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Arboricultural Impact Assessment  
 and  
 Method Statements

For

Land at 12A Caversham Rd, London Borough of Camden,  
 London, NW5 2DU

<b>Date</b>	17 <sup>th</sup> January 2024
<b>Client</b>	Norton, Taylor and Nunn Ltd
<b>Report by</b>	Mr James Choat BSc, M Arbor A
<b>Site</b>	12 A Caversham Road
<b>Reference No.</b>	TPSQU0003
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## 1.1 Summary

- 1.1.1 Tree Planning Solutions received instruction from Taylor, Norton and Nunn, Ltd to complete a suitable arboricultural site survey and produce this subsequent arboriculture impact assessment (AIA) for an area of land at 12A Caversham Rd, London, NW5 2DU.
- 1.1.2 Trees are a material consideration during the planning application process and require specialist input at the design stage to ensure the success for the end use of the proposed development whilst retaining the best tree specimens. Generally, local authorities provide local plan policies for planning applicants with regards to the suitable retention and protection criteria for trees during the application process and subsequent construction phase, and the level of detail that will be required to determine the application - details can be found on the local authority web site. Central government provide 'The National Planning Policy Framework' (NPPF 2023), which provides specific details of application acceptability; paragraphs 136, 185 and 186 specifically relate to tree planting, tree retention, biodiversity, habitat including trees and woodlands. Consultants providing arboricultural impact assessment (AIA) apply British Standard 5837 2012 criteria to demonstrate the suitable retention, design and protection of trees during the application / design process. The completed assessment forms part of the application detail and will aid the Planning Authorities decision with regard to the impact of the proposed development on the existing tree stock and local landscape character.
- 1.1.3 The survey and this report are provided to support a planning application for the demolition of an existing garden shed and construction of new garden shed.
- 1.1.4 The site was surveyed on the 12<sup>th</sup> January 2023, the weather was dry with a light wind, conditions for surveying trees were good. 6 individual trees and 2 tree groups were surveyed as part of the assessment for trees that could be affected either directly or indirectly by the construction of the proposed development.
- 1.1.5 The report provides the following information and data in accordance with the criteria provided within BS 5837 2012 '*Trees in relation to design, demolition and construction Recommendations*'

- Tree survey and schedule
- Tree constraints data and plan
- Arboricultural Impact Assessment
- Arboricultural Method Statement and Tree Protection Plan

1.1.6 This report pays particular reference to:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▪ British Standard 5837 2012</li> <li>▪ British Standard 3998 2010</li> <li>▪ NHBC CH 4.2</li> <li>▪ NJUG 4</li> <li>▪ NPPF 2023</li> </ul> | <p>Trees in relation to design, demolition and construction Recommendations</p> <p>Recommendations for tree work</p> <p>Building near trees</p> <p>National Joint Utilities Group ‘Working Near Trees’</p> <p>National Planning Policy Framework</p> |
|--|--|

## 1.2 Statutory protection

1.2.1 London Borough of Camden Councils Planning team were contacted 10/01/23. The site is not subject to a tree preservation order (TPO), the site is however situated within a designated conservation area (CA) - The Bartholomew Estate Conservation Area. Any tree with a stem diameter above 7.5cm measured at 1.5m above ground level, requires 6 weeks prior notice to be submitted to the council prior to any tree works being carried out, the council have 6 weeks to determine whether to serve a TPO or allow the works to proceed. It is recommended the applicant obtain written consent from London Borough of Camden Council and where applicable the Forestry Commission, before carrying out recommendations contained within this report. Furthermore, no works should be carried out to any 3<sup>rd</sup> party tree(s) without first obtaining consent from the owner(s) of the tree(s).

1.2.2 Multi agency nature on the map GIS data (MAGIC) was checked 10/01/24, specifically data sets relating to trees – habitats and woodlands. The site is subject to a site of special scientific interest (SSSI) impact zones – Hampstead Heath Woods SSSI and Walthamstow Marshes SSSI.

### **1.3 Limitations**

1.3.1 The applicant has supplied a plan of the existing and proposed (desired) site, no further information has been provided.

The following plans have been provided with the instruction for this report:

- Existing layout drawing provided by Norton, Taylor and Nunn Ltd
- Proposed layout/concept drawing provided by Norton, Taylor and Nunn Ltd

1.3.2 This survey is for the purpose of determining the impact of the development upon existing trees; it is not a detailed tree condition survey and should not be used as such. All trees have been assessed from ground level; no aerial or below ground parts have been inspected in detail.

