

Landmark Trees

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**ARBORICULTURAL IMPACT ASSESSMENT REPORT FOR:**

Land Adjacent to Jack Straws Castle  
North End Way  
London  
NW3 7ES

**INSTRUCTING PARTY:**

Asserson Law Office  
Central Court  
25 Southampton Buildings  
London  
WC2A

**REPORT PREPARED BY**

Adam Hollis  
MSc ARB MICFor FArbor A MRICS C Env

**Ref:** ALO/JSC/AIA/01

**Date:** 16<sup>th</sup> April 2021

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## DOCUMENT HISTORY

<b>Revision</b>	<b>Status</b>	<b>Comments</b>	<b>Date</b>
Rev 01	Approved	For External Issue	16/4/21

## 1. SUMMARY

- 1.1 The existing site comprises the car park of Jack Straw's Castle with the surveyed trees standing on the adjacent Hampstead Heath to the south. The proposal includes the construction of two semi-detached dwellings.
- 1.2 There are 10 trees on adjoining land outside of the application boundary within close proximity to the development that need to be assessed. These are all judged as being of either low or poor quality on an individual basis but do offer some useful screening / softening as a whole (and, we understand, wider ecological benefit).
- 1.3 The report has assessed the arboricultural impacts of the development proposals and concludes there would be no direct impact upon the offsite resource. Whilst there is some potential for nuisance to arise in the future, its translation into impacts on trees (in the form of onerous pruning or premature felling) is considered a remote possibility, given their third-party ownership, the nature of the adjacent tree stock and the apparent management regime in place.
- 1.4 Notwithstanding the above assurances, the report sets out a series of recommendations prior and during construction that will ensure impacts to trees are minimised. These are detailed in sections 6.3 and 8 of this report.
- 1.5 In conclusion, the proposal, through following the above recommendations, should have no, or very limited, impact on the existing trees and is acceptable.

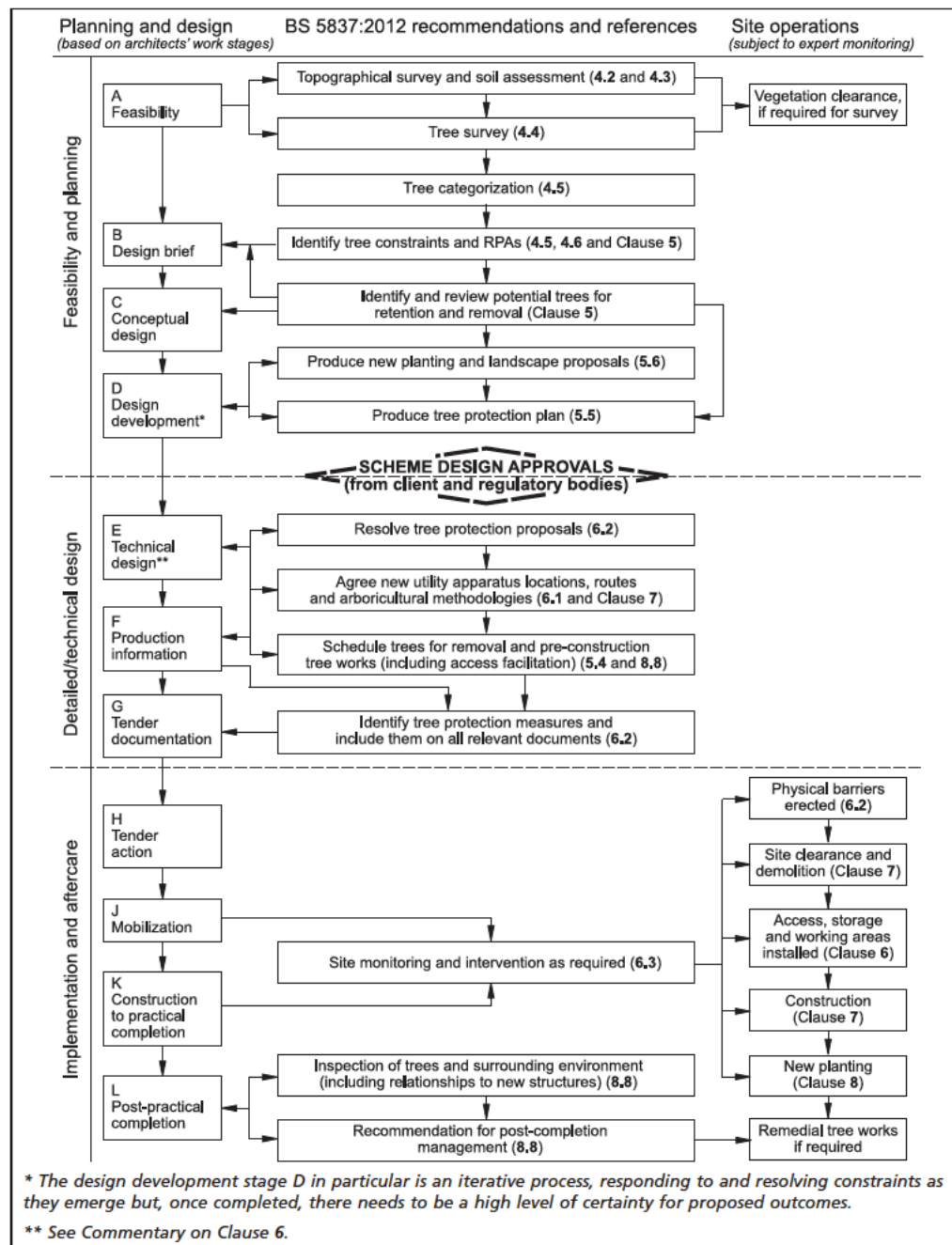
\* British Standards Institute: Trees in relation to design, demolition and construction BS 5837: 2012 HMSO, London

