

# BS 5837:2012 Tree Survey, Arboricultural Impact Assessment, Arboricultural Method Statement & Tree Protection Plan



15 Wilmot Place  
London  
NW1 9JP

10<sup>th</sup> August 2021

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# 1. Instruction

Usherwood Arboriculture have been instructed to provide a tree survey, arboricultural impact assessment, method statement and tree protection plan with regards to the erection of a single storey rear extension at 15 Wilmott Place, NW1 9JP. The survey has been carried out in accordance with BS5837:2012, Trees in relation to design, demolition and construction-Recommendations.

Drawing No.	Title	Drawn/Written by
100-01	Location Plan	native north
120-01	Existing Plans	native north
200-01	Proposed Site Plan	Native north

Table 1. Drawings and documents supplied for consideration within this report

## 2.Executive Summary

This document takes into account the potential impact of development upon trees both within and in close proximity to 15 Wilmot Place. A total of 4 individual trees have been surveyed, 3 category C trees within the site's rear garden and 1 category B tree within the rear of the neighbouring garden. No trees are to be removed or impacted upon by the proposed development with a linear section of protective fencing being sufficient to provide full protection to the root protection areas and above ground parts of all trees.

## 3.The Site

The application site comprises a semi detached corner property within the London borough of Camden. The proposed development will extend into the rear walled garden which is level and currently laid to lawn with narrow flower beds either side. The subject trees grow in a line along the north east boundary, with 3 newly planted 6-8cm girth Himalayan birch trees located in the opposite border.

### Soil conditions.

The British Geological Survey, Geology of Britain viewer describes the local bedrock geology as London Clay Formation-clay, silt and sand with no information on the superficial layer, although this is likely to comprise of made up ground, typical of an urban environment.

### Legal Constraints

Trees can sometimes be the subject of a Tree Preservation Order (TPO) or a property may be situated within a designated conservation area. Both a TPO and conservation area designation require the owner/occupier or those wishing to work on trees to seek the Council's consent or provide written notice prior to carrying out any works. It is a criminal offence to carry out any works to protected trees without the Council's consent. Usherwood Arboriculture has not carried out a statutory check on the application site.



Aerial image courtesy of Google Maps with site outlined in red.

## 4. Tree Survey

Trees were assessed in accordance with recommendations and guidelines contained within British Standard 5837:2012 - 'Trees in relation to design, demolition and construction- Recommendations' henceforth referred to as BS5837. The survey was carried out in relation to the condition and quality of trees growing either within or near the boundary of the site. Where details have been omitted including the heights of crown break and the direction of the first major lateral branch, these details were not seen as being relevant to this application. Where access allowed, tree heights were measured with a Haglof electronic clinometer and trunk diameters with a diameter tape measure. Crown spreads were measured with a tape measure at the four cardinal points.

All trees were assessed from the ground utilizing the Visual Tree Assessment method as developed by Mattheck and Breloer (The Body Language of Trees, Research for Amenity Trees No 4 Department of the Environment).

This tree survey should not be treated as a hazard assessment, it has been carried out to inform the planning process with regards to the appropriate retention and protection of trees as visual and ecological assets within the landscape. However, where clear and obvious defects have been observed, the relevant parties have been informed.

## Tree Assessment and Categorization

Tree quality ratings have been assessed in accordance with BS5837's Table 1, Cascade chart for tree quality assessment.

**U**= Trees in such a condition that any existing value would be lost within 10 years and which should in the current context, be removed for reasons of sound arboricultural management. (Trees that have serious, irremediable structural defects, such that their early loss is expected due to collapse or ill health including trees that will become at risk due to the loss of other U category trees).

**A** = Trees of high amenity quality and value in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).

- 1) Trees that are particularly good examples of their species if rare, unusual or essential components of groups or formal or semi-formal arboricultural features.
- 2) Trees, groups of trees or woodland which provide a definite screening or softening effect to the locality in relation to views in or out of the site, or those of particular visual importance.
- 3) Trees groups or woodlands of significant conservation, historical, Commemorative or other value (e.g. veteran tree or wood pasture).