1.3.3 The survey remains valid for 12 months. If during 12 months following the tree survey adverse weather conditions have occurred, or the site environment changed in any form, it is recommended the trees be reassessed.

1.3.4 The content of this report remains the property of Tree Planning Solutions unless otherwise stated. This report is not to be copied without written consent from Tree Planning Solutions.

1.3.5 The consultant is a qualified arboriculturist, occasionally opinions and views are provided regarding buildings and structures, the consultant is not a qualified buildings surveyor or structural engineer and therefore all opinions and views should be supported by a qualified structural/building engineer.

### **1.4 Qualifications**

1.4.1 The consultant has been working within the Arboricultural industry for 25 years as a tree surgeon, tree officer and consultant. Knowledge and experience are regularly updated by attending industry related seminars and courses. Continued professional development is

verified by professional membership to the Arboricultural Association (membership No. PR00530), CPD is updated on-line, a record can be provided upon request.

1.4.2 The consultant holds a Bachelor of Science (BSc) degree in Rural Resource Development, a Higher National Diploma (HND) in Rural Resource Management, the Lantra Professional Tree Inspection Award, the RFS Level 2 Certificate in Arboriculture, level 3 certificate in Ecology and is a registered user of Quantified Tree Risk Assessment (QTRA).

## **2.1 The Site**

## **2.2 Site description**

2.2.1 The site is located centrally within the London Borough of Camden and accessed from Caversham Road providing access to the site. The site is situated in an urbanised position with reasonable surrounding tree cover, ward canopy cover is 12.5% for the Kentish Town Ward, Camden, (Ward Canopy Cover Web Maps 2024). The site contains the following built structures – semidetached flatted dwellings, garden shed and hard stand patio and base. The site consists of the following habitat / green features – improved grass and amenity trees / shrubs.

## **2.3 Topographical survey**

2.3.1 A topographical survey was not provided with the instruction for this project. The site is generally flat with no significant changes in levels that will influence root orientation or morphology, it is therefore reasonable to assume the root protection areas will be normal in terms of size and shape. The roots of T2 appear to be restricted from sinking at / around the base of the stem, likely due to hard surfacing. Various inspection chambers were recorded during the survey, the date of construction/servicing is not known, it is not known therefore whether the below ground services are affecting / have previously affected the rooting zone of the trees. Overhead services were not recorded during the tree survey.

## **2.4 Soils**

2.4.1 British Soil Geology Maps scaled at 1:50,000 show the site to be situated on bedrock of London Clay Formation - Clay, silt and sand, superficial deposits data is not provided of the site. Sand and gravel soil texture is likely to offer a deeper rooting environment than that of clay as the roots can easily penetrate and explore sandy soils with little resistance, clay like soils tend to restrict root exploration. Clay soils can be modified by moisture, either reduced or increased in volume by fluctuations in moisture content, such fluctuations can influence how structures perform and therefore may require additional, engineered support to improve the stability of the structure. Local variations and differing soil seams of superficial and bedrock deposits do occur, differing bedrock and superficial deposits will have a



different soil texture and structure to those described above and will perform differently. It is recommended core samples be obtained to determine the exact soil texture at the site.

## Part 1 Tree Survey, Constraints and Impact Assessment

### 3.1 Tree survey and schedule

3.1.1 The tree schedule provides an account of all the trees at or adjacent to the site and is written on to a tabular form. Each tree is given a reference number (T1, T2, T3, G1 etc) that is plotted on to a tree survey plan to be cross-referenced with the tabular form. Contained within the schedule are the dimensions of each individual tree and any notable physiological or mechanical defects. An estimated life expectancy is derived from the condition and context of the tree and then graded for the retention suitability. The tabular form can be found in appendix 1 with explanatory notes for each column heading. The tree survey plan can be found in appendix 2. Provided below is a table of the existing trees, their current condition and British Standard 5837 category grading. The categories for retention are; A - high value, B - moderate value, C - low value and U - unable to be retained as a living tree, each category is given a colour code for use with the tree survey plan (appendix 2), A - Green, B- Blue, C - Grey and U- Red. There are further sub-categories used alongside the categorisation; 1 arboricultural, 2 landscape and 3 wildlife or historical values. British Standard 5837 recommends trees with a stem diameter of less than 150mm are categorised as C regardless of condition, form etc. it is assumed that a tree of this size can either be transplanted or replaced without any negative impact upon tree-based visual amenity. Veteran trees are automatically graded as category A due to their age and wildlife associations although they will likely contain significant defects, generally the defects are the microhabitats that increase their ecological value.