## 2. INTRODUCTION

### 2.1 Terms of Reference

- |       |  |
|-------|--|
| 2.1.1 | This Arboricultural Impact Assessment report has been prepared by Landmark Trees (LT) on behalf of Asserson Law Office (the Applicant's agent), to update the existing tree report (RGS Consultants, December 2016) to planning, in support of a subsequent appeal against the London Borough of Camden's ('LBC') refusal of planning application 2020/1828/P.   |
| 2.1.2 | The application relates to development within the surface level car park of Jack Straw's Castle. Specifically, full planning permission is sought for:<br><br><i>"Erection of two x four bedroom residential dwellings of three storeys plus basement on west side of car park, and associated landscaping, refuse and cycle stores and reconfigured car parking on remainder of car park."</i>  |
| 2.1.3 | This report will assess the impact on trees and their constraints, identified in our survey. Although the proposals were known at the time of the survey, Landmark Trees endeavour to survey each site blind, working from a topographical survey, wherever possible, with the constraints plan informing their evolution. The purpose of the report is to provide guidance on how trees and other vegetation can be integrated into construction and development design schemes. The overall aim is to ensure the protection of amenity by trees which are appropriate for retention.   |
| 2.1.4 | Trees are a material consideration for a Local Planning Authority when determining planning applications, whether or not they are afforded the statutory protection of a Tree Preservation Order or Conservation Area. British Standard BS 5837:2012 Trees in Relation to Design, Demolition and Construction sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and new developments. The Standard recommends a sequence of activities (see Fig.1 overleaf) that starts in the initial feasibility and design phase (RIBA Stage 2 'Concept Design') with a survey to qualify and quantify the trees on site and establish the arboricultural constraints to development (above- and below-ground) to inform the design in an iterative process, and continues with an assessment of the arboricultural impacts of the final design and measures to mitigate such impacts should they be negative. Detailed technical specifications for mitigation and protection measures are devised in the design phase that follows (RIBA Stage 3-4 'Developed and Technical design'), and the sequence ends with the Implementation and Aftercare phase (RIBA Stages 5-7) with the implementation of those measures once planning permission is granted, guided by Arboricultural Method Statements (RIBA Stage 4-5, 'Technical Design and Construction) and professional guidance where appropriate. |
| 2.1.5 | <b>This report is produced to support the Design Team to the Scheme Design Approvals stage in the process chart overleaf (current planning status notwithstanding).</b>  |

Figure 1 The design and construction process and tree care



## 2.2 Drawings Supplied

- 2.2.1 The drawings supplied by the client and relied upon by Landmark Trees in the formulation of our survey plans are:
- Existing site survey: 915377
- Proposals: 1370 - PLANS 15-04-2021

## 2.3 Scope & Limitations of Survey

- 2.3.1 As Landmark Trees' (LT) arboricultural consultant, Adam Hollis surveyed the trees on site on 13<sup>th</sup> of April 2021, recording relevant qualitative data in order to assess both their suitability for retention and their constraints upon the site, in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations [BS5837:2012].
- 2.3.2 Our survey of the trees, the soils and any other factors, is of a preliminary nature. The trees were SURVEYED on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994). LT have not taken any samples for analysis and the trees were not climbed but inspected from ground level.
- 2.3.3 The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development. Tree surveys undertaken after a detailed design has been prepared can identify significant conflicts: in such cases, the nature of and need for the proposed development should be set against the quality and values of affected trees. The extent to which the design can be modified to accommodate those trees meriting retention should be carefully considered. Where proposed development is subject to planning control, a tree survey should be regarded as an important part of the evidence base underpinning the design and access statement
- 2.3.3 A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.
- 2.3.4 The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

## 2.4 Survey Data & Report Layout

- |       |   |
|-------|---|
| 2.4.1 | Detailed records of individual trees are given in the survey schedule in Appendix 1.  |
| 2.4.2 | A site plan identifying the surveyed trees, based on the Instructing Party's drawings / topographical survey is provided in Part 3 of this report. This plan also serves as the Tree Constraints Plan with the theoretical Recommended Protection Areas (RPA's), tree canopies and shade constraints, (from BS5837: 2012) overlain onto it. These constraints are then overlain in turn onto the Instructing Party's proposals to create a second Arboricultural Impact Assessment Plan in Part 3. General observations, discussion, conclusions and recommendations follow, below. |

### 3.0 SITE CHARACTERISTICS

#### 3.1 Property Description & Planning Context



Photograph 1: Application site with subject trees beyond ivy covered wall

- 3.1.1 The existing Site is formed of 11 car parking spaces for permit holders of the abutting Jack Straw's Castle. The car park is accessed to the north via the Heath Brow slip road, located off North End Way (A502) running to the east of the Site. The car park sits below grade established by North End Way; accordingly, a 1.5m concrete bank bounds the Site to the east. To the rear (west) the car park is bounded by a low-rise brick wall. Immediately beyond is a pay and display public car park for Hampstead Heath.
- 3.1.2 The site is relatively level throughout.
- 3.1.3 We are not aware of the existence of any Tree Preservation Orders\*, but understand the site stands within the Hampstead Conservation Area, which will affect the subject trees: it is a criminal offence to prune, damage or fell such trees without permission from the local authority.
- 3.1.4 Relevant local planning policies comprise Policies G1, G5 and G7 of the London Plan 2021 and Policies A3, A5, D1 and D2 of the Camden Local Plan (adopted 3rd July 2017).

\* If the client or agent is aware of such, we ask that they confirm these details with us. A purchaser of a site will be informed of the existence of any TPO's during the conveyancing process; an existing owner of a site must be served with a copy of any TPO's made during their ownership. Landmark Trees can investigate the matter further on specific instruction from the client, but this is beyond our normal scope of instruction, as it can take c. 28 days to fully discover this information (which is beyond our standard turnaround and will substantially delay the issue of the instructed report). Some LPA's maintain registers online and / or offer a more rapid telephone or email response. These services though are not wholly reliable and we have had experience of receiving incorrect advice through them.



