TREE SURVEY REPORT, IMPACT APPRAISAL & TREE PROTECTION DETAILS

In respect of:

Meadow Larkins
Larkins Lane
Headington
OX3 9DW

November 2023

Prepared by:
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Arboricultural Report including Arboricultural Implications Assessment

References

- British Standards 5837:2012 Trees in relation to design, demolition and construction – Recommendations
- British Standards 3998:2010 Tree Work Recommendations
- NJUG 4 Vol 10 – NJUG Guidelines for the Planning, Installation and maintenance of Utility apparatus in proximity to trees
- TDAG Trees in the Townscape: A Guide for Decision Makers

EXECUTIVE SUMMARY

Six individual trees and two groups were surveyed due to their proximity to the proposed development. One C grade tree will be removed to facilitate the scheme, but all the others can be retained and adequately protected in accordance with BS5837:2012. It is considered that the proposal is compatible with the existing and future growth of the trees.

1.0 INTRODUCTION

1.1 This report was commissioned in relation to the proposed development at Meadow Larkins, Headington. The report details all trees over 75mm at 1.5m above ground level that are relevant to the siting of the proposed development. The position of the trees on the site is illustrated at **Appendix 1** on the site plan and information about the tree stock and its current condition is given. It will assist the planning process by discussing the impact that the proposals will have on the existing tree stock.

1.2 An Arboricultural Impact Assessment is included which details the constraints placed on the proposed development from the rooting area of the trees below ground and above ground by virtue of their size and position. A tree protection plan is also given which demonstrates how the trees to be retained can be adequately protected throughout the construction operations.

2.0 SITE VISIT

2.1 The site visit was undertaken on 8 November 2023. The trees were surveyed visually, externally and from ground level only. No samples or internal decay detection readings were taken for further analysis. All dimensions have been measured unless stated otherwise. Weather conditions at the time of the survey were clear and dry.

2.2 An existing site layout plan was made available at the time of the tree survey.

3.0 SOILS

3.1 A full laboratory soil assessment has not been provided. The British Geological Survey digital geological map for this part of Oxfordshire show that the soils of the site comprise of the Beckley Sand Member - Sandstone. The sedimentary bedrock was formed in the Jurassic Period when the local environment was dominated by shallow seas.

The soils are unlikely therefore to be shrinkable as there is no clay present; however, this should be checked by a structural engineer prior to the foundations being designed.

4.0 TREE SURVEY DATA – Meadow Larkins, Headington

In accordance with BS 5837:2012, the characteristics of trees over 75mm stem diameter measured at 1.5m above ground level (exact location dependant on the form of the tree) have been recorded and they have been categorised in accordance with Table 1 of BS5837: 2012. The following tree data tables should be read in conjunction with the annotated site plan shown at **Appendix 1** and the key on page 6.

Tree	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category	RPA Radius	RPA m2
T1 Common Hawthorn *(Crataegus monogyna)*	4m	165mm	N1.5m E1.5m S1.5m W1.5m	1.8m	EM	Good	Fair	Moderate	20+	Small tree managed regularly by lopping to 2m height with current regrowth to 4m. May require a light pruning to clear branches away from access.	C (1)	2.0m	12.3m²
T2 Rowan (*Sorbus aucuparia*)	6m	155mm	N3.1m E1.1m S2.6m W2.8m	1.8m	SM	Good	Poor	Moderate	20+	Semi mature tree with good form and vigour. Internal to site. No immediate work required; asymmetric crown due to suppression from T4.	C (1)	1.9m	10.9m²
T3 Maidenhair *(Ginkgo biloba)*	6m	150mm	N1.5m E2m S2.6m W1.9m	1m	SM	Good	Good	Moderate	40+	Semi mature tree with good form and vigour. Situated mainly internally to the site. No immediate work required; bifurcates at 2.5m with a sound union.	C (2)	1.8m	10.2m²
T4 Common walnut *(Juglans regia)*	13m	670mm	N10m E6.4m S8.3m W7.7m	1m	M	Good	Good	High	40+	Sound base and stem. Good form and vigour. Minor wounds from historic branch loss - not significant. No immediate work required; historic pruning wounds throughout and a large tear out from a lost limb noted which has not yet occluded. May require a light prune to facilitate access around it.	A (1)	8.0m	203.1m²