**Table 1 Tree condition table**

Tree ref	Species Common and Scientific	Age class	Observations	Category grading
T1	Lime Tilia Sp	M	3rd party, unable to assess. Managed as a high pollard. Tear wound on primary lateral at 8m.	A1
T2	Horse-chestnut Aesculus hippocastanum	Y	Rooted within 0.2m of boundary wall. Stem forks at 0.3m to form 3 co-dominant stems. Number of surface roots evident, likely due to below ground hard surface. Likely to require crown works in future due to likelihood that the tree will outgrow its current context.	C1
T3	Elder Sambucus nigra	M	3rd party, unable to assess. Appears to be multi stem.	C1
T4	Rowan Sorbus aucuparia	Y	3rd party, unable to assess. Slight leaning stem.	C1
T5	Leyland cypress Cupressus x leylandii	Y	3rd party, unable to assess. Suppressed crown and leaning stem	C1
G1	Cherry Sp Prunus Sp	Y	Birch and 2 Cherry, recently planted on boundary.	C1
G2	Cherry Sp Prunus Sp	Y	Birch and 2 Cherry, recently planted on boundary.	C1
T6	Sycamore Acer pseudoplatanus	M	3rd party, unable to assess. Managed as a high pollard. Ivy clad to pollard.	C1

## 3.2 Further discussion

### 3.2.1 Visual amenity value

Visual tree amenity value of the surveyed trees is low. The trees cannot be seen clearly from the publicly maintained highway footway or other significant public vantage point. The trees are obscured from view by the built form that surrounds the trees.

### 3.2.2 Landscape value

The local landscape value (screening) is good. The trees provide good screening value helping to reduce the perceptual load of the built form and break the hard roof line of the surrounding dwellings. The trees are not however associated with the historical landscape or landform and are considered recent landscape additions.

### 3.2.3 Wildlife value

The wildlife value is limited, the structural diversity and connectivity is poor, with limited connectivity of the ground and sub-canopy layers with higher canopy layers, which is likely to reduce foraging, breeding, migratory and navigational opportunity for less mobile fauna. The trees are a mix of native and non-native specimens, non-native specimens tend to have lower number of associated native insects. The trees are generally early mature to mature specimens with limited number of associated microhabitats, these tend to favour older / veteran specimens.

### 3.2.4 Condition

Trees T1, T3, T4, T5 and T6 are 3<sup>rd</sup> party and could not be assessed in detail, an assessment was made based on the visible parts, 1 side of the higher stem and crown.

3.2.5 Provided below is the British Standard 5837 categorisations with total number of surveyed trees for each corresponding categorisation:

A = 1

B = 0

C = 7

U = 0

- 3.2.6 All category A trees should be retained. The development design should seek to accommodate such trees using special construction techniques and design modification. There should be only very minor work within the RPA and only minor crown works, generally those required to improve the condition of the tree. Category A trees are those that offer a significant contribution to the amenity and character of the area, they have a long-life expectancy and contain very few defects.
- 3.2.7 The category C trees are desirable for retention in the short term. Generally, category C trees have a life expectancy of less than 10 years and would be acceptable to remove once new planting is established. Category C trees contain many defects that are likely to reduce the long-term life expectancy of the tree. Category C trees do not add to the character or visual amenity of the area and have little arboricultural merit.

Photo 1 G1, T1 and T2, existing raised base shown (approx. 200mm)



Photo 1 T3, T4, T5, T6 and G2



## 4.1 Tree constraints

4.1.1 The above and below ground tree constraints are represented by the present crown spread and root protection areas (RPA) of each retained tree. British Standard 5837 provides a calculation for root protection areas for both single and multi-stem trees. The constraints are plotted to a site plan around each individual tree; the constraints plan is used to influence site layout and further clarifies tree retention or removal. The constraints plan can be found in appendix 2. Further consideration should be given to the future growth potential for each retained tree; the table below provides estimated growth rates that should be considered when achieving a suitable design layout.

4.1.2 Provided below is a constraints table that provides data for the radial distance required for the RPA, the present height and spread of the tree, the future increase in height and spread of the tree in 10 years and tree management considerations.

