



Arboricultural Impact Assessment and Arboricultural Method Statement

Location: 2 Templewood, London, NW3 7XA



Working on behalf of: Karolina and Gian Fazio

Working in Partnership with: Simon Templeton Architects

Report by Andy Nicol, August 2023



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Part 1 - Introduction

- 1.1 Nicol Landscapes Ltd were instructed on 15th August 2022 by architect Simon Templeton, agent acting on behalf of their private client, to carry out a survey of trees at, or adjacent to, 2 Templewood, London, NW3 7XA. The purpose of the survey was to inform of potential tree-related constraints on the site and to provide a report to accompany a planning application to increase the existing basement area from 275.4 sqm to 379.2 sqm, and to construct a new plant room without encroachment into the Root Protection Area (RPA) of T3.
- 1.2 Nicol Landscapes Ltd were further instructed on 14th July 2023 by architect Simon Templeton to provide an Arboricultural Method Statement (AMS) to detail working methods in support of the planning application.
- 1.3 The British Standard 5837: 2012 *Tree in relation to design, demolition and construction – Recommendations* provides a framework for considering trees in the planning process. It gives guidance on categorising the qualities of trees in order to enable decisions to be made as to which trees are appropriate for retention within a development. It then advises on options for protecting trees to be retained during the development (at all stages including demolition, construction and hard landscaping), and the means of incorporating trees into the developed landscape. This report complies with the recommendations of BS5837: 2012.
- 1.4 The property is located within the Redington and Frognal Conservation Area of The London Borough of Camden. Redington and Frognal was designated a Conservation Area in 1985 and this site is situated within the original boundary of the designation. London Borough of Camden planning team confirm there are no Tree Preservation Orders on this property, as of 08:47 09/12/2021. This means that any tree present with a dimension of 75mm in diameter, at 1.5m above ground level must not have any work affecting its roots or branches is not allowed without written permission from the planning authority.
- 1.5 Thirteen trees were surveyed and of these one is category A (T3 – Oak) and considered to be of high quality with twelve considered to be category C and of low value.
- 1.6 The proposed development requires the removal of seven low quality category C trees.
- 1.7 The retained trees will be protected during development. Details of tree protection are contained in this report.

Part 2 – Tree Survey

2.1 The tree survey was carried out by Andy Nicol on 23rd November 2021.

2.2 Appended at NLL1 is the tree survey schedule which provide details of the thirteen trees present within or immediately adjacent to the property.

2.3 The site survey drawing appended at NLL2, based on an Ordnance Survey Mastermap and GPS location, shows the positions of the surveyed trees and gives reasonable indication of their comparative branch spreads. The drawing has been colour coded as follows:

A trees (high quality and value, minimum 40 years useful life)	LIGHT GREEN
B trees (moderate quality and value, minimum 20 years useful life)	MID BLUE
C trees (low quality and value, minimum 10 years useful life)	GREY
U trees (unsuitable/dead/dying/dangerous, less than 10 years useful life)	RED

2.4 It should be understood that no individual safety inspection has been carried out on any tree. Similarly, any suggestions for tree work should not be taken as a specification for tree works.

2.5 Adequate protection, both above and below ground, is essential for trees that are to be retained as part of a development. The British Standard BS5837: 2012 *Trees in relation to design, demolition and construction – Recommendations* advises that there should be a root protection area (RPA) around trees which is kept free of construction activities by means of an exclusion zone enforced by protective fencing and/or ground protection. The RPA is calculated as the area equivalent to a circle with a radius of 12 times the trunk diameter at a height of 1.5 m above ground level. Based on the tree survey data root protection areas (and radial distances from the trunk to be protected) have been calculated and these are shown as circles around the trees on tree constraints plan as per appendix NLL2.