Tree	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category	RPA Radius	RPA m2
T5 Mulberry (*Morus sp.)*	5m	310mm 210mm 200mm 220mm 410mm 240mm	N2.5m E2.5m S4m W2.5m	1.5m	M	Good	Fair	Low	20+	Multi stemmed from 0.5m with included unions. Topped at 3.5m with vigorous re-growth to 5m. Poor pruning stubs and flush cuts throughout. No immediate work required.	C (2)	7.8m	190.6m²
T6 Balsam poplar *(Populus trichocarpa)*	18m	850mm	N7m E10m S8.5m W6.7m	1m	M	Good	Good	High	20+	Sound base and stem with good form and vigour. Woodpecker hole noted on the main stem at 6.5m north. Early defoliation this year, but not of any concern as there is good bud formation for next year already. Mistletoe at the top of the main crown. No immediate work required.	B (1)	10.2m	326.9m²
TG1 Dwarf conifers: Juniper, Thuja plicata, Lawson cypress	A group of four ornamental/dwarf conifers planted as a visual structure in the garden to provide a separation between the front and rear of the site. All of typical form and vigour. All regularly clipped and managed. Height to 2m.										C (2)	1.9m each on average	10.9m2 each
TG1 Orchard planting of Apple, Plum and cherry.	Orchard planting, mixed ages. All typical form and vigour. Internal to site. No immediate work required.										C (2)	1.9m each on average	10.9m2 each on average

The comments made with regard to the health of the trees within this report were correct at the time of inspection. Trees are dynamic structures and changes can occur in response to biological, mechanical or environmental changes at any time.

Key to terms.

- Identification numbers have been used and correspond to the site plan shown at **Appendix 1.**
- Vegetation type has been categorized as one of the following: Tree (T), Hedge (H), Shrub (S), Group (TG), Stump (ST)
- Species are listed by common and botanical name where appropriate.
- Where possible, measurements have been made in accordance with the conventions detailed below. Where this was not possible, due to site conditions or the vegetation being in third party ownership, dimensions have been estimated. * Indicates estimated measurement.
- Height has been estimated to the nearest half metre.
- Stem diameter (of single stem trees and multi stemmed trees) has been measured at approx. 1.5m and recorded in millimetres. Where this was not possible the actual height where the diameter was measured is recorded. GL = Ground Level.
- Crown spread has been recorded in metres.
- Age class has been recorded as follows:

  Y Young recently planted or establishing tree that could be transplanted without specialist equipment, i.e. up to 12-14cms-stem girth.
  S/M Semi mature. An established tree but one that has not reached its potential ultimate height and has significant growth potential.
  E/M Early mature. A tree reaching its ultimate potential height, whose growth rate is slowing down but will increase in stem diameter and crown spread, and has a safe life expectancy.
  M Mature. A mature specimen with limited potential for any significant increase in size but with a reasonable safe life expectancy.
  O/M Over mature. A senescent or moribund specimen with a limited safe life expectancy. Possibly also containing significant structural defects with attendant safety and/or duty of care implications.

- Physiological Condition has been recorded as Good, Fair or Poor.
- Recommendations for tree management have been based on current Arboricultural Best Practice as set out by the Arboricultural profession and all relevant publications.

5.0 TREE QUALITY ASSESSMENT

Six individual trees and two groups on site have been surveyed for planning purposes and categorized according to BS5837: 2012 as a guide to their condition. They are coloured on the plan attached at **Appendix 1** to indicate their category and the colours are explained in the key of the plan. The full tree quality assessment chart, which gives a more detailed explanation of the definition of the subcategories, has been attached at **Appendix 2.**

5.1 Category A Trees

T4 Walnut

This tree is of high quality, in good condition and is capable of making a substantial contribution of up to 40 years.