**Table 2 Tree constraints table**

Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Estimated increase in crown height in M in 10 years	Estimated increase in crown spread in M in 10 years	Management considerations
					N	E	S	W				
T1	Lime Tilia Sp	18	600	7.2	4	4	4	4	6	0	0	Under pollard management regime.
T2	Horse-chestnut Aesculus hippocastanum	8	240	2.88	2	2	2	2	2	2	2	None
T3	Elder Sambucus nigra	6	200	2.4	3	3	1	3	3	1	1	None
T4	Rowan Sorbus aucuparia	6	100	1.2	2	2	2	2	3	1	1	None
T5	Leyland cypress Cupressus x leylandii	4	100	1.2	1	1	1	1	2	2	0.5	None
G1	Cherry Sp Prunus Sp	4	75	0.9	1	1	1	1	1	2	2	None
G2	Cherry Sp Prunus Sp	4	75	0.9	1	1	1	1	1	2	2	None
T6	Sycamore Acer pseudoplatanus	12	500	6	3	3	3	3	6	0	0	Under pollard management regime.

## 5.1 Arboricultural impact assessment

5.1.1 Provided below is an assessment of the impact of the development on each individual tree and any design requirements for the site. Such factors include tree preservation orders, tree amenity, tree retention, removal of structures within RPA, infrastructure requirements, construction of infrastructure, end use of space, tree loss / new planting, veteran/aged tree assessment, light issues, proximity to structures, relationship with new homeowners and tree nuisance.

**Table 3 Arboricultural Impact Assessment**

Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
T1, T2 and T3	<ul style="list-style-type: none"> <li>London Borough of Camden Council planning GIS checked 10/01/24. Trees not subject to TPO, site listed within conservation area.</li> <li>MAGIC GIS checked 10/01/24 – site listed within SSSI Impact Zones.</li> <li>Limited amenity and wildlife value, reasonable landscape value.</li> <li>Trees recommended for retention.</li> </ul>	<ul style="list-style-type: none"> <li>Removal of existing base within RPA.</li> </ul>	<ul style="list-style-type: none"> <li>New surface / base within RPA.</li> </ul>	<ul style="list-style-type: none"> <li>Existing base to be broken out and removed using handheld tools only.</li> <li>See method statement provided in section 9 and the tree protection plan appendix 5.</li> </ul>	<ul style="list-style-type: none"> <li>End use amenity spaces and proposal not constrained by the retained trees.</li> </ul>	N/a	<ul style="list-style-type: none"> <li>No significant shading to occur to the amenity spaces or proposed outbuilding.</li> </ul>	<ul style="list-style-type: none"> <li>Trees T2 and T3 likely to require cyclical pruning to maintain suitable crown clearance.</li> </ul>	<ul style="list-style-type: none"> <li>Low. Trees are not likely to cause a significant nuisance or loss of enjoyment to the use of the proposal.</li> </ul>	<ul style="list-style-type: none"> <li>Leaf and fruit dispersal</li> <li>Nuisance of blocked drains, gutters etc.</li> <li>Recommend use of guards as appropriate to prevent blockages occurring.</li> <li>Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.)</li> </ul>
T4, T5 and T6, G1 and G2	<ul style="list-style-type: none"> <li>London Borough of Camden Council planning GIS checked 10/01/24. Trees not subject to TPO, site listed within conservation area.</li> <li>MAGIC GIS checked 10/01/24 – site listed within SSSI Impact Zones.</li> <li>Limited amenity and wildlife value, reasonable landscape value.</li> <li>Trees recommended for retention.</li> </ul>	N/a	N/a	N/a	<ul style="list-style-type: none"> <li>End use amenity spaces and proposal not constrained by the retained trees.</li> </ul>	N/a	<ul style="list-style-type: none"> <li>No significant shading to occur to the amenity spaces or proposed outbuilding.</li> </ul>	<ul style="list-style-type: none"> <li>Trees at sufficient distance so as not to cause general nuisance.</li> </ul>	<ul style="list-style-type: none"> <li>Low. Trees are not likely to cause a significant nuisance or loss of enjoyment to the use of the proposal.</li> </ul>	<ul style="list-style-type: none"> <li>Leaf and fruit dispersal</li> <li>Nuisance of blocked drains, gutters etc.</li> <li>Recommend use of guards as appropriate to prevent blockages occurring.</li> <li>Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.)</li> </ul>