**B** = Trees of moderate quality and amenity value: those in such a condition as to be able to make a significant contribution (a minimum of 20 years is suggested).

- 1) Trees that might be included in the high category but are down-graded because of impaired condition (e.g. remediable defects).
- 2) Trees, groups of trees or woodland that form distinct landscape features but do not form essential components of the landscape.
- 3) Trees with clearly identifiable conservation or other cultural benefits.

**C** = Trees of low quality and amenity value currently in adequate condition to remain until new planting is established (a minimum of 10 years is suggested) or trees under 150 mm stem diameter.

- 1) Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
- 2) Trees presenting groups or woodlands but not with a significantly higher landscape value and or offering low or temporary/transient screening benefit.
- 3) Trees with no conservation or other cultural benefits.

Note: Category C trees are the least suitable for retention, where they would impose a significant constraint on the development their removal for development purposes may be considered acceptable by the LPA.

## 5.Tree Survey Data & Appraisal

This survey concerns 4 individual trees, full details of the survey data can be found in the Tree Survey Schedule at **Appendix 1**. An explanation of Tree Quality category ratings is set out on the previous page.

### Category A individual trees and groups of trees.

No individual trees were graded as category A (trees of high quality) as part of this survey.

### Category B individual trees and groups of trees.

1 individual tree has been graded as category B (trees of moderate quality) as part of this survey.

### Category C individual trees and groups of trees.

3 individual trees have been graded as category C (trees of low quality) as part of this survey.

### Category U individual trees and groups of trees.

No individual trees were graded as category U (trees unsuitable for retention) as part of this survey.

3 tree species were recorded as part of this survey, their common and botanical names are set out within the table below.

Common Name	Botanical Name
Common Ash	Fraxinus excelsior
Cotoneaster	Cotoneaster sp.
Sycamore	Acer pseudoplatanus

Table 2. Tree species recorded on site and their botanical names

T1 & T2- category C Cotoneasters.



Images above of T1 & T2 Cotoneaster, both trees creating a single crown.

T3- category C Common Ash.



Images above of T3 Common Ash exhibiting generally poor form, with neighbouring Eucalyptus behind.

T4- category B Off-site Sycamore.



Images above of T4 Sycamore growing on the rear boundary of the neighbouring property. The last image taken over the fence to inspect basal condition.

## 6. Arboricultural Impact Assessment

The term Arboricultural Impact Assessment is self-explanatory. It sets out the potential risks and threats associated with proposed construction to trees both within and near to an application site and seeks to minimise those risks through the implementation of a sound and recognised methodology set out within an arboricultural method statement.

Construction and development in general can impact trees in a number of ways, the most notable being damage to the tree's root system leading to decline and potential structural instability. BS5837 recognises this and accordingly sets out recommendations to minimise damage associated with the effects of soil compaction and root severance.

### Root Protection Areas

BS 5837 describes the root protection area (RPA) as a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

The **Root Protection Areas (RPA)** have been calculated in accordance with Table D1 of BS5837:2012. Notional RPA's are plotted on the arboricultural impact assessment plan at **appendix 3**. The RPA is defined by the formula in paragraph 4.6 from the British standard and may be refined by considering current on-site constraints to root activity such as buildings, walls, earthworks, hard paving and services.

### Proposal details

In this instance, as long as tree protective fencing is installed as described within the arboricultural method statement and tree protection plan at appendix 4, the proposal to demolish the existing rear extension and erect a new single storey rear extension will have no impact upon any of the subject trees.

### Tree Pruning Works

There are currently no plans to carry out any access facilitation pruning works.

## 7. Arboricultural Method Statement (AMS)

The arboricultural method statement sets out a precautionary approach towards tree protection. Any operations including access, proposed within the RPA (or crown spread where this is greater) should be described within an arboricultural method statement, to demonstrate that the operations can be undertaken with minimal risk of adverse impact to retained trees.