5.2 Category B Trees

T6 Poplar

This tree is of moderate quality with an estimated remaining life expectancy of at least 20 years. It has been downgraded because of impaired condition (mistletoe and woodpecker holes) such that it is unlikely to be suitable for retention for beyond 40 years.

5.3 Category C Trees

T1 Hawthorn, T2 Rowan, T3 Gingko biloba, T5 Mulberry, TG1 conifers and TG2 Orchard planting.

T1 Hawthorn

T2 Rowan

T3 Gingko

T5 Mulberry

TG1 Dwarf conifers – mixed species

TG2 Orchard planting

These trees are generally of low quality with an estimated remaining life expectancy of at least 10 years. They provide structure to the site, but they are generally unremarkable trees that do not qualify in higher categories.

6.0 ROOT PROTECTION AREAS

6.1 In accordance with BS5837:2012, the root protection areas (RPA) of the trees have been calculated and shown in the previous table and on the plan attached at **Appendix 3.** This is the minimum area in m^2, which if being retained, should ideally be left undisturbed around the trees to ensure their safe retention during the development process. It is calculated as an area equivalent to a circle with a radius twelve times stem diameter. Where the tree is growing next to structures such as roads, walls, buildings etc, the shape of the RPA may be altered (but not reduced in size) to take into account the area of ground that the roots are most likely exploiting.

7.0 LEGAL CONSTRAINTS

7.1 The site is within a Conservation Area. All the trees are therefore afforded statutory protection under this legislation and any work to trees over 75mm at 1.5m height must be approved by the Local Planning Authority. It is a criminal offence to fell or wilfully damage a tree within a Conservation Area without the consent of the LPA. There is also a Tree Preservation Order on the property – Oxford City Council Larkins Lane No1. TPO 2004. This TPO describes in the Schedule that a Poplar is protected as T1. However, there is an anomaly between the plan and the Species description. The tree shown as T1 on the plan is a Walnut tree rather than a Poplar. So, there is uncertainty as to whether it was the Walnut (T4 of this survey) or the Poplar (T6 of this survey) that was intended to be protected under the TPO. It is therefore considered that the TPO would not withstand critical examination in the Courts and that Oxford City Council should consider revoking it and re-serving it so that the intended tree is protected.

8.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

8.1 Description of Proposed Development

It is proposed to carry out works to refurbish the existing dwelling and build an extension.

8.2 Drawings Used

An existing site layout plan was used to show the location of the trees on the Tree Quality Assessment Plan (**Appendix 1**). The proposed site layout plan was used to show the root protection areas (**Appendix 3**) and the draft Tree Protection Plan (**Appendix 4).**

8.3 Trees in Relation to Proposed Development

T3 Gingko biloba is a constraint to the proposed extension and will be removed.

8.4 Tree Surgery Work

The lowest branches of T1 Hawthorn and T4 Walnut are potentially vulnerable to damage from passing vehicles or pedestrians during construction so to reduce the risk of accidental damage, they will be pruned back by removing branch tips only, back to suitable secondary branches. The proposed pruning would be minor and will not affect the health or appearance of the trees.

8.5 **Changes in ground surface and ground level within RPA's**

There will be no change of ground surface or ground level within the RPAs of the trees being retained.

8.6 **Tree Protection Detail**

Soil compaction can be caused by various construction-related activities such as storage of materials and the use of heavy machinery (or even heavier than normal footfall during works). It is harmful to tree roots because it reduces gaseous exchange and the availability of water and nutrients. To avoid soil compaction affecting the retained trees at this site, all vulnerable areas will be separated from the working area by protective fencing (this will also protect the stems of the trees).

As such, a construction exclusion zone (CEZ) will be designated on site by using protective barriers to ensure the safe retention of the trees to be retained. These barriers will be in accordance with BS 5837: 2012 and will guard against impact damage to the trunks and branches and will protect the below ground rooting environment so that the soil structure remains viable for root growth and not compacted by construction operations. Where possible, the positions of the barriers should be based on a distance equivalent to the radius of each tree's RPA. The location and type of tree protection to be used is shown on the Tree Protection Plan attached at **Appendix 4**.