## 5.2 Further discussion

- 5.2.1 Below ground services for drainage, electricity, gas, water, telecoms, are to be located outside the RPA of the retained trees or connected to existing services within the site. If however, this is not viable then trenchless methods of working will be adopted, shallow trenching may be permitted although a trial trench should be prepared to determine the presence of roots to be affected and the impact upon the health of the tree affected. Overhead services such as lighting columns, electricity, telecoms, etc. are to be outside the present and future canopy spread, use of Table 2 'Tree Constraints' will aid design.
- 5.2.2 Guttering and drains will have guards to prevent leaf/fruit drain blockages. Where a significant loss of rainwater water is likely due to loss of natural soft surfaces, the rainwater drainage will be redirected into the soil area of the retained trees. The drainage will result in an even and slow distribution toward the rooting area, it will not cause waterlogged conditions or damage to the soil structure, structural engineer to advise further.
- 5.2.3 The information provided in the impact assessment and constraints advice has provided a basis for tree retention, works specification and construction techniques required. Further details for this can be found in the following sections of this report.



**6.1 Tree removals and impact assessment**

6.1.1 Provided below is a table of the trees to be removed. This is to be cross-referenced with the tree survey plan provided in appendix 2.

**Table 4 Trees to be removed**

Trees to be removed	Reason for removal	Impact upon visual amenity
None	N/a	None. No trees are to be removed to facilitate construction of the proposal or access to the site.

## Part 2 Arboricultural Method Statement

### 7.1 Tree works specification

**7.1.1** All tree works are to be completed as a starting phase of development unless otherwise stated.

**7.1.2** All works are to be completed to BS3998 2010 'Recommendations for tree works'

**7.1.3** Research suggests that tree works are better completed when the trees are using the least amount of energy and when conditions do not favour pathogens. It is recommended that the works specified below be carried out in midsummer July/early August or the dormant period Jan/Feb. Specifically, times of bud break and leaf abscission should be avoided. This may need further assessment for different species or for aged/veteran trees whose energy reserve and potential to kinetic ratio is susceptible to change from minor tree works. Where this is likely to occur, a separate management plan for that individual tree may be required.

**7.1.4** Provided below is a table showing tree works specification. The key for works urgency can be found in Appendix 1 Explanatory notes.

**Table 5 Tree works specification**

Tree ref	Species Common and Scientific	Age class	Tree works to facilitate development and / or access	Preliminary management recommendations	Works urgency 9(Preliminary works only)	Category grading
T1	Lime Tilia Sp	M	Removal of existing hard surface within RPA. See method statement in section 9 and tree protection plan appendix 5.	None	0	A1
T2	Horse-chestnut Aesculus hippocastanum	Y	Removal of existing hard surface within RPA. See method statement in section 9 and tree protection plan appendix 5.	None	0	C1
T3	Elder Sambucus nigra	M	Removal of existing hard surface within RPA. See method statement in section 9 and tree protection plan appendix 5.	None	0	C1
T4	Rowan Sorbus aucuparia	Y	None	None	0	C1
T5	Leyland cypress Cupressus x leylandii	Y	None	None	0	C1

# TPS

Tree ref	Species Common and Scientific	Age class	Tree works to facilitate development and / or access	Preliminary management recommendations	Works urgency (Preliminary works only)	Category grading
G1	Cherry Sp Prunus Sp	Y	None	None	0	C1
G2	Cherry Sp Prunus Sp	Y	None	None	0	C1
T6	Sycamore Acer pseudoplatanus	M	None	None	0	C1

## 8.1 Tree protection method statement

8.1.2 Tree protection is required to prevent physical damage to the stem, branch and crown structure. Tree protection is used also to prevent indirect damage caused by loads passing over the root protection area that would otherwise cause compaction of the soil. Soil compaction reduces soil pore space, which in turn reduces; soil air, available water and nutrients, the anaerobic environment will prevent healthy and strong root growth (elongation, thickening, mycorrhizal association, etc.). Prolonged anaerobic soil conditions will lead to longer term poor tree health with symptoms (crown die back, sparse crown, poor extension growth, etc.) not evident until well after the occurrence. The simplest and most effective way to prevent damage to any retained tree on the development site is the provision of a construction exclusion zone around the tree and its calculated rooting area.