The methodology will provide sufficient protection to the rooting environments of all trees within the vicinity of the proposed construction throughout the duration of works.

### Phase 1- Installation of protective fencing.

- Erect protective barrier fencing in locations shown on the tree protection plan at appendix 4. Tree protection positions will have already been marked out by the project arboriculturalist. A protective fencing diagram can be found at appendix 5. Barriers will consist of a heras type panel inserted into rubber 'elephants feet' and reinforced with a stabilizer strut. Two clamps either end of each section will ensure the area behind the fence, also known as the construction exclusion zone (CEZ) remains out of bounds to demolition and construction activities throughout the duration of works.



Photos above show protective fencing installed as per BS5837:Fig 3A with rubber feet and stabilizer struts.

In the unlikely event that tree roots are discovered during excavation for foundations, the following protocol should be followed.

If any tree roots are encountered during the excavation process, roots up to 25mm shall be cut back with a sharp pair of by-pass loppers, except where they occur in clumps. Roots occurring in clumps or of 25mm diameter and over should be severed only following consultation with the project arboriculturalist or Local Authority tree officer.

If substantial tree roots are to be left exposed for any length of time, these must be covered with a damp hessian rap to minimize desiccation. Hessian should be removed immediately prior to backfilling with a suitable soil or sharp sand, not builders sand which contains sodium, detrimental to tree roots.

**Box 1. Dealing with tree roots found during excavation works.**

## **Phase 2- Demolition & Construction**

- Demolition and construction may be carried out in the standard manner with no further requirement for specific arboricultural measures.

### **Site Supervision and pre-commencement meeting**

Site supervision should not be required, however, the local planning authority may require photographic evidence of the installation of tree protective fencing prior to commencement of any works on site.

### **General measures to be adopted in proximity to trees-**

- All tree protection measures will be set in place prior to commencement of any works relating to the approved planning consent.
- No bonfires on site.
- No storage of products or mixing of materials within the RPA's of trees.
- No materials are to be stored within the confines of the protective fencing (CEZ) unless otherwise agreed with the project arboriculturalist and LPA tree officer.
- Storage of materials on soft ground in proximity to any other trees and hedges away from construction is to be avoided.
- No discharging of any products associated with construction near trees or hedges.
- No refueling/topping up of hydraulic fluids etc. on plant machinery within or close to the RPA of retained trees.
- There will be no lowering or raising of soil levels within the root protection areas of retained trees and hedges except where specified and agreed by the LPA.
- There will be no excavation or trenching for the installation of services within the root protection areas of retained trees and hedges.

## 8. Conclusion

It is my opinion that provided the measures set out within this document are adhered to, there should be no adverse impacts upon any of the retained trees, I therefore suggest that this application should be regarded as being arboriculturally acceptable.

## 9. Qualifications & Experience

I have been involved in the horticultural and arboricultural industries for over 30 years, firstly as a contractor and for the last decade as a Local Authority tree officer and consultant. I hold the AA Tech cert arb, and ND Arb (RFS) as well as being a Lantra accredited Professional Tree Inspector. I am also a technical member of the Arboricultural Association and professional member of the Consulting Arborists Society.

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## Appendix 1: Tree Survey Schedule

Trees have been listed on the schedule with both their common and scientific names.

**Tree height** is normally measured and rounded up to the nearest metre for trees above 10 metres in height using a Haglof electronic clinometer.

**Stem or trunk diameters** were measured using a diameter tape in mm at 1.5 metres above ground where access allowed, otherwise diameters have been estimated.

**Crown spread** has been measured in metres from the trunk to the tips of the live lateral branches taken at the four-cardinal points N-E-S-W using a ground tape.