Space for construction work, mixing and material storage will be designated on site away from the construction exclusion zone as defined by the protective barriers and ground protection.

8.7 **Infrastructure Detail**

Access

The existing access is to be used which the trees are all tolerating and have adapted to.

Services

No specific detail about the proposed service routes is available at the time of writing. They will be designed in such a way as to either connect directly to existing underground services (with no further excavations) or be connected to existing services using a route outside the construction exclusion zones of trees shown to be retained. If the existing services within RPAs require upgrading, care shall be taken to minimise disturbance and where practicable, trenchless techniques employed; only as a last resort should open excavations be considered. Where existing services within RPAs are deemed not satisfactory for any further use, they should be left in situ rather than being excavated or removed. No dig techniques in line with NJUG 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees', to be used for installation of services if installed or modified within the RPAs of any retained tree.

All work within the RPAs is to be supervised by the project Arboriculturalist. A method statement of how the services are to be established must be submitted to and agreed in writing by Oxford City Council if required.

8.8 Foundation Design

The foundations will be of conventional build methodology, appropriate to the ground conditions and design.

8.9 Landscaping

The site is well stocked with existing trees and shrubs that are being retained as part of the proposals, so a major new planting scheme is not considered necessary. However, new soft landscaping could be carried out to mitigate for the loss of the C grade tree if the Local Planning Authority required. It would be expected that details of this planting would be submitted in accordance with a suitably worded pre-commencement planning condition if needed.

8.10 Policy Checklist – Oxford Local Plan 2036

G1: Protection of Green and Blue Infrastructure Network	The site is outside the identified Green and Blue Infrastructure Network as defined by Oxford Local Plan 2036. The only tree to be removed is one C grade tree. The remaining A, B and C grade trees can be retained and adequately protected.
G1: Protection of Biodiversity and Geo-diversity	The site is not a Site of International Nature Conservation importance or a Site of Special Scientific Interest. There are no land-based designations or special habitats, or species noted. No tree species of ecological value or rarity will be lost because of the development. If relevant, the Landscape Biodiversity Accounting Metric has been provided by others.
G3: Greenbelt	The site does not fall within the Greenbelt.
G4: Allotments and Community Food Growing	The development does not result in the loss of protected allotment sites or plots.
G6: Residential Garden Land	The footprint of the new building will utilise a small area of lawn where there is little ecological activity or biodiversity.

G7: Protection of existing Green Infrastructure Features	The proposal does not result in the loss of significant hedgerows, trees or woodland and will not have an adverse effect on public amenity or ecological interest. The removal of the smaller ornamental tree (T3) is necessary in order to facilitate the scheme however, it can be replaced as part of the future landscaping of the site. The significant and important trees – T4 Walnut and T6 Poplar are being retained and respected as part of the proposed layout and it is considered that the proposal is compatible with their existing and future growth. No ancient woodland or ancient or veteran trees are to be lost because of the proposals.
G8: New and enhanced Green and Blue Infrastructure Network Features.	The development proposals do not affect existing Green Infrastructure features.
The design will be using the site efficiently whilst respecting the existing landscape character, being suitable for the urban environment in which the plot stands. It will not lead to a loss of habitat or biodiversity and planting, See Design and Access Guide for further information.	

9.0 CONCLUSIONS

9.1 The trees to be retained are in a good or moderate condition although several could benefit from some on-going inspection and remedial work as they mature. This work would be usual, to ensure that the tree owner's duty of care continued to be addressed.

9.2 One C grade tree poses a constraint upon the proposed development, but it is considered that its removal would not have a negative effect upon the vista from outside the plot. Given its lower quality, it is considered that this tree should not act as a limitation on the desired use of the site or impose any significant constraints on the proposed layout. It does not contribute to the nature and quality of Oxford City's landscape and therefore, the proposal is not considered to conflict with the relevant policies of the Oxford City Local Plan 2036. It could easily be replaced by new planting if the Local Planning Authority desires. All tree work is to be carried out in line with the current British standard for Tree Work BS 3998 by qualified Arborists.