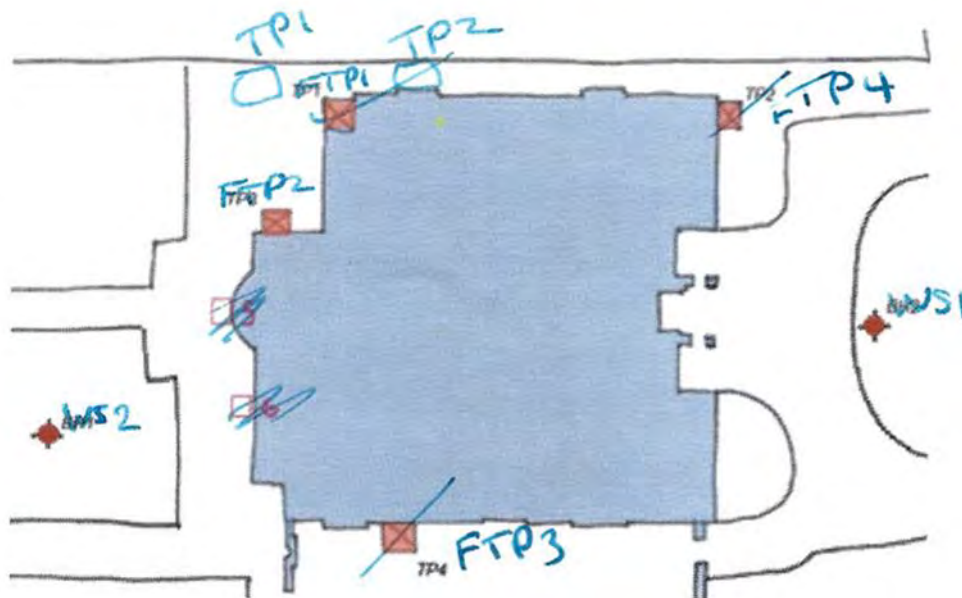
Part 3 – Soil Assessment

3.1 BS5837:2012 advises that soil properties should be considered as part of a tree survey report. This is necessary because trees can cause damage to structure founded on soils that shrink and swell with change in moisture content (principally clays). Such movement is exacerbated by the influence of tree and therefore if a shrinkable soil is suspected foundations should be designed to extend below the likely zone of seasonal moisture change.

3.2 Trial pit excavations (Figure 1) and soil assessments have been undertaken by Paddock Geo Engineering Ltd. No assessment has been undertaken as part of this tree survey.

3.3 If the site-specific investigations detected shrinkable clay then foundations should be designed with reference to the National House Building Council's Standards Chapter 4.2 *Building near trees* or similar guidance.

Figure 1



Part 4 – Arboricultural Impact Assessment

4.1 The purpose of an arboricultural impact assessment (AIA) is to evaluate the direct and indirect effects of proposed development on trees and, where necessary, to consider appropriate mitigation. It should set out which, if any, trees are to be removed to facilitate the development and should consider the possible effects on retained trees of potentially damaging activities on the site (for example changes in ground level and installation of below ground services). Requirements for access around trees should be considered and potential conflicts identified, for example, where branches overhang the development area and may require pruning.

4.2 Mitigation for any issues identified should be proposed and addressed in the arboricultural method statement (AMS).

Tree Removals

4.3 The proposed development requires the removal of 7 Category C tree, as per appendix NLL4:

- Category A trees marked for removal – n/a
- Category B trees marked for removal – n/a
- Category U trees marked for removal – n/a
- Poor specimen/diseased/defective Category C trees marked for removal
T2C, T4C, T5C, T6C, T7C, T8C, T14C
- 7C removals
- Total of 7 tree removals
- Hedge removal G1 & G2

Tree pruning

4.4 No pruning work is required to facilitate the proposed development as there is sufficient space between the buildings and retained trees for all works to take place without conflicts arising.

Tree protection

4.5 Any trees on site to be retained must be protected from mechanical damage to their trunks, branches and roots by installation of 2 m high protective fencing to create a construction exclusion zone (CEZ) to exclude site workers, machinery and storage of materials. Although space is very tight, with proper planning, there is sufficient space outside the CEZ for all construction activities to take place.

4.6 The construction of the extended basement will not encroach into the RPA of T3 so no detrimental effect is expected. Tree protection measures must be adhered to and enforced with build back construction methods being required.

4.7 Beech tree (T1), being situated on an elevated position should not impose specific restrictions to the construction process as there will be no encroachment into neighbouring land, nor will crown pruning be required.

4.8 Combining above ground utilities and no digging within the RPA of T3 will remove any conflict within its RPA. Service ducting on the eastern boundary will be set within the existing raised area.

4.9 The use of traditional strip footings can result in extensive root loss and should be avoided. No strip foundations are being proposed within RPA's.

Part 5 – Arboricultural Method Statement and Tree Protection Plan

5.1 Trees can very easily be damaged during the construction activities through their branches being broken by construction traffic passing close to the canopy or by root severance during the digging of foundation or service trenches. The majority of roots are to be found in the upper 600mm of soil and so even relatively shallow trenches can sever a significant number of roots growing across the direction of the trench. Similarly, the diameter of tree roots tapers sharply within a few metres of the trunk of a tree, so that what might seem to an uninitiated site worker to be an insignificant root (perhaps only a few centimeters in diameter) may actually be highly important.