8.1.1 The areas for protection will see the RPA confirmed on the ground with the erection of a scaffold frame with wire mesh attached (Please see appendix 3 Barrier protection construction profile, diagram 2). Following removal of the existing base / hard surfaces, if site personnel require access across the RPA, ground protection will be installed utilising scaffold boards laid on a compressible layer (100mm of woodchip) with geotextile membrane beneath, as per British Standard 5837 section 6.2.3.3 (see appendix 5 tree protection plan). It is not anticipated that plant will operate at the site due to access restrictions, should plant less than 2 tonnes requires access across an RPA, the compressible layer as described above should be increased to 200-300mm and the scaffold boards substituted for composite boards fit for the applied load, plant above 2 tonnes should utilise an engineered design using reinforced concrete slabs or specialised track mats fit for the applied load.

8.1.2 The barrier protection will contain and display information highlighting the protected tree and consequences of any breach of tree protection. Please see appendix 4, example of informative to be placed on barrier protection.

8.1.3 The tree protection plan is shown in appendix 5. This shows; the RPA for each retained tree, the location of protective barriers/ground protection and areas for site storage and contractors parking.

## 9.1 Construction method statements

9.1.2 Provided in this section are arboricultural method statements primarily concerned with working within the RPA of the retained trees. The method statements are designed to minimise/remove any impact or damage/disturbance that may otherwise occur. The method statements provided should be distributed to all key staff involved with the development.

## 9.2 Excavation / removal of hard surfaces within the RPA

9.2.1 Excavation / removal of the existing hard surface will be required within the RPA of T1, T2 and T3 as identified in the impact assessment section 5 and tree protection plan appendix 5 to remove an existing hard surface and prepare the levels for the construction of a reinforced concrete raft foundation.

### **Sequential method statement for hand excavation and root pruning.**

1. Existing hard surfaces - Break out using a handheld concrete breaker and working backwards away from the retained trees on the existing hard surface, all existing hard surfacing / type 1 / rubble to original construction depth, assumed to be 200mm. All debris to be hand barrowed and stored outside of RPA.
2. Soft surfaces – It is not anticipated that underlying soils will need to be excavated, if this is required the following should be adopted. Loosen / break exposed soils with air spade or rake / fork. Carefully remove broken /exposed soils using handheld tools only (spade, shovel, soft brush, trowel) to achieve excavation depth (TBC by project structural engineer, although should not exceed 50mm for preparation purposes only). All debris to be hand barrowed and stored outside of RPA.
3. Where roots are pliable and will not damage from movement, push to side of pit or downwards. Pin with soil or use a hazel rod.
4. Any exposed roots should immediately be wrapped or covered in damp hessian to prevent desiccation and to protect them from rapid temperature changes.

5. If required, sever any roots with a diameter less than 25mm (use a sharp tool to provide a clean cut across the cross section near to a root junction/growth point).
6. Avoid severing roots greater than 25mm or clumps of roots (root mats). If this is necessary, then request the project arboriculturist to attend the site to assess likely impact upon tree health and future stability.
7. Prior to backfilling any roots should be removed from the protective wrapping and surrounded by sharp sand, or other loose granular fill, before soil or other material is replaced. The backfill is to be free from any contaminants or foreign objects.
8. Monitor tree health during next growth season. Check leaf colour, size, density and extension growth.

### **9.3 Hard surfacing within RPA**

9.3.1 Hard surfaces will be required within part of the RPA's of T1, T2 and T3 as detailed within the impact assessment section 5 and tree protection plan appendix 5. The surface will be constructed above the original construction depth of the existing hard surface. A polyethylene sheet is to be laid across the area to prevent leaching of cement into the exposed soil. The subbase and surface is then to be constructed above. A cellular system is not thought necessary due to the existing hard surface and already altered / compacted soils.

### **9.4 Soft surfaces within RPA**

9.4.1 Provided below is a method statement to avoid damaging/disturbance to the roots of the retained trees during soft landscape operations.

- Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they radiate from the stem of the tree from large buttresses. After around 4m radial distance structural roots tend to taper to around 3cm in diameter.

# TPS

- No tractor mounted or heavy plant rotavating machinery is to be used.
- Cultivation is to be completed using manual hand tools only.
- Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that provides continued soil conditions of gas exchange and water percolation.
- Existing soil is to be used, where additional soil is required it should be contaminant free, well drained and suitable PH, texture and structure for the site and planting/existing trees/shrubs.
- Planting is to be done with care and to avoid severing tree roots; generally, planting should be completed outside the RPA.

