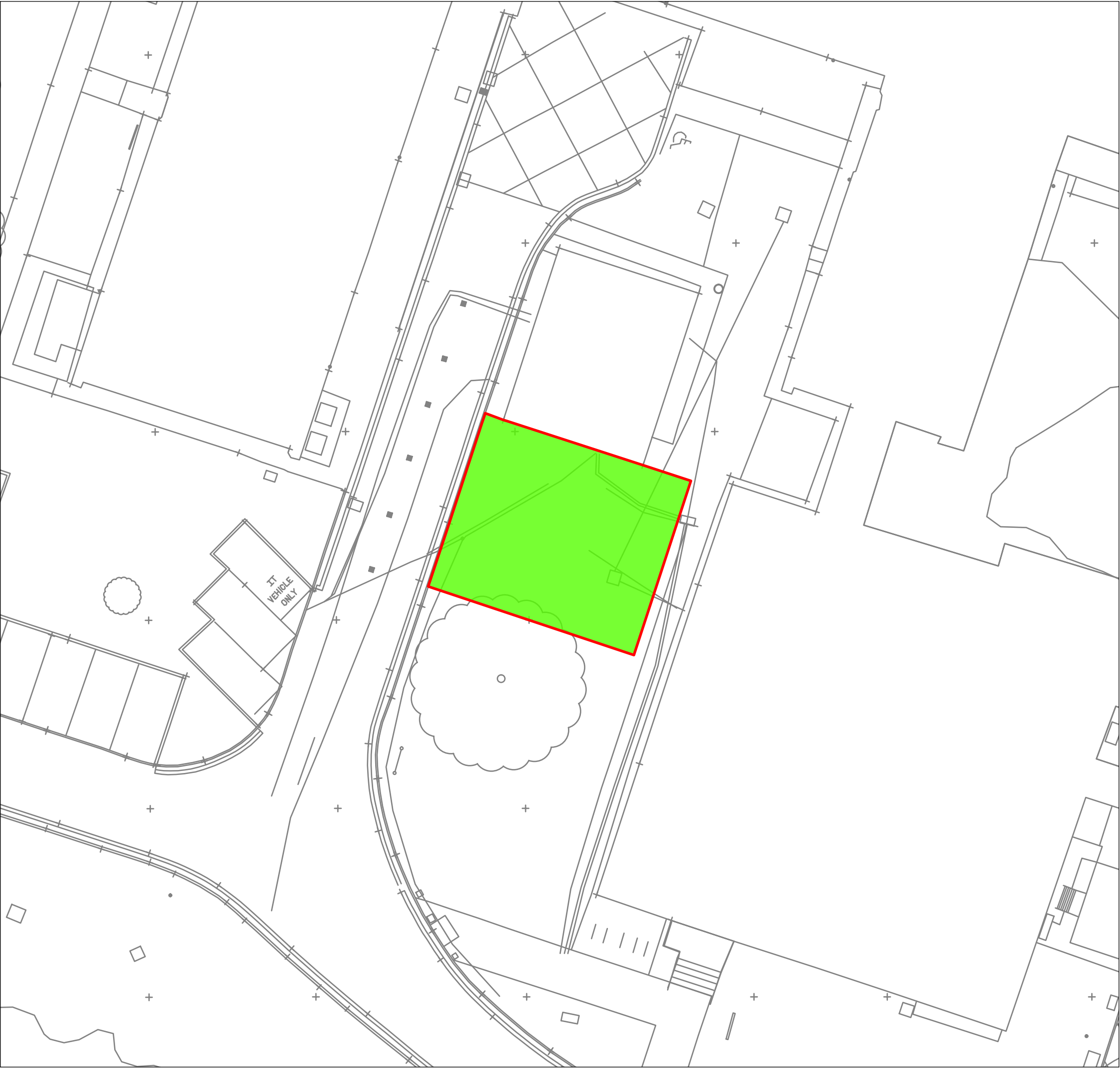
UKHab Ltd (2023). *UK Habitat Classification Version 2.0*. Available at <http://ukhab.org>

Wokingham Borough Council Core Strategy 2026 (adopted January 2010)

Wokingham Borough Council Managing Development Delivery (adopted February 2014)

Maps

- Map 1** On-site BNG Baseline
- Map 2** On-site BNG Post-Development



MAP 1 On-Site Baseline Habitats

- KEY
- Site boundary
 - Other neutral grassland (0.01ha)