### 3.2 Soil Description

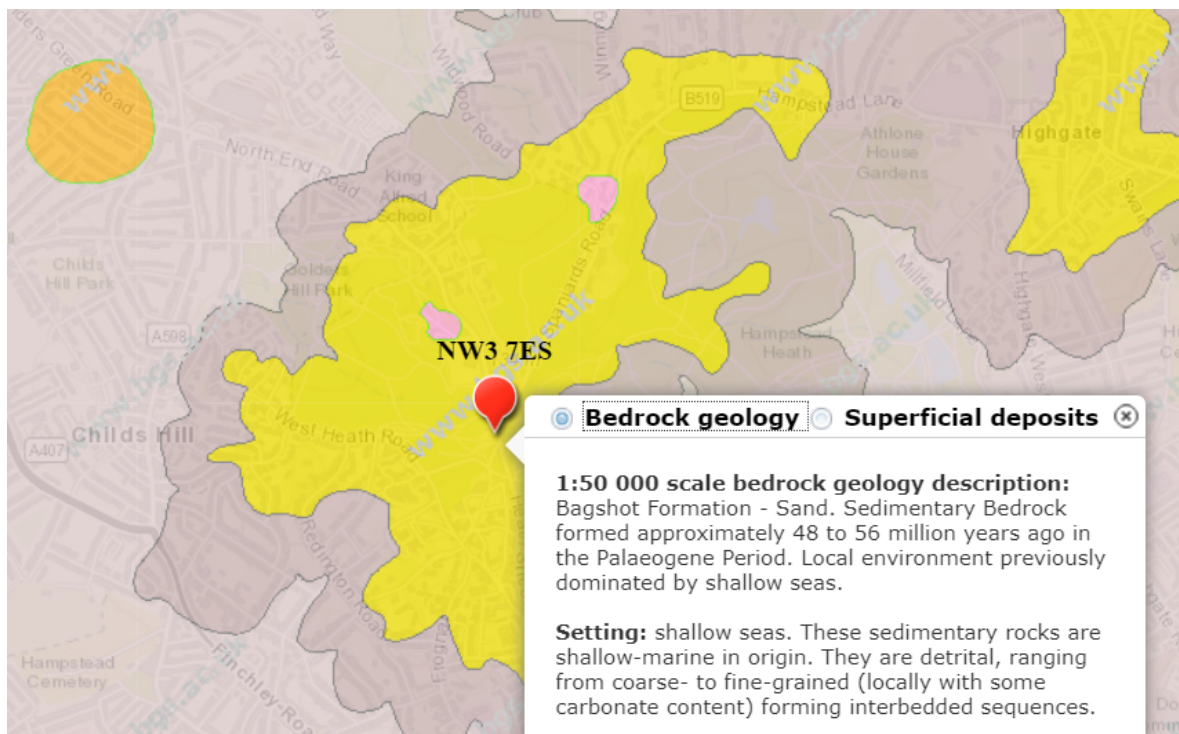


Figure 2: Extract from the BGS Geology of Britain Viewer

- 3.2.1 In terms of the British Geological Survey, the site overlies the Bagshot Beds above (shown in yellow). The Bagshot Beds are typically sandier than the surrounding Claygate and London clays. The actual limits of soil series are not as clearly defined on the ground as on plan and there may be anomalies between them. Further advice from the relevant experts on the specific soil properties can be sought as necessary.
- 3.2.2 Sand and gravel soils are less prone to compaction during development than clay soils, potentially reducing the threat to tree health from construction traffic.

### 3.3 Subject Trees

- 3.3.1 Of the 10 surveyed trees, 8 are category\* C (Low Quality), 1 is category C/U (Low / Poor Quality and 1 is category U (Poor Quality); none are category A (High Quality) or B (Moderate Quality). For the sake of consistency, the same numbering system adopted in the previous tree survey undertaken has been maintained. It will be noted that 2 trees (the dead cherries T5 and T6) have been removed since the time of the original survey.
- 3.3.2 The tree species found on the site comprise sycamore, elm and wild cherry.
- 3.3.3 In terms of age demographics, all of the trees surveyed are semi-mature. This likely corresponds to wholesale clearing of the bank when the elm suckers present have reached the height / maturity to become vulnerable to Dutch Elm Disease.

\*page 9 of: [British Standards Institute: Trees in relation to design, demolition and construction BS 5837: 2012 HMSO, London](#)

- 3.3.4 Full details of the surveyed trees can be found in Appendix 1 of this report.



Photograph 2: Subject trees viewed from pay and display car park to west





Photograph 3: Little / no overhang of application site by subject trees



Photograph 4: Dead top of elm T10

## 4.0 DEVELOPMENT CONSTRAINTS

### 4.1 Primary Constraints

- 4.1.1 BS5837: 2012 gives Recommended Protection Areas (RPA's) for any given tree size. The individual RPA's are calculated in the Tree Schedule in Appendix 1 to this report, or rather the notional radius of that RPA, based on a circular protection zone. The prescribed radius is 12-x stem diameter at 1.5m above ground level, except where composite formulae are used in the case of multi-stemmed trees.
- 4.1.2 Circular RPA's are appropriate for individual specimen trees grown freely, but where there is ground disturbance, the morphology of the RPA can be modified to an alternative polygon, as shown in the diagram below (Figure 2). Alternatively, one need principally remember that RPA's are area-based and not linear – notional rather than fixed entities.