### Age Class

**Young** - Trees in the first fifth of full life expectancy

**Semi-mature** - Trees in the second fifth of full life expectancy

**Early-mature** - Trees in the third fifth of full life expectancy

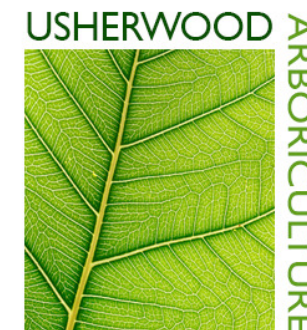
**Mature** - Trees in the fourth fifth of full life expectancy

**Post-mature** – Trees having reached full life expectancy and trees in natural decline

**Veteran** - Trees of interest biologically, culturally and aesthetically due to certain features and/or age.

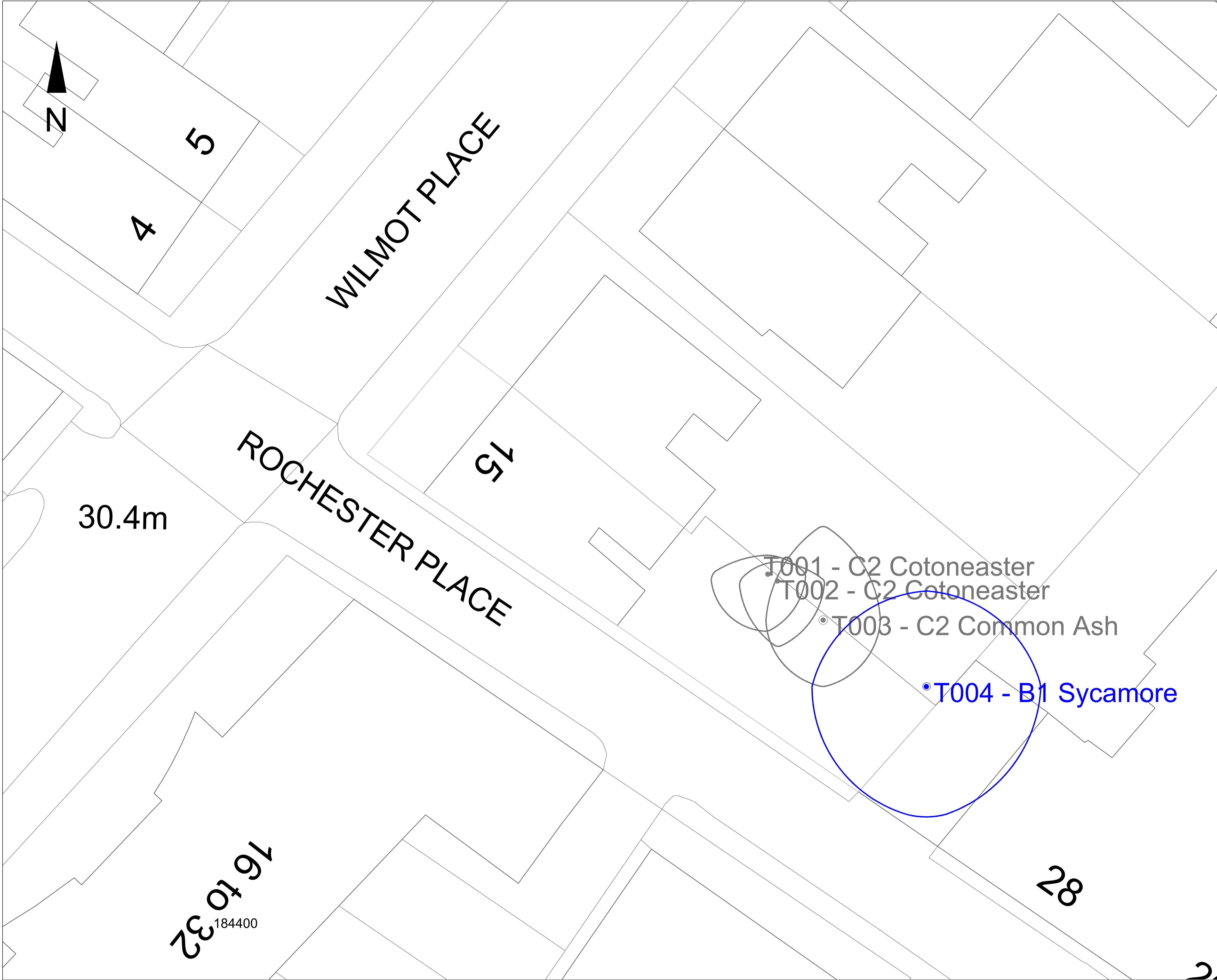
**ERCY**-The estimated remaining contribution in years calculated considering the tree's species, location, current age and physiological and structural condition at the time of the survey.