SCALE: 1:200 at A3

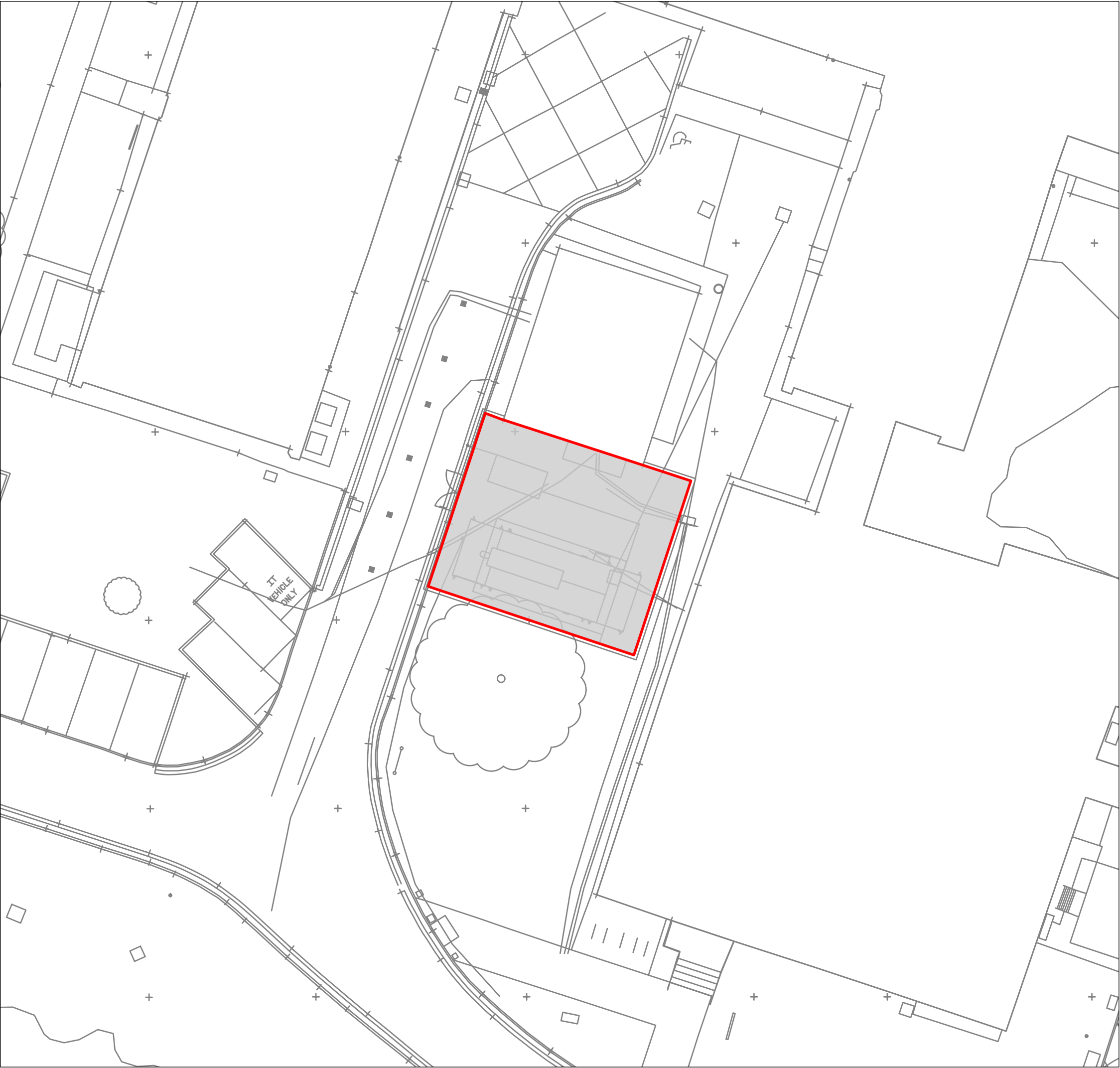
0 2 4 6 8 10 Metres



CLIENT: University of Reading

PROJECT: UoR - Standby Generator

DATE: 29 May 2025



MAP 2 On-Site Post Development Habitats

KEY

 Site boundary

Created

 Developed land; sealed surface (0.01ha)

SCALE: 1:200 at A3

0 2 4 6 8 10 Metres



CLIENT: University of Reading

PROJECT: UoR - Standby Generator

DATE: 29 May 2025

Y:\UoR Standby Generator 3316\GIS\BNG\MapX_BNGPostDevelopment_P3316_3816_290525.aprx

Appendix 1

TCP-University of Reading-HLS, Maths and IT Buildings-22.4.25

1. The Root Protection Areas of the trees are included in the Tree Survey Schedule with reference to Table 1 of British Standard 5837. The Root Protection Area (RPA) is the area, measured in m², which is calculated in accordance with the BS 5837 using the stem diameter of the trees. This should provide retained trees with sufficient rooting environment to survive the proposed development. BS 5837 provides for the shape of the RPA to be modified from the starting point of a circle to account for site features where rooting may be restricted, as long as the total area remains the same.

- No more than 20% of the RPA of retained trees is to be covered by existing or new hard surfacing of any kind unless already in situ.
- All underground service runs should be located outside the RPA's of retained trees.

2. The approximate shade segments for key surveyed trees has been plotted using the ArborVolve software system, which identifies the area of the site which may be affected by shade during the course of the day. The shade segment does not represent the area which will be in shade all day long; however, it represents an area which may be affected at some point during the course of a day by shade depending on the time of day and season.