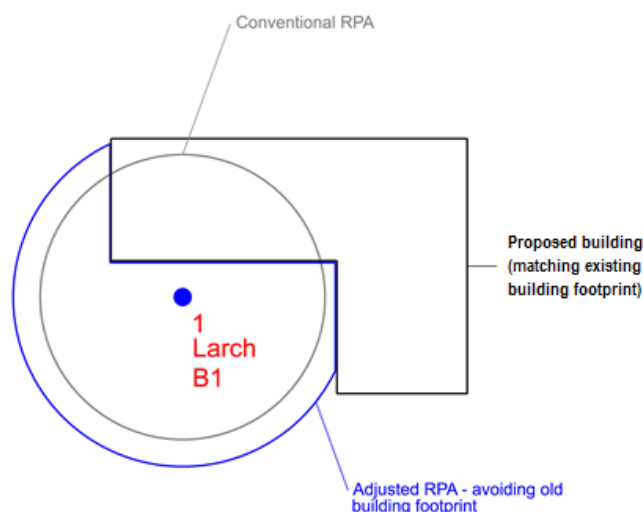


Figure 3– Generic BS 5837 RPA Adjustments (for fictitious site)

- 4.1.3 In BS5837, paragraph 4.6.2 states that RPA's should reflect the morphology and disposition of the roots; where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution. This can be done as a desktop / theoretical exercise but is not altogether (scientifically) reliable and may also invite disagreement / differences of opinion as to that distribution.

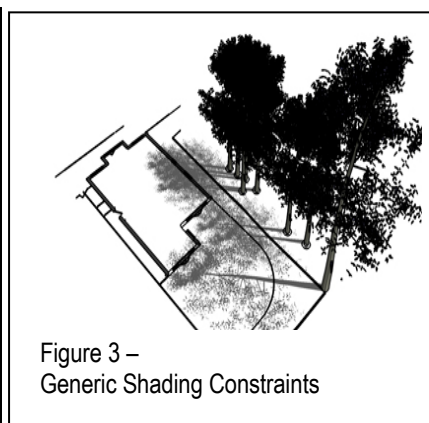


- 4.1.4 LT prefer where possible and practical to raise the issue of modification but suspend judgment until such time as more reliable site investigations have been undertaken (Tree Radar scans and / or trial pits). Of course, the justification for these investigations will depend upon whether trees are (or are likely to be once modified) subject to impacts and also upon their quality / condition: it is generally not worth commissioning a radar study to locate the roots of a poor- or low-quality tree. On other occasions, there may not be the opportunity to commission investigations, either because the access is restricted by ownership / tenancy or the report's turnaround simply does not allow it, and they may need to follow on or be conditioned. **No a priori RPA modifications have been made in this instance on account of the prevailing site conditions: the trees are growing within a retained bank.**
- 4.1.5 The quality of trees will also be a consideration: U Category trees are discounted from the planning process in view of their limited useful life expectancy. Again, Category-C trees would not normally constrain development individually, unless they provide some external screening function.
- 4.1.6 At paragraph 5.1.1. BS5837: 2012 notes that "Care should be exercised over misplaced tree preservation; attempts to retain too many or unsuitable trees on a site are liable to result in excessive pressure on the trees during demolition or construction work, or post-completion demands on their removal."

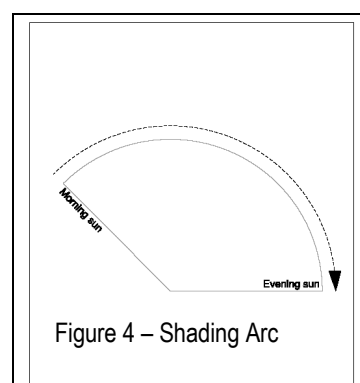
- 4.1.7 Only moderate quality trees and above are significant material constraints on development. However, low quality trees comprise a constraint in aggregate, in terms of any collective loss / removal, where replacement planting is generally considered appropriate.
- 4.1.8 In this instance, there are no internal site trees and therefore few significant primary constraints upon development, provided it will not be necessary to build right up to the boundaries.

## 4.2 Secondary Constraints

- 4.2.1 The second type of constraint produced by trees that are to be retained is that the proximity of the proposed development to the trees should not threaten their future with ever increasing demands for tree surgery or felling to remove nuisance shading (Figure 3), honeydew deposition or perceived risk of harm.



4.2.2 The shading constraints are crudely determined from BS5837 by drawing an arc from northwest to east of the stem base at a distance equal to the height of the tree, as shown in the diagram opposite. Shade is less of a constraint on non-residential developments, particularly where rooms are only ever temporarily occupied.



4.2.3 This arc (see Figure 4) represents the effects that a tree will have on layout through shade, based on shadow patterns of 1x tree height for a period May to Sept inclusive 10.00-18.00 hrs daily.

4.2.4 Assuming that they will be retained, the orientation of the off-site trees means they have the potential to generate secondary constraints on the application / appeal site, including shading, organic deposition and the potential need to maintain crown clearance in the future. The significance of these constraints will vary depending on the location and proximity to the proposed re-development which is considered below (in Sections 5 & 6). As specified by BS5837, this section (4) of the report considers only the site as it is, not in the light of pending proposals.

*Note: Sections 5 & 6 below will now assess the impacts of the proposals upon constraints identified in Section 4 above. Table 1 in Section 5 presents the impacts in tabular form (drawing upon survey data presented in Appendices 1 & 2). Impacts are presented in terms of whole tree removal and the effect on the landscape or partial encroachment (% of RPA) and its effect on individual tree health. Section 6 discusses the table data, elaborating upon the impacts' significance and mitigation.*

Table 1: Arboricultural Impact Assessment

(Impacts assessed prior to mitigation and rated with reference to Matheny & Clark (1998))

Hide irrelevant

Show All Trees

Ref: ALO/JSC/AIA

B.S. Cat.	Tree No.	Species	Impact	Tree / RPA Affected	Age	Growth Vitality	Species Tolerance	Impact on Tree Rating	Impact on Site Rating	Mitigation
C - U	1 - 10	Sycamore, elm & cherry	Potential secondary impacts	m <sup>2</sup> N/A %	Semi-mature		Moderate	Very Low	Very Low	Not required



## 6.0 ARBORICULTURAL IMPLICATIONS

### 6.1 Rating of Primary Impacts

- 6.1.1 The proposals do not encroach within any RPAs or require any felling or pruning and therefore give rise to no primary impacts and therefore the contribution the trees make to the character of the area will remain unaffected.
- 6.1.2 We note that the previous third-party Arboricultural Impact Assessment (produced by RGS Arboricultural Consultants) identified a need to carry out access facilitation pruning but this was based upon the premise that a 1.5m-wide construction access would be negotiated beyond the boundary wall. As we understand that this is not the case, the pruning identified is no longer necessary, as Photographs 1 and 3 show, any small-diameter, live branches extending over the application site boundary can readily be pushed back and any dead ones snapped off by hand. No tree surgery / chainsaw work as such is required.