## **10.1 General arboricultural considerations**

10.1.1 Provided in this section are wider arboricultural considerations to be used either at the later design stage or when on-site with the contracting team. Further information contained within this section provides details on tree and associated wildlife legislation. The method statements provided should be distributed to all key staff involved with the development.

## **10.2 Storage**

10.2.1 There is to be no storage within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

## **10.3 Contractors parking**

10.3.1 There is to be no parking within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

## **10.4 Slope**

10.4.1 All mixing and storage of materials/chemicals to be done on a pre-prepared flat/level surface with sealed sides to prevent any runoff. Storage of all chemicals/materials likely to cause harm to the trees should be in a sealed container and area with a bund to prevent run off if spillages occur. Site personnel are to have access to spillage treatment equipment.

## **10.5 Services**

10.5.1 Methods for service run construction within the RPA are micro tunnelling, Surface launched directional drilling, pipe ramming and impact moling, method statements for these should be provided by the relevant utility companies. Shallow trenching may be



acceptable for minor services; if shallow trenching is required then hand excavation should be adopted using an approved method statement.

10.5.2 All overhead services to be located outside the present and future crown spread of the retained trees, use tree constraints table provided in section 4 to aid design.

## **10.6 Levels**

10.6.1 No stripping or raising of levels within the RPA without consent from the local authority. Where site levels need to be reduced the use of hand excavation using air displacement or handheld tools should be adopted using an approved method statement. If site levels are to be raised the material added should allow for water infiltration and gaseous exchange allowing the roots to carry out their normal biological function, the use of structural soil and below ground aeration system may be required depending on the size of the area and depth.

## **10.7 Development phasing**

10.7.1 All contracting staff working at the site should be briefed on approved working practices and protection requirements for the retained trees.

10.7.2 The tree works specification should be completed following approval from the local authority.

10.7.3 Prior to the commencing of development the chosen arboriculturist should re- assess all retained trees and provide further assessment.

10.7.4 All barrier/ground protection should be erected/laid and confirmed as correct by the arboriculturist. All signs should be placed on the barriers at a height of 2m at 3m intervals.

10.7.5 Break out the existing hard surface using the method statement provided in section 9.

10.7.6 Barrier/ground protection removed after intensive phase of development.

10.7.7 Soft landscaping as final phase of development.



## 10.8 Monitoring

### 10.8.1 Site key personnel

#### Architect and Contractors

Name	Position	Contact details
Builder TBC		
Norton, Nunn and Taylor	Lead consultants	<a href="mailto:ben.norton@nortontaylorunn.co.uk">ben.norton@nortontaylorunn.co.uk</a>

#### Planning Authority

Name	Position	Contact details
London Borough of Camden	Planning assistant	<a href="mailto:Rav.Curry@camden.gov.uk">Rav.Curry@camden.gov.uk</a>

#### Arboriculturist

Name	Position	Contact details
James Choat	Arboricultural Consultant	07813204621
		<a href="mailto:james@treeplanningsolutions.co.uk">james@treeplanningsolutions.co.uk</a>

10.8.2 It is recommended that all trees and protection methods be monitored for the duration of development. A qualified arboriculturist will make a regular visit; the project arboriculturist is to carry out an assessment of tree health and protection condition and make recommendations when required.

### 10.8.3 Site specific monitoring

Item	Number of visits required	Timing of visit
Pre-commencement site meeting with key personnel. (Contractor, site manager, architect). Tree works Tree protection installation (ground/barrier) as per tree protection plan and method statements within supplied arboricultural report. Identify area for contractors parking, site storage and access. Place 'exclusion zone' signs at 2m height, 3m intervals facing outwards on temporary fencing.	1 – 2 depending on whether items can be completed on same day.	Meeting to be arranged between architect and site manager before construction phase.
Site visit during construction phase to monitor tree health and tree protection condition.	1 specifically during removal of the existing hard surface.	During construction phase
Removal of tree protection.	1	After intensive construction phase

**10.8.4** The above is subject to the client/site manager informing the project staff of the proposed date for each development activity. Following each site visit a brief report (see appendix 6 pro forma) to be sent to the client and local authority within 24 hrs following the visit. Any incidents will be dealt with within 2 hours and to be reported to the project arboriculturist, photos to be provided via email and recommendations provided verbally, if required a site visit should be undertaken to provide further advice/ recommendations.