9.3 The size and location of the trees to be retained means that they will not be a constraint to the proposed re-development of the site and it is considered that the proposals are compatible with the existing and potential future influence of these trees.

Important Notes:

The Conservation of Habitats and Species Regulations 2017 (as amended), and The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, provides statutory protection to birds, bats and other tree dwelling species. They could impose significant constraints on the timing of any tree work discussed in this report and the advice of an Ecologist should be sought prior to carrying out any management or tree removal.

Details within this AIA are considered correct at the time of writing, but modifications may need to be made as more information becomes available.

Glossary

Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction
Construction Exclusion Zone	Area based on the root protection area from which access is prohibited for the duration of the project.
Root Protection Area (m2)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability and where the protection of the roots and soil structure is treated as a priority.
Services	Any above ground or below ground structure or apparatus required for utility provision. E.g. drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
Stem	Principal above ground structural components of a tree that supports its branches.
Tree Protection Plan	Scale drawing informed by descriptive text where necessary, based upon the finalized proposal showing trees for retention and illustrating the tree and landscape protection measures.

IMPORTANT NOTES

The statements made in this report do not take account of extremes in weather, accidental damage including fire, chemical and physical injury, or vandalism. Venners Arboriculture cannot therefore accept any liability in connection to these factors, or for work not carried out to current industry best practice. The validity of this report ceases at the prescribed time limit or after one year from the site inspection, or if the site conditions change due to unspecified works that affect the subject tree(s), whichever is the sooner.

CREDENTIALS OF THE AUTHOR

Sarah Venners has worked in the arboricultural profession for twenty-six years. Her experience has been gained from both the public and private sector. She was the Tree Officer for Tunbridge Wells Borough Council and for South Oxfordshire District Council and was a consultant for Marishal Thompson & Co of Alnwick Northumberland until March 2006. In addition to her experience, she holds the following qualifications:

Master's degree in forestry from The Oxford Forestry Institute, Oxford University. (MSc For. Oxon).

BSc (Hons) Degree in Agriculture and The Environment, Wye College, London University. (BSc Hons Agric).

She is also a Professional Member of the Institute of Chartered Foresters (MICFor) and the Arboricultural Association (M.Arbor.A.).

Institute of Chartered Foresters
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Arboricultural Association
Professional Member

Appendix 1 - Tree Constraints on the existing layout

Meadow Larkins, Headington

November 2023

Key

Trees of high quality and value in accordance with BS5837:2012 with an estimated remaining life expectancy of at least 40 years

Trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years

Trees of lower quality and value with an estimating remaining life expectancy of at least 10 years

Likely spread of roots calculated in accordance with BS5837:2012 (m2)