### 6.2 Rating of Secondary Impacts

- 6.2.1 The juxtaposition of the off-site trees to the proposed dwellings means that they will be subject to some level of shading during the day as well as potentially inconvenienced by actual canopy intrusion / overhang in the future. However, it is important to understand that the impacts to be assessed here are not those upon persons and property but trees – whether the inconvenience to the former will translate into threats to the wellbeing / survival of the latter. Considered in this proper light, we would assess the likely impact of these inconveniences as being low at most. In the first instance, these are third-party trees over which occupants will have no direct control (other than trimming back to the boundary which is not generally considered onerous or life-threatening if attended to promptly / routinely). The owners, City of London Corporation (CoL), clearly have their own management policies for the heath, to service the environment and wider public, and will not be lightly diverted from these objectives by the private concerns of the few.
- 6.2.2 Moreover, the limited remaining lifespans of the elms, which make up the vast majority of the resource, means that the shade they cast will inevitably be reduced almost entirely as they dieback and collapse (or are felled). Similarly, they are unlikely to grow significantly in size, as they have reached the age (c. 15-20 years) at which they cyclically succumb to Dutch Elm Disease. I would assume that the bank has been cleared every 15-20 years by CoL, as there is not much in the way of standing deadwood; nor for that matter could I locate the two dead cherries in the previous survey: presumably they after all were removed. I note ecological concerns about retaining deadwood, standing or otherwise, and whilst this is of academic concern only to the appellant (as they have no say in the matter), it would appear that CoL took / takes a pragmatic approach to leaving such atop a retained bank next to a right of way.

- 6.2.3 To be fair, the above point may have some bearing on the sycamores, as these have the potential to develop into maturity and cause the occupiers more inconvenience. From the evidence, it would appear that CoL has previously cut these down together with the elms, given their current multi-stem habits: these generally arise when single stems are coppiced (cut to the ground and allowed to regrow). Thus, whilst one cannot necessarily presume CoL will continue to maintain the adjacent land on a 15-20-year coppice cycle, it seems reasonably likely. The practice possibly dates back 50 years to the seventies (e.g. 1975, 1990, 2005..), but I cannot say with any certainty.
- 6.2.4 We are aware that the RGS Arboricultural Impact Assessment recommended the removal and replacement of the subject trees in order to alleviate any future issues, but would comment that this observation was likely made from a position of pragmatism, in the assumption that the owners of the trees would be co-operative and welcome the opportunity to secure replacement planting with a greater potential rather than from the position of what is actually necessary taken in this assessment. We distance ourselves from RGS' recommendations in the knowledge that the appellant and future occupants have no direct control over others' land.
- 6.2.5 Finally, the possibility should be considered that these trees provide future occupiers with valuable screening from the pay and display car park. Research has suggested we tend to foresee tree conflicts with a negative bias, sometimes based on the fact that local authorities only ever hear from complainants – members of the public rarely contact them to express their satisfaction at living near trees / in a leafy environment.
- 6.2.6 Thus, given the third-party ownership, nature and history of the resource, I do not see the potential inconvenience of living near trees generating material secondary impacts in this case, such that the wellbeing or longevity of the resource would be directly affected.

### 6.3 Mitigation of Impacts

- 6.3.1 Shading impacts can of course be mitigated by building design, with the provision of dual aspect windows and choice of room layout.
- 6.3.2 Nuisance deposition can also be further mitigated with routine maintenance, light pruning / deadwooding and the fitting of filtration traps on guttering (see Figure 5 below).

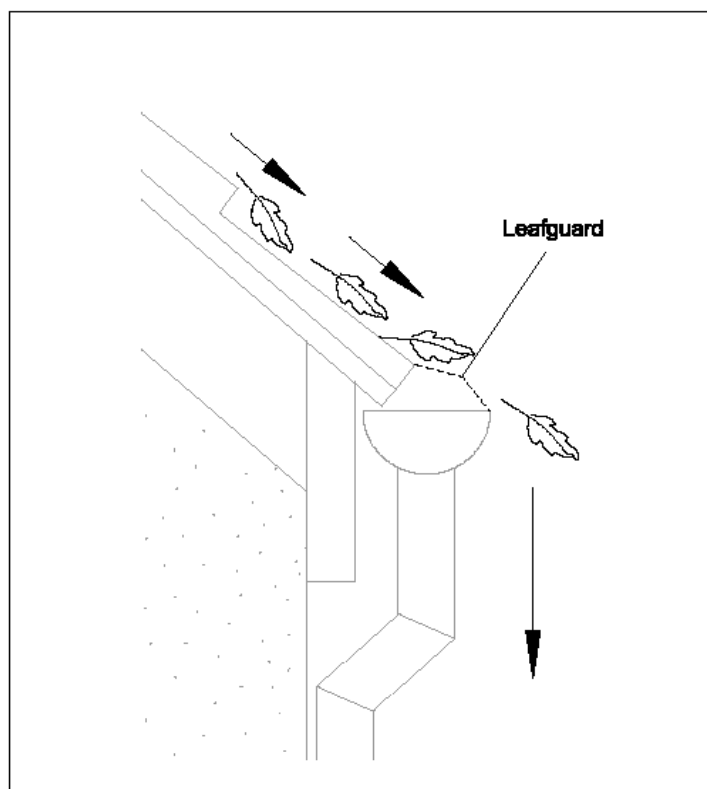


Figure 5: Filtration traps, as shown above, could be fitted on the gutters which can easily be maintained at 2-3m above ground.