5.2 Tree roots can also be damaged indirectly, often inadvertently, through soil compaction, which disrupts soil structure and can lead to root death through the development of anaerobic soil conditions. Spillage of toxic materials (e.g. oil or diesel) can also result in root damage and ultimately the death of a tree. Protection of the soil around trees by means of a CEZ is therefore vitally important in order to preserve roots undamaged.

Protective fencing

5.3 Tree protection will comprise of 2 m tall fencing installed in the positions shown at NLL3 before materials are delivered to site or construction commences. The fencing will consist of a scaffold framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3 m (Figure 2). Onto this, weld mesh panels or 2 m high shuttering board will be securely fixed with wire or scaffold clamps. Un-braced weld mesh panels on unsecured rubber or concrete feet will not be used as these are not resistant to impact and are too easily removed by site operatives. An alternative system of bracing which does not require scaffold framework is shown in Figure 3.

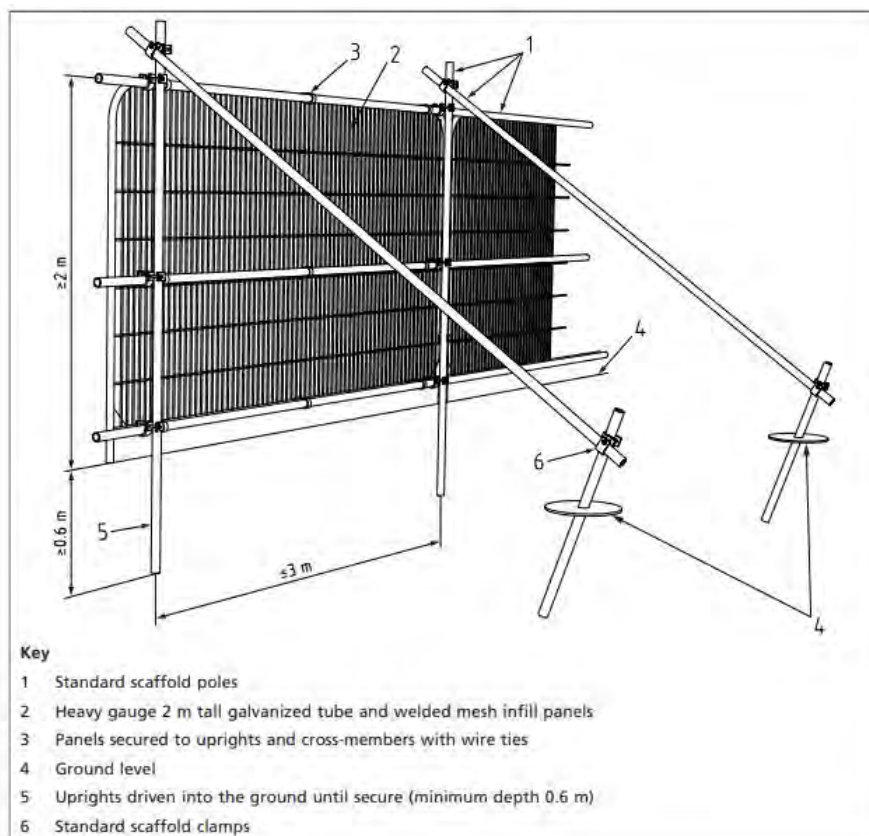
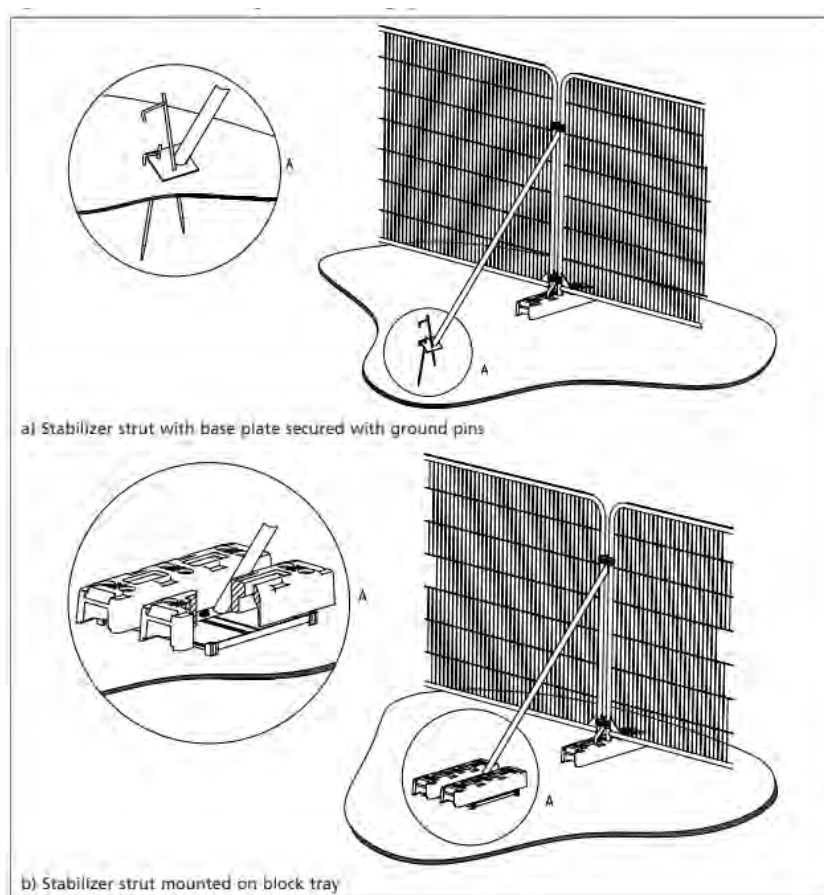