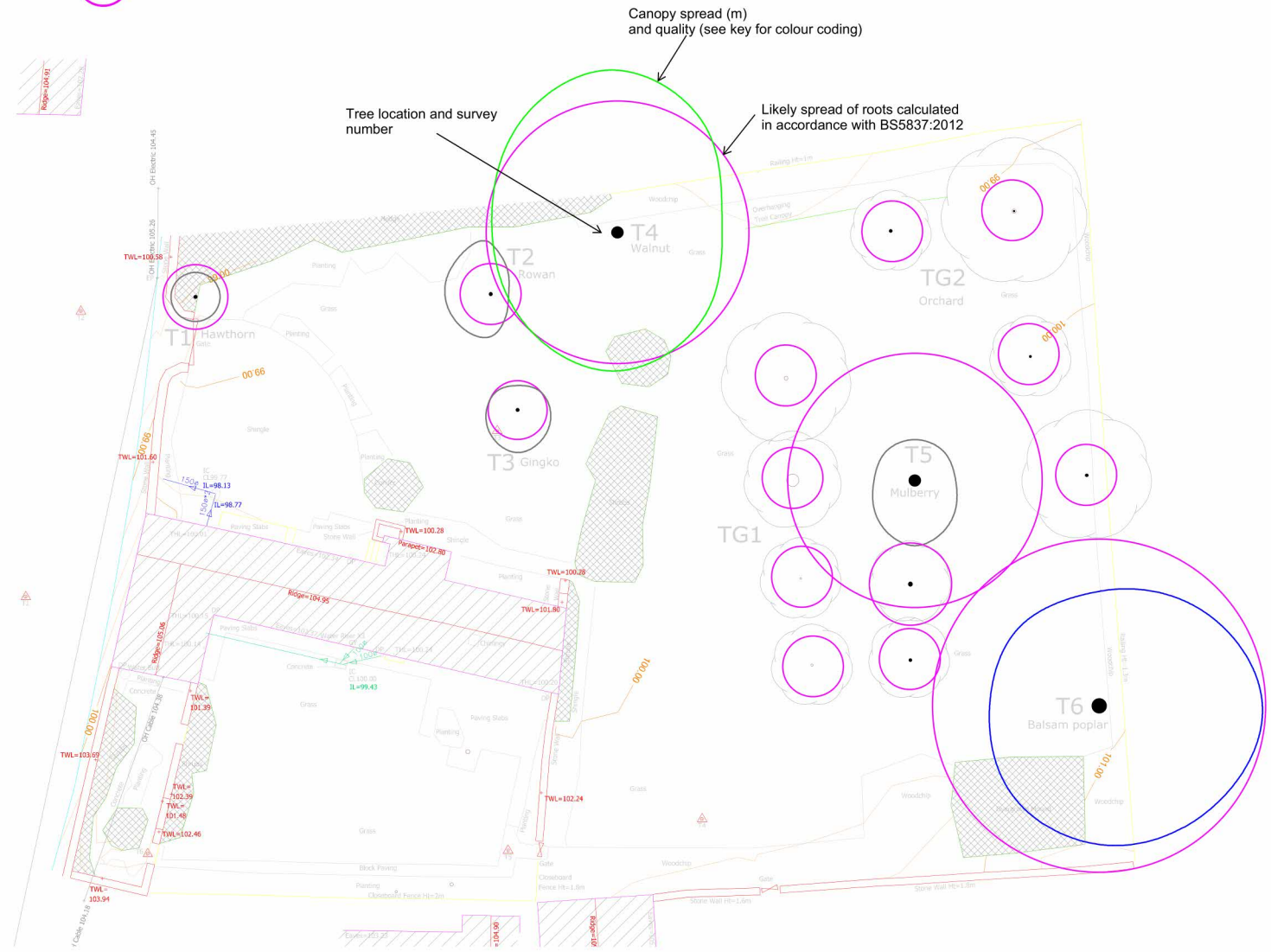

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Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 3 - Tree Constraints on the proposed layout