## 7.0 CONCLUSION

- 7.1 The proposals give rise to no primary impacts and no material secondary impacts.
- 7.2 Potential nuisance can be mitigated through design and precautionary measures. These measures can be elaborated in Method Statements in the discharge of planning conditions.
- 7.3 Therefore, the proposals will not have any significant impact on either the retained trees or wider landscape thereby complying with Policies G1, G5 and G7 of the London Plan 2021 and Policies A3, A5, D1 and D2 of the Camden Local Plan (adopted 3rd July 2017). Thus, with suitable mitigation and supervision of construction activities the scheme is recommended to planning.

## 8.0 RECOMMENDATIONS

### 8.1 Specific Recommendations

- 8.1.1 Potential wider construction impacts to the subject trees, will need to be controlled by method statements specifying constructional variances and by consultant supervision as necessary. These method statements can be provided as part of the discharge of conditions.

## 8.2 General Recommendations for Sites Being Developed with Trees

- |       |  |
|-------|--|
| 8.2.1 | Any trees which are in close proximity to the proposed development should be protected with a Tree Protection Barrier (TPB). Protective barrier fencing should be installed immediately following the completion of the tree works, remaining in situ for the entire duration of the development unless otherwise agreed in writing by the Council. It should be appropriate for the intensity and proximity of the development, usually comprising steel, mesh panels 2.4m in height ('Heras') and should be mounted on a scaffolding frame (shown in Fig 2 of BS5837:2012). The position of the TPB can be shown on plan as part of the discharge of conditions, once the layout is agreed with the planning authority. The TPB should be erected prior to commencement of works, remain in its original form on-site for the duration of works and be removed only upon full completion of works. |
| 8.2.2 | A TPB may no longer be required during soft landscaping work but a full arboricultural assessment must be performed prior to the undertaking of any excavations within the RPA of a tree. This will inform a decision about the requirement of protection measures. It is important that all TPBs have permanent, weatherproof notices denying access to the RPA.  |
| 8.2.3 | The use of heavy plant machinery for building demolition, removal of imported materials and grading of surfaces should take place in one operation. The necessary machinery should be located above the existing grade level and work away from any retained trees. This will ensure that any spoil is removed from the RPAs. It is vital that the original soil level is not lowered as this is likely to cause damage to the shallow root systems.   |
| 8.2.4 | Any pruning works must be in accordance with British Standard 3998:2010 Tree work [BS3998].  |
| 8.2.5 | Where sections of hard surfacing are proposed in close proximity to trees, it is recommended that "No-Dig" surfacing be employed in accordance with BS5837:2012 and 'The Principles of Arboricultural Practice: Note 1, Driveways Close to Trees, AAIS 1996 [APN1]'.   |
| 8.2.6 | If the RPA of a tree is encroached by underground service routes then BS5837:2012 and NJUG VOLUME 4 provisions should be employed. If it is deemed necessary, further arboricultural advice must be sought.  |
| 8.2.7 | Numerous site activities are potentially damaging to trees e.g. parking, material storage, the use of plant machinery and all other sources of soil compaction. In operating plant, particular care is required to ensure that the operational arcs of excavation and lifting machinery, including their loads, do not physically damage trees when in use.  |

- 8.2.8 To enable the successful integration of the proposal with the retained trees, the following points will need to be taken into account:
- 1) Plan of underground services.
  - 2) Schedule of tree protection measures, including the management of harmful substances.
  - 3) Method statements for constructional variations regarding tree proximity (e.g. foundations, surfacing and scaffolding).
  - 4) Site logistics plan to include storage, plant parking/stationing and materials handling.
  - 5) Tree works: felling, required pruning and new planting. All works must be carried out by a competent arborist in accordance with BS3998.
  - 6) Site supervision: the Site Agent must be nominated to be responsible for all day-to-day arboricultural matters on site. This person must:
    - be present on site for the majority of the time;
    - be aware of the arboricultural responsibilities;
    - have the authority to stop work causing, or may cause harm to any tree;
    - ensure all site operatives are aware of their responsibilities to the trees on site and the consequences of a failure to observe these responsibilities;
    - arrange with the retained arboricultural consultant an initial pre-start briefing to inspect tree protection measures and agree a schedule of monitoring thereof on an initial monthly basis to be reviewed over the duration of works.
    - give advance notice (ideally 2 weeks) to retained arboricultural consultant to arrange for supervision of any excavation (especially for services and foundations) within RPA
    - make immediate contact with the local authority and/or a retained arboricultural consultant in the event of any tree related problems occurring.
- 8.2.9 These points can be resolved and approved through consultation with the planning authority via their Arboricultural Officer.
- 8.2.10 The sequence of works should be as follows:
- i) initial tree works: felling, stump grinding and pruning for working clearances;
  - ii) installation of TPB for demolition & construction;
  - iii) installation of underground services;
  - iv) installation of ground protection;
  - v) main construction;
  - vi) removal of TPB;
  - vii) soft landscaping.

## 9.0 COMPLIANCE: Trees and the Planning System

- 9.1 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is taken into account in dealing with planning applications. Where trees are statutorily protected, it is important to contact the local planning authority and follow the appropriate procedures before undertaking any works that might affect the protected trees.
- 9.2 The nature and level of detail of information required to enable a local planning authority to properly consider the implications and effects of development proposals varies between stages and in relation to what is proposed. Table B.1 provides advice to both developers and local authorities on an appropriate amount of information. The term “minimum detail” is intended to reflect information that local authorities are expected to seek, whilst the term “additional information” identifies further details that might reasonably be sought, especially where any construction is proposed within the RPA.

- 9.3 This report delivers information appropriate to a full planning application and to these specific proposals as per BS5837 Table B.1 below, providing both minimum details and further additional material in the form of general tree protection recommendations and constructional variation.