3. Before the planning application is submitted to the Local Planning Authority, it may be necessary to include an Arboricultural Impact Assessment, an Arboricultural Method Statement and a Tree Protection Plan. These documents provide the detail relating to:

- Which trees need to be removed to accommodate the proposed layout
- The mitigation required in relation to the above tree removal
- The methods and sequencing of effective tree protection and retention during the construction phases
- The arboricultural monitoring and supervision necessary to ensure the delivery of robust and effective tree protection

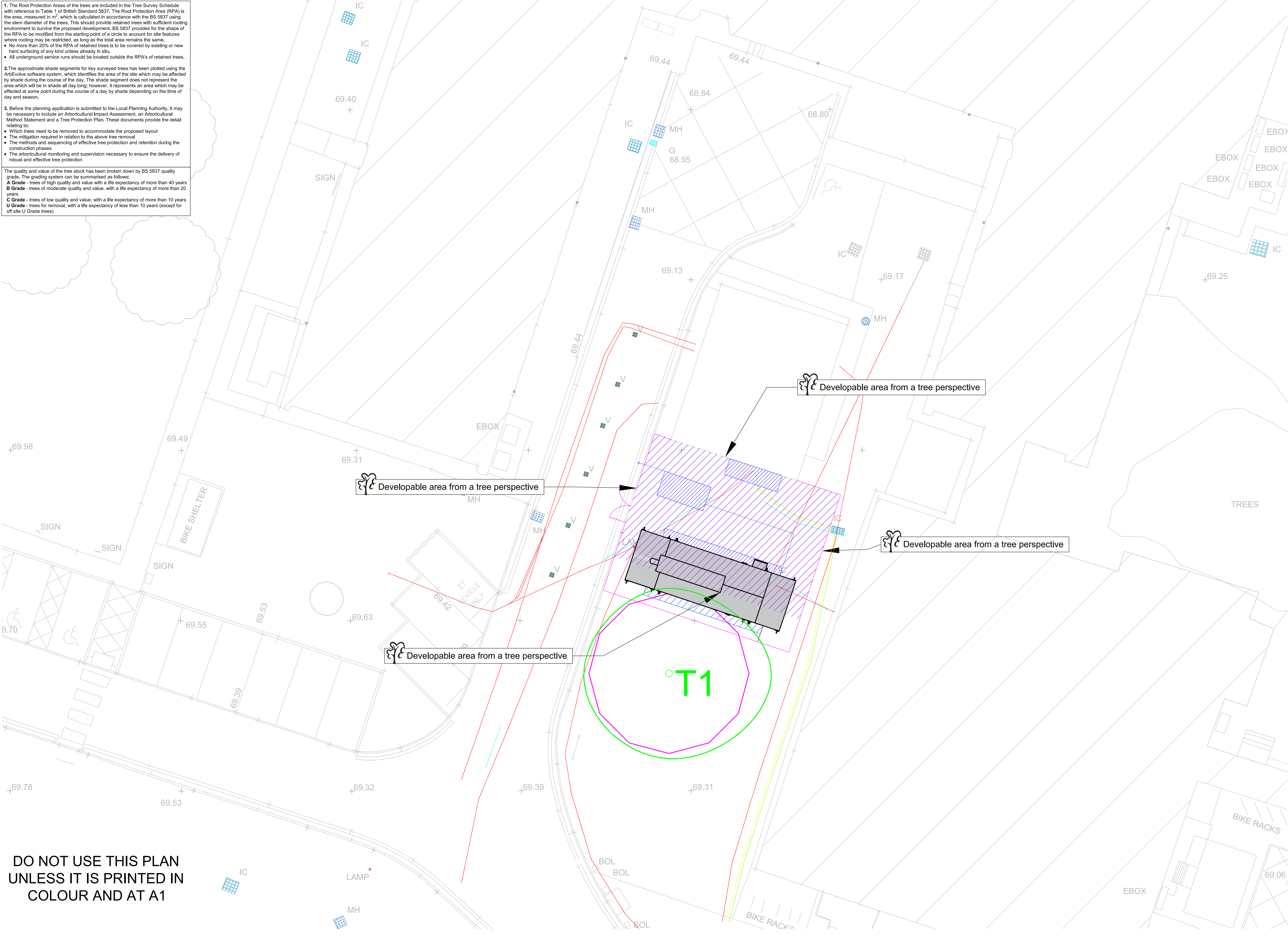
The quality and value of the tree stock has been broken down by BS 5837 quality grade. The grading system can be summarised as follows:

A Grade - trees of high quality and value with a life expectancy of more than 40 years

B Grade - trees of moderate quality and value, with a life expectancy of more than 20 years

C Grade - trees of low quality and value, with a life expectancy of more than 10 years

U Grade - trees for removal, with a life expectancy of less than 10 years (except for off site U Grade trees)



Indicative

KEY:

BS rooting area is shown uniform but may be modified to account for site features

BS rooting area has been modified to account for site features

A Grade

B Grade

C Grade

U Grade

Developable area from an arboricultural perspective

Challice Consulting Ltd. annotation

THIS IS NOT A TREE PROTECTION PLAN

Plan to be printed in colour and to scale

Tree Constraints Plan

University of Reading - HLS, Maths and IT Buildings

SCALE: 1:100 @ A1

DATE: 22.04.2025

DRAWN BY: D.C.

TCR-AR5691

REV: 0

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