# BS5837 Survey Data



Ref.	Species	Measurements	General Observations	Category	Recommendations
T001	Cotoneaster (Cotoneaster sp.)	Height (m): 4 2 stems, diam(mm): 110, 70 Spread (m): 1N, 2E, 3S, 3W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	Attractive large shrub/small garden tree, 1 of 2 trees growing closely together to form 1 canopy.	C2  RPA Radius: 1.6m. Area: 8 sq m.	
T002	Cotoneaster (Cotoneaster sp.)	Height (m): 4 Stem Diam (mm): 80 Spread (m): 1N, 2.5E, 3.5S, 2W Life Stage: Mature Rem. Contrib.: 10+ Years	Refer to T1.	C2  RPA Radius: 1.0m. Area: 3 sq m.	
T003	Common Ash (Fraxinus excelsior)	Height (m): 12 3 stems, diam(mm): 320, 300, 160 Spread (m): 5N, 3E, 3.5S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	3 Stems from ground level, largest stem facing garden and topped at 2m, apparently following stem failure. Minor regrowth from this stem with poor wound wood formation. 2 rear stems press together, not fused at approx 1.6m, tree has generally poor upright form.	C2  RPA Radius: 5.6m. Area: 99 sq m.	
T004	Sycamore (Acer pseudoplatanus)	Height (m): 16 Stem Diam (mm): 400 Spread (m): 5N, 6E, 7S, 6W Life Stage: Mature Rem. Contrib.: 20+ Years	Off-site tree, divides into 3 upright stems at 2.5m, tree has not formed a major branch structure comprising primary branches extending from upright stems only. Wall approx. 1.2m to rear is suffering displacement, possibly related to root activity.	B1  RPA Radius: 4.8m. Area: 72 sq m.	

## **Appendix 2: Tree Survey Plan**



KEY

Existing Tree:

•

Category B Tree

•

Category C Tree

This drawing must be printed and used in colour



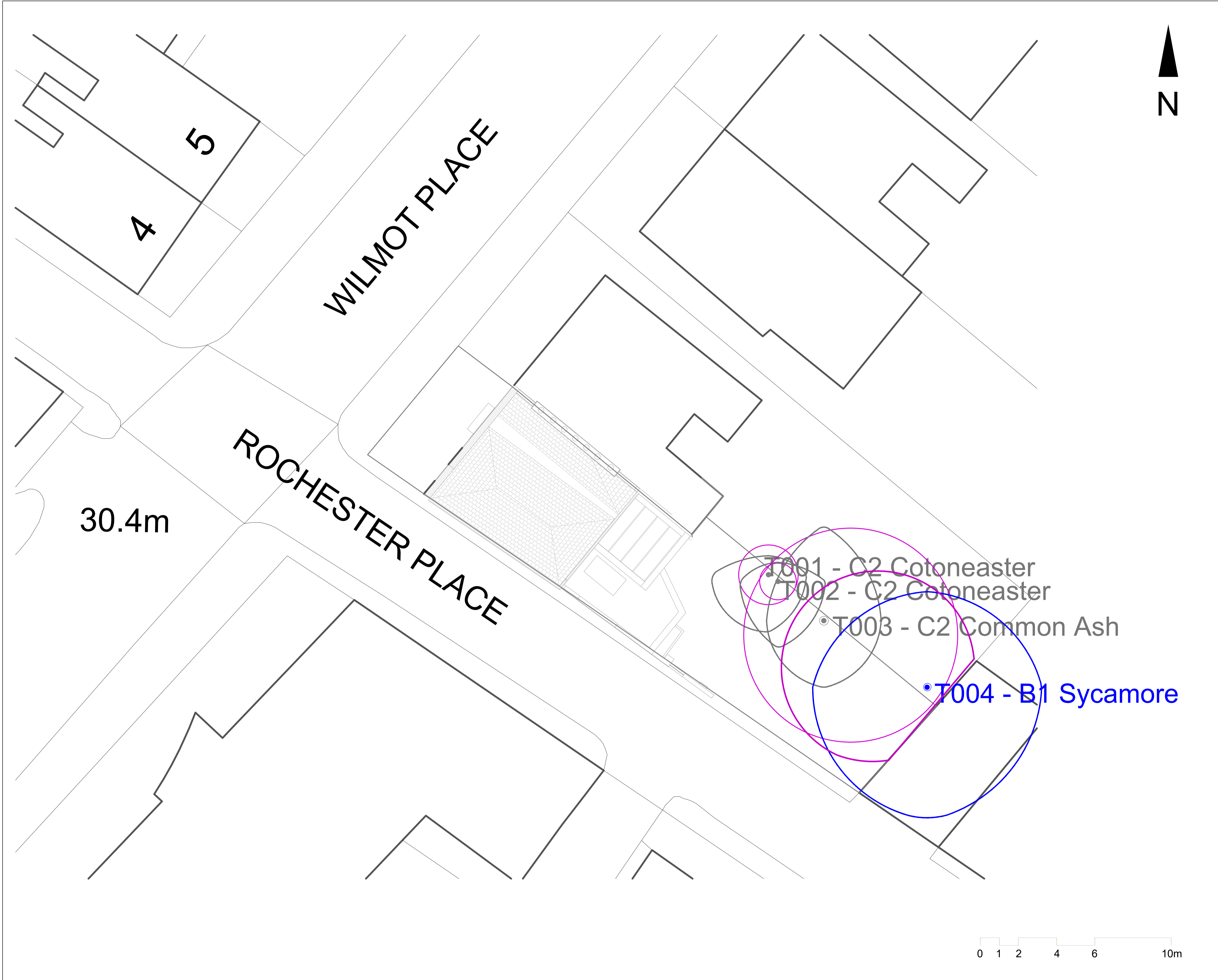
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FOR PLANNING

Client: Mr Ben Smithers	
Project: 15 Wilmot Place, London N1 9JP	
Drawing Title: Tree Survey Plan	
On OS baseplan licence 100022432	
Dwg No: UA/TSP1	Rev:
Scale: 1:100@A1	
Drawn By: MP	Checked By: LU
Date: 02/08/21	© Copyright
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## **Appendix 3: Arboricultural Impact Plan**




KEY

Existing Tree:

- Category B Tree
- Category C Tree
- Root Protection Area
- Modified RPA

This drawing must be printed and used in colour



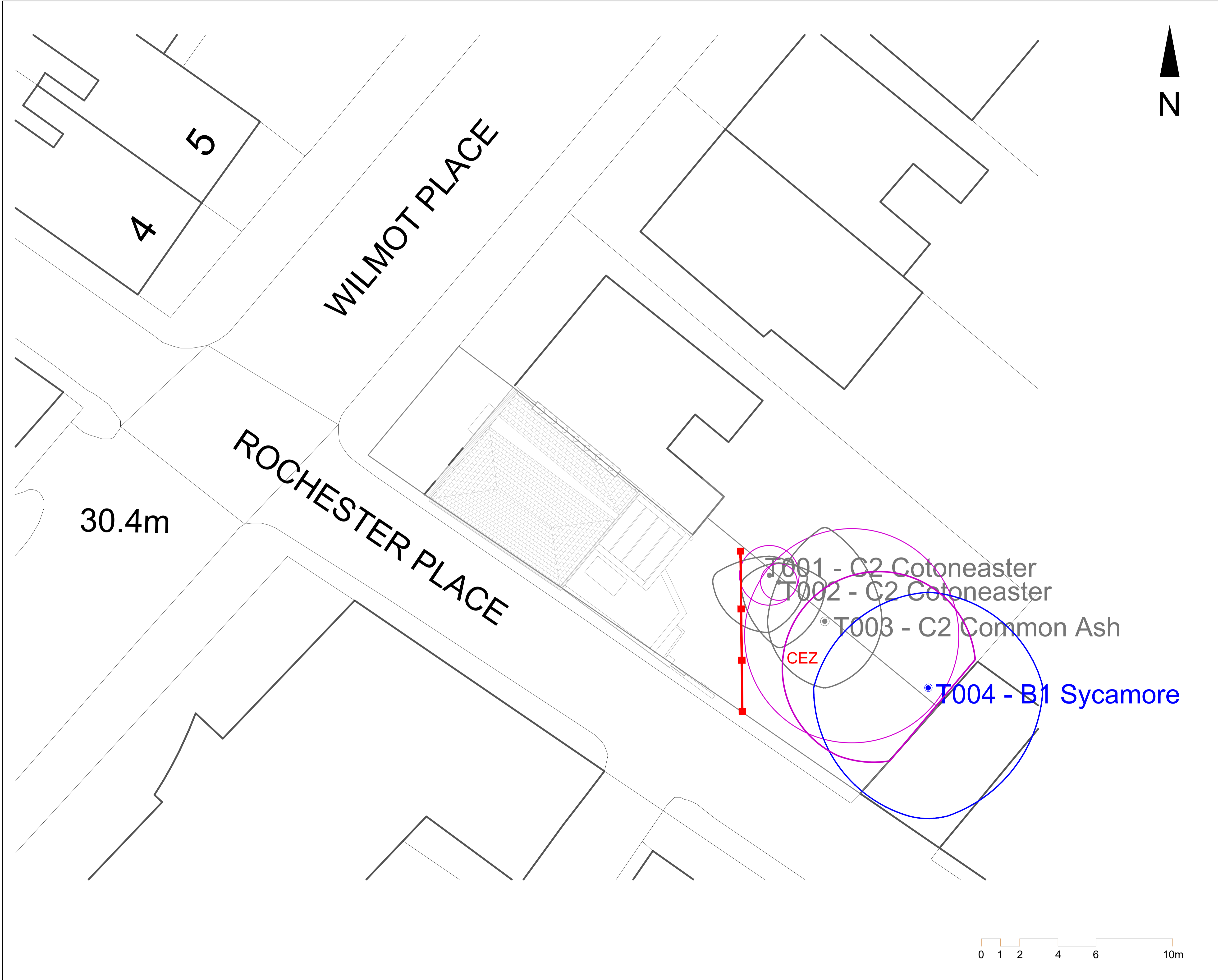
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FOR PLANNING

Client:	Mr Ben Smithers
Project:	15 Wilmot Place, London N1 9JP
Drawing Title:	Arboricultural Implications Assessment
On baseplan by Native North Architects	
Dwg No: UA/AIA1	Rev:
Scale: 1:100@A1	
Drawn By: MP	Checked By: LU
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## **Appendix 4: Tree Protection Plan**



- KEY
- Existing Tree:
- Category B Tree
  - Category C Tree
- Root Protection Area
- Modified RPA
- Tree Protective Fencing  
BS 5837:2012 Figure 3b
- CEZ Construction  
Exclusion Zone

This drawing must be printed and used  
in colour

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## FOR PLANNING

Client:	Mr Ben Smithers
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Drawing Title:	Tree Protection Plan
On baseplan by Native North Architects	
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## **Appendix 5: Tree Protective Fencing**

Figure 3 Examples of above-ground stabilizing systems