**Table B.1 Delivery of tree-related information into the planning system**

Stage of process	Minimum detail	Additional information
Pre-application	Tree survey	Tree retention/removal plan (draft)
Planning application	Tree survey (in the absence of pre-application discussions)	Existing and proposed finished levels
	Tree retention/removal plan (finalized)	Tree protection plan
	Retained trees and RPAs shown on proposed layout	Arboricultural method statement – heads of terms
	Strategic hard and soft landscape design, including species and location of new tree planting	Details for all special engineering within the RPA and other relevant construction details
Reserved matters/ planning conditions	Arboricultural impact assessment	
	Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method	Arboricultural site monitoring schedule
	Dimensioned tree protection plan	Tree and landscape management plan
	Arboricultural method statement – detailed	Post-construction remedial works
	Schedule of works to retained trees, e.g. access facilitation pruning	Landscape maintenance schedule
	Detailed hard and soft landscape design	

## 10.0 REFERENCES

- Barlow JF & Harrison G. 1999. Shade By Trees, Arboricultural Practice Note 5, AAIS, Farnham, Surrey.
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- Trowbridge J & Bassuk N (2004) Trees in the Urban Landscape: Site Assessment, Design, and Installation; J Wiley & Sons inc. NJ USA





**Landmark Trees**

#### **Caveats**

This report is primarily an arboricultural report. Whilst comments relating to matters involving built structures or soil data may appear, any opinion thus expressed should be viewed as qualified, and confirmation from an appropriately qualified professional sought. Such points are usually clearly identified within the body of the report. It is not a full safety survey or subsidence risk assessment survey. These services can be provided but a further fee would be payable. Where matters of tree condition with a safety implication are noted during a survey they will of course appear in the report.

A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.

Tree works recommendations are found in the Appendices to this report. It is assumed, unless otherwise stated ("ASAP" or "Option to") that all husbandry recommendations will be carried out within 6 months of the report's first issue. Clearly, works required to facilitate development will not be required if the application is shelved or refused. However, necessary husbandry work should not be shelved with the application and should be brought to the attention of the person responsible, by the applicant, if different. Under the Occupiers Liability Act of 1957, the owner (or his agent) of a tree is charged with the due care of protecting persons and property from foreseeable damage and injury.' He is responsible for damage and/or nuisance arising from all parts of the tree, including roots and branches, regardless of the property on which they occur. He also has a duty under The Health and Safety at Work Act 1974 to provide a safe place of work, during construction. Tree works should only be carried out with local authority consent, where applicable.

Inherent in a tree survey is assessment of the risk associated with trees close to people and their property. Most human activities involve a degree of risk, such risks being commonly accepted if the associated benefits are perceived to be commensurate.

Risks associated with trees tend to increase with the age of the trees concerned, but so do many of the benefits. It will be appreciated, and deemed to be accepted by the client, that the formulation of recommendations for all management of trees will be guided by the cost-benefit analysis (in terms of amenity), of tree work that would remove all risk of tree related damage.

Prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc.) may be affected.



Landmark Trees

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## PART 2 – APPENDICES





## APPENDIX 1

### TREE SCHEDULE

#### Botanical Tree Names

Cherry	: Prunus spp	Sycamore	: Acer pseudoplatanus
Elm, English	: Ulmus procera		

#### Notes for Guidance:

1. Height describes the approximate height of the tree measured in metres from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is expressed as an average of NSEW aspect if symmetrical.
3. Ground Clearance is the height in metres of crown clearance above adjacent ground level.
4. Stem Diameter (Dm) is the diameter of the stem measured in millimetres at 1.5m from ground level for single stemmed trees. BS 5837:2012 formula (Section 4.6) used to calculate diameter of multi-stemmed trees. Stem Diameter may be estimated where access is restricted and denoted by '#'.
5. Protection Multiplier is 12 and is the number used to calculate the tree's protection radius and area
6. Protection Radius is a radial distance measured from the trunk centre.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat refers to (British Standard 5837:2012 section 4.5) and refers to tree/group quality and value; 'A' – High, 'B' - Moderate, 'C' - Low, 'U' - Unsuitable for retention. The following colouring has been used on the site plans:
  -  High Quality (A) (Green),
  -  Moderate Quality (B) (Blue),
  -  Low Quality (C) (Grey),
  -  Unsuitable for Retention (U) (Red)
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservational, Historic and Commemorative.
12. Useful Life is the tree's estimated remaining contribution in years.



Site: Jack Straws Castle

Date: 13/04/21

## Appendix 1

Landmark Trees Ltd

020 7851 4544

Surveyor(s): Adam Hollis

Ref: ALO/JSC/AIA

### BS5837 Tree Constraints Survey Schedule

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
1	Sycamore		3,2,2.5, 2	3.0	252	Semi-mature	3.0	Moderate	Fair	C	2	40+	Ivy clad Multi-stem
2	Elm	9	4113	2.0	210	Semi-mature	2.5	Moderate	Fair	C	2	10+	Ivy clad Minor die-back
3	Elm	8	3112	2.5	156	Semi-mature	1.9	Normal	Fair	C	2	10+	ivy clad
4	Cherry	8	3114	2.0	128	Semi-mature	1.5	Moderate	Fair	C	2	10+	Suppressed and leaning Lopped Asymmetrical poor form, ivy clad
7	Elm	9	1.5,0,4, 0	5.0	276	Semi-mature	3.3	Poor	Fair	C/u		<10	Southern stem dead Ivy clad
8	Sycamore	9	4242	2.0	298	Semi-mature	3.6	Moderate	Fair	C	2	40+	Co-dominant stems Deadwood (minor) throughout crown Lopped over path