Figure 2

Figure 3



5.4 High visibility all weather notices at a size no less than A3 will be securely attached to every second panel of the barrier around the CEZ with wording as shown in Figure 4.

Figure 4. Wording to be included in high visibility all-weather sign attached to protective fencing.



Arboricultural supervision

5.5 It is recommended that a project arboricultural consultant is appointed to oversee tree protection for the duration of the construction contract. If appointed, the project arboriculturist will be consulted on any issues that may arise concerning trees and will visit the site as often as necessary to ensure that trees are protected and/or at the following key stages:

- Following installation of tree protection but prior to any works commencing on site to confirm that it is fit for purpose;
- Construction of the plant room combining above ground utilities and no digging within the RPA of T3 will remove any conflict within its RPA. Service ducting on the eastern boundary will be set within the existing raised area.
- At any time that there are potential conflicts with tree protection.

5.6 A pre-start meeting will be held on site with the project arboriculturist and the contractor's representative(s) during the tree protection check so that personnel induction can be carried out. The site manager/foreman will be fully briefed on tree protection measures and procedures before any workers or sub-contractors are permitted onto the site. Following induction, a copy of the Induction Sheet (appendix NLL6) will be provided to and be signed by the site manager/foreman in recognition of acceptance of their role in enforcing day to day protection.

5.7 All contractors involved in the project have a duty to comply with all the specified trees protection measures and all workers will be provided with induction by the site manager/foreman and be required to sign an Induction Sheet confirming they have understood the protection measures. Signed sheets will be kept on site for inspection.

5.8 No enabling works will take place until after tree protection has been installed, inspected and approved fit for purpose.

5.9 Fencing will not be removed under any circumstances during construction unless with the express approval of the local authority. If in any doubt the site manager must contact the project arboricultural consultant.

Burning of waste

5.10 No fires will be lit on site.

Space for machinery, parking of vehicles, storage of materials and site huts

5.11 All machinery required on site will operate outside of RPA's. Site accommodation, if required will also be located outside RPA's.

5.12 Delivery vehicles must take care not to damage the canopy's of T9 – T11 as they are at risk of damage to overhanging branches. A banksman must be used for all off-loads to facilitate safe deliveries.

Services

5.13 The construction of the extended basement will not encroach into the RPA of T3 so no detrimental effect is expected. Tree protection measures must be adhered to and enforced with build back construction methods being required.

5.14 Beech tree (T1), being situated on an elevated position should not impose specific restrictions to the construction process as there will be no encroachment into neighbouring land, nor will crown pruning be required.

5.15 Combining above ground utilities and no digging within the RPA of T3 will remove any conflict within its RPA. Service ducting on the eastern boundary will be set within the existing raised area.

5.16 The use of traditional strip footings can result in extensive root loss and should be avoided. No strip foundations are being proposed within RPA's.

Landscaping

5.17 Once construction has demonstrably finished (to the satisfaction of the project arboriculturist) fencing may be removed in order to allow final landscaping to be undertaken. Landscaping will not involve any changes in soil levels, digging of any trenches or construction of masonry or retaining walls within the RPA's.