Meadow Larkins, Headington

November2023

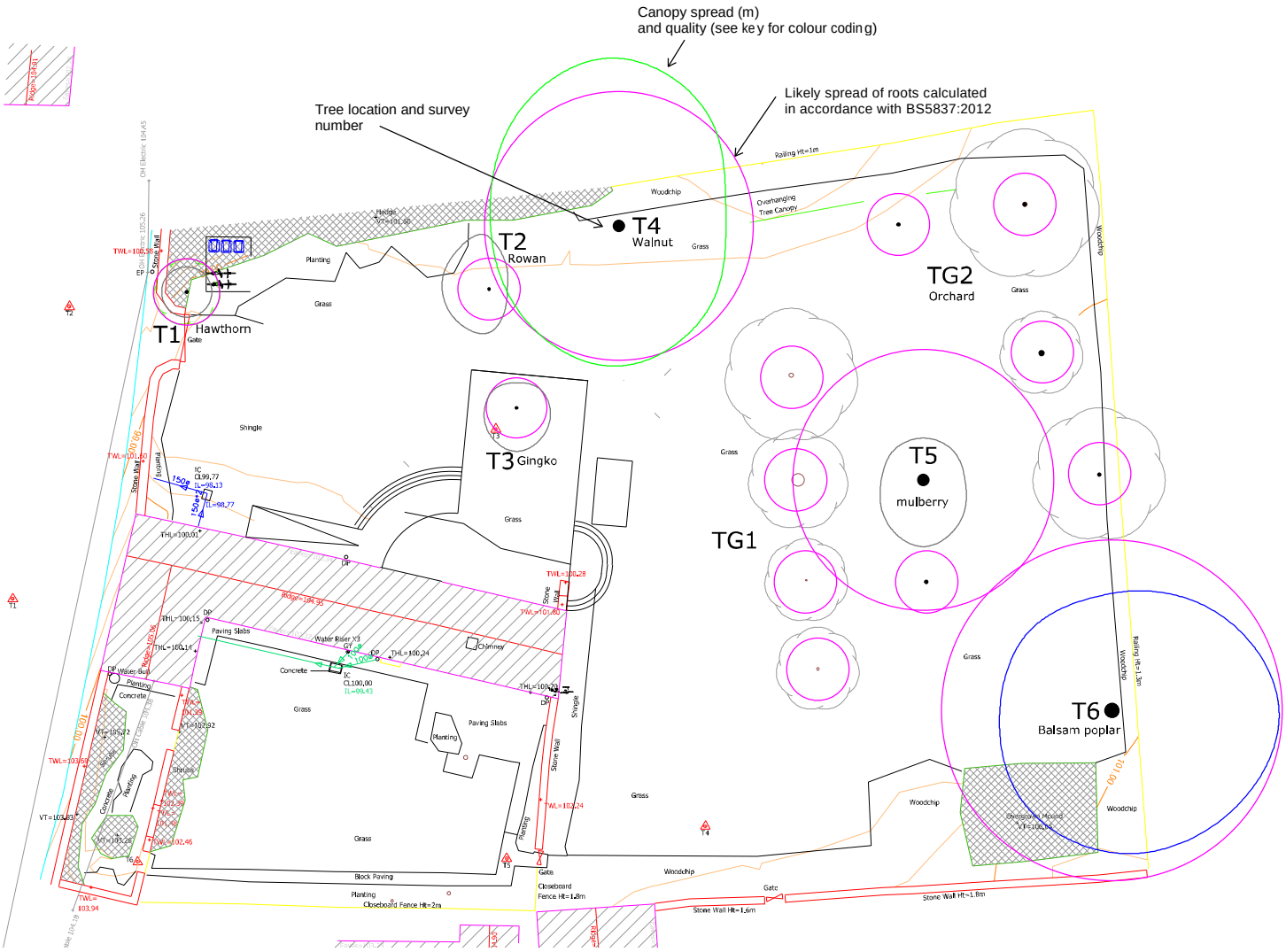
Key

Trees of high quality and value in accordance with BS5837:2012 with an estimated remaining life expectancy of at least 40 years

Trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years

Trees of lower quality and value with an estimating remaining life expectancy of at least 10 years

Likely spread of rootscalculated in accordance with BS5837:2012 (m2)



Appendix 4 - Tree Removals and Protection Plan

Meadow Larkins, Headington

November 2023

Key

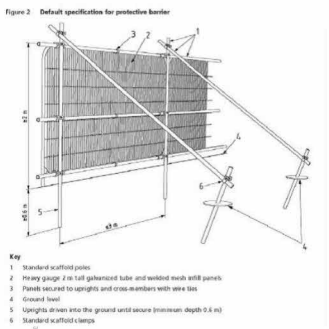
CEZ - Construction Exclusion Zones*

Tree Protection Fencing in accordance with BS5837:2012

Tree to be removed

***Construction Exclusion Zones:**

No construction activity of any kind to take place within the fenced off areas. No storage of materials. No pedestrian or vehicular traffic. No raising or lowering of soil levels. No cement mixing or washings. No fires.



Scale 1:200 on A2

0m 10m

This plan has been produced in colour. A monochrome version must not be relied upon