### 10.9 Incidents/variations

#### 10.9.1 Planned

- Site manager to contact arboriculturist for any anticipated/planned variations
- Arboriculturist to assess impact upon trees and offer advice regarding alternative methods
- Arboriculturist to update tree officer providing details of variations

#### 10.9.2 Non-planned

- Site manager to inform arboriculturist of incident
- Site manager to photograph incident and send to arboriculturist
- Arboriculturist to provide initial advice via telephone or email

- Arboriculturist to make site visit within 1 day to assess impact upon trees and offer advice to reduce/remove impact
- Arboriculturist to update the local authority tree officer providing details of incident and measure taken to reduce/remove impact.

## 10.10 Wildlife legislation

10.10.1 The Wildlife and Countryside Act 1981, The Habitats Directive 1994 (consolidated under Conservation of Habitats and Species Regulations 2017) and The Countryside and Rights of Way Act 2000. These acts protect certain species of flora and fauna; it is an offence to intentionally or recklessly destroy species or habitats contained within these acts. Trees, especially veteran or ancient, can support associated flora and fauna that is protected via the above legislation. It is recommended the applicant employ a suitably qualified ecologist to carry out a survey of the area to ensure no offence is committed. See the following link for further details.

<https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

## 10.11 Tree legislation

10.11.1 The Town and Country Planning Act 1990 (Trees Regulations 2012). It is an offence to cut down, uproot, lop, top, or cause wilful damage or destruction to a tree subject of a tree preservation order or conservation area. Such acts will lead to prosecution and if convicted a fine not exceeding £20,000 in the magistrate's court; if the case is referred to the crown court the fine may be unlimited. See the following link for further details.

<https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

10.11.2 Hedgerow regulations 1997 protect certain hedgerows from being removed, certain exemptions apply. A removal notice is required to be sent to the local authority for consideration to determine whether the hedgerow is important before the authority can permit the removal of a hedgerow subject of the above regulations. See the

following link for further details.

<http://www.legislation.gov.uk/uksi/1997/1160/contents/made>

10.11.3 Forestry Act 1967 as amended - Felling licences are issued by the forestry commission, certain exemptions apply. Before felling trees, a check with the Forestry Commission should be made to ensure a felling licence is not required. See the following link for further details. <http://www.legislation.gov.uk/ukpga/1967/10/contents>

## 11.1 Conclusion

All surveyed trees have been categorised in accordance with British Standard 5837 2012. Visual tree amenity value of the surveyed trees is low. The trees cannot be seen clearly from the publicly maintained highway footway or other significant public vantage point. The trees are obscured from view by the built form that surrounds the trees. The local landscape value (screening) is good. The trees provide good screening value helping to reduce the perceptual load of the built form and break the hard roof line of the surrounding dwellings. The trees are not however associated with the historical landscape or landform and are considered recent landscape additions. The wildlife value is limited, the structural diversity and connectivity is poor, with limited connectivity of the ground and sub-canopy layers with higher canopy layers, which is likely to reduce foraging, breeding, migratory and navigational opportunity for less mobile fauna. The trees are a mix of native and non-native specimens, non-native specimens tend to have lower number of associated native insects. The trees are generally early mature to mature specimens with limited number of associated microhabitats, these tend to favour older / veteran specimens. Trees T1, T3, T4, T5 and T6 are 3<sup>rd</sup> party and could not be assessed in detail, an assessment was made based on the visible parts, 1 side of the higher stem and crown.

11.1.2 The existing type 1 / rubble / shingle surface is to be removed within part of the RPA of T1, T2 and T3 and replaced with a new hard surface constructed above the original construction depth, no underlying soils will be excavated to facilitate construction. A suitable method statement is provided to remove the existing surface using handheld tools only, rather than mechanical excavation that normally results in tearing of roots, unnecessary root loss and increased soil compaction. No further tree works are required to facilitate construction of the proposal or access to the site. The trees can be adequately protected using temporary barriers and the existing hard surface in accordance with BS 5837. Following development, the trees will not be further obscured, the development is therefore considered to have a low impact upon visual amenity value.

11.1.3 Tree protection and method statements have been provided within this report to reduce the risk of direct and indirect development related damage that may otherwise occur to the retained trees. In conclusion, assuming the method statements and tree protection are implemented as part of the development, the proposal can be constructed with reduced disturbance to the trees.