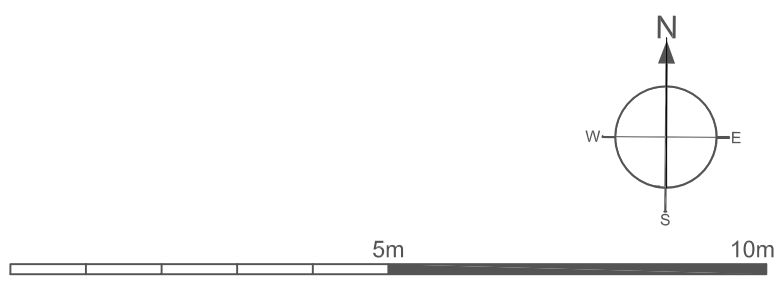
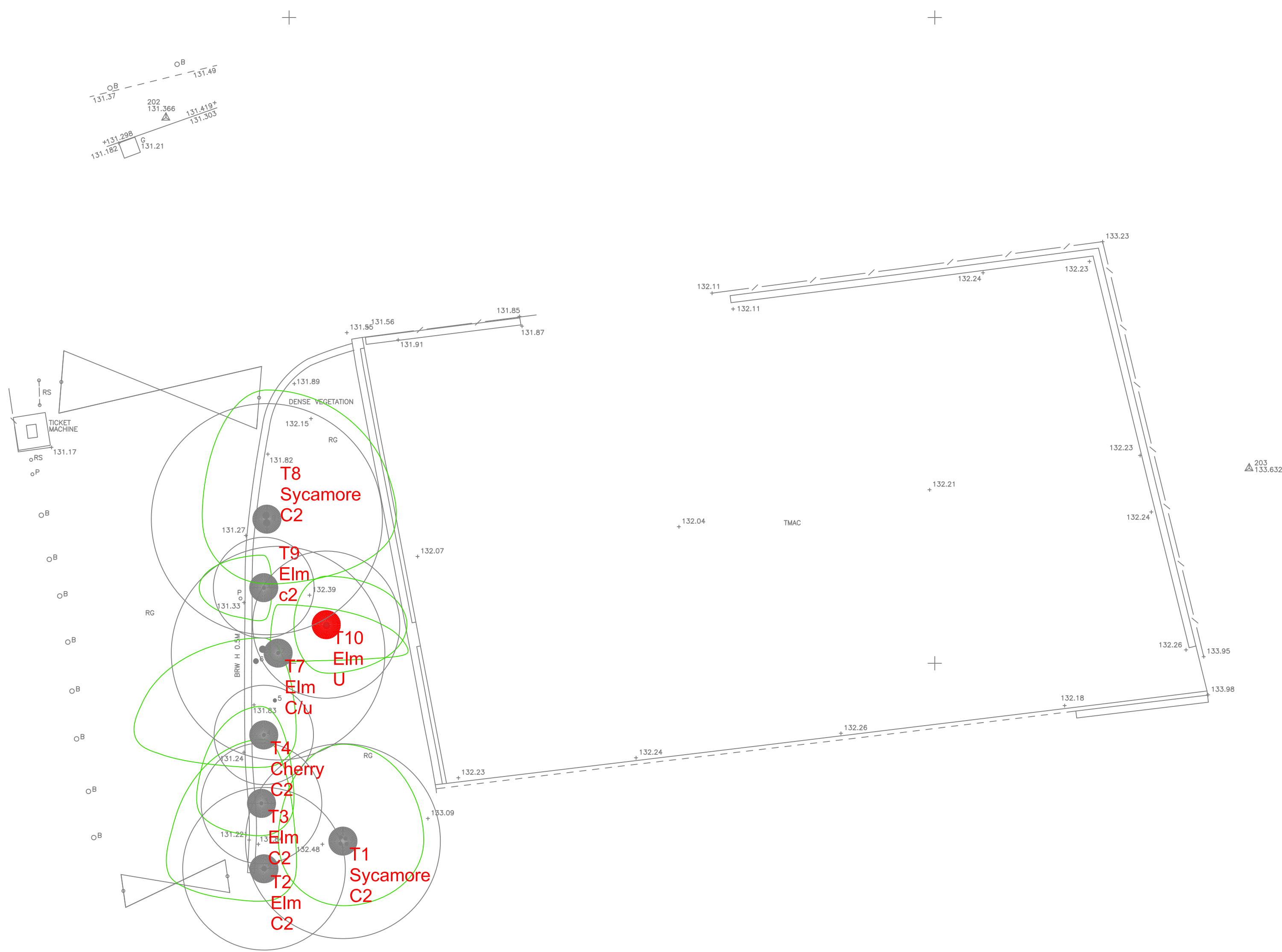


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## PART 3 – PLANS

**PLAN 1****TREE CONSTRAINTS PLAN**



**NOTE:**  
This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.  
  
Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.  
  
Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).

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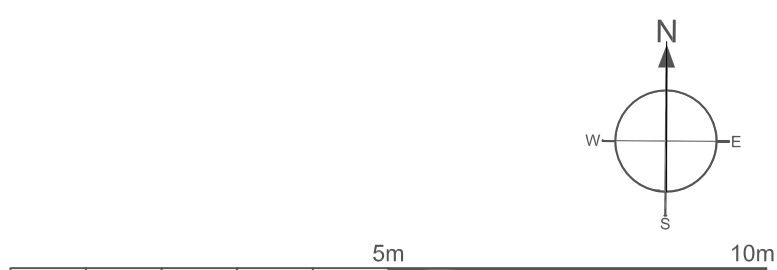
Site: Jack Straw's Castle  
Drawing Title: Tree Constraints Plan  
1:100@ A1  
April 2021

**Key:**  
Category A High Quality  
Category B Moderate Quality  
Category C Low Quality  
Category U Trees Unsuitable for Retention  
  
Crown Spread  
Tree Number  
Species  
Category  
Root Protection Area

**PLAN 2****ARBORICULTURAL IMPACT ASSESSMENT PLAN (S)**

- i. Ground Floor





This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base).



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Site: Jack Straw's Castle

Drawing Title: Arboricultural Impacts Assessment Plan	April 2021
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Category A  
High Quality  
Category B  
Moderate Quality  
Category C  
Low Quality  
Category U