Part 6 Mitigating tree loss/new planting

6.1 Some tree loss will take place as a result of this property development and appropriate consideration must be given for ways to maintain and improve the sylvan feel of the area. The trees that have been marked for removal are of low visual amenity value and rather poor in quality due to a lack of maintenance and/or over shadowing. The planting plan has been designed to improve on the existing visual amenity whilst recognising the essential role trees play in the targeted biodiversity, (see Appendix NLL5 for Tree Planting Plan).

6.2 Recommended species

- **Pleached Hornbeam to form boundary screening (*Carpinus betulus*)**

The term 'pleached' refers to trees that are trained to form a screen of branches and foliage a single straight stem. The single stem of pleached trees that are between 1.8 and 2.2m tall and planted in rows at set distances will form an elevated 'green wall' that can be ideal as a green alternative to high fencing.

Pleached trees are often used to screen unsightly buildings and can be grown above an existing wall or fence. Used in this way pleached trees can extend the height of a privacy screen to 3 metres or more. Mature pleached trees are established trees with full growth development on the cane head structure compared to the fresh pleached versions.

- **English Yew hedge (*Taxus baccata*)**

English Yew is a dense, evergreen conifer hedge which boasts vibrant green foliage during spring, with small red fruits appearing in the autumn, which are delightful in appearance and loved by birds. English Yew's compact, needle-like foliage is incredibly easy to trim and maintain.

- **Upright Pillar Crab Apple Tree (*Malus tschonoskii*)**

- Identified on planting plan as P1

A firecracker for autumn colour, this tree has a distinctive upright, flame-like form and is a medium sized tree reaching a height and spread of 5 x 3 metres in 20 years. Young foliage is silvery white in the spring, adopting a lush green colour in the summer before developing its stunning intense orange, yellow, red and purple autumn colours.

This Flowering Pillar Crab Apple is popular with bees due to the beautiful, white flowers with a hint of pink that open in April-May. Equally popular with wildlife are the red flushed, yellow/green crabs which follow in the autumn and last long past its vibrant autumn display, providing a third season of interest.

- **Upright Flowering Cherry Tree (*Prunus* 'Amanogawa')**

- Identified on planting plan as P2, P3, P7 & P8

A very columnar ornamental cherry tree, ideal as an eye-catching specimen for smaller spaces or for lining avenues. The narrow form will grow to a height and spread of just 6 x 2 metres in 20 years.

In April, the upright branches are smothered in pale pink cherry blossom. The large, semi-double, flowers have a pleasant and subtle fragrance. Bronze-green spring foliage turns to mid-green in the summer and then bursts into orange and red colours later in the year for an autumnal display. *Prunus* 'Amanogawa' is an excellent choice for urban areas, as it is both tolerant of pollution and compact.

- **Ornamental Pear Tree (*Pyrus calleryana* 'Chanticleer')**

- Identified on planting plan as P4

A fantastic small tree that has glossy, dark-green foliage that creates a wonderful foil for the mass of white flowers in April-May. The flowers are popular with wildlife such as bees.

'Chanticleer' is one of the best ornamental pears for autumn colour, with the foliage turning vivid red before falling.

Pyrus 'Chanticleer' is an upright, conical, flame shaped small ornamental pear tree that will grow to just 5 x 3 metres in 20 years. Worthy of being a feature tree, it is also perfect for avenue planting due to its slender form or for small urban gardens.

- **Coral Bark Japanese Maple Tree (*Acer palmatum* 'Sango-kaku')**

- Identified on planting plan as P5 & P6

The most well-known Coral Bark Maple tree, renowned for its striking coral pink-red stems. Producing pink young growth and yellow/orange, deeply lobed new foliage in the spring, the leaves turn a lush green in summer and then a pretty soft yellow in autumn.

After the foliage display is over, the bare branches make a stunning focal point in winter. Triggered by a cold spell, the stems and bark turn vibrant coral pink-red. Thus, known as a Coral or Red Barked Maple, it makes the perfect feature tree with year-round interest.

With the RHS Award of Garden Merit, it grows to approximately 4 x 2 metres in 20 years. After the foliage display is over, the bare branches make a stunning focal point in winter. Triggered by a cold spell, the stems and bark turn vibrant coral pink-red, it makes the perfect feature tree with year-round interest.

Part 7 – Conclusions

7.1 A BS5837: 2012 survey of thirteen trees has been carried out at 2 Templewood, London, NW3 7XA. One is considered to be category A and of high value (T3) and twelve are considered to be Category C of low value (T1, 2, 4 – 12 & 14).

7.2 The proposed development requires the removal of seven low value category C trees (T2, T4, T5, T6, T7, T8, T14) and 2 x boundary hedges.

7.3 The trees to be retained will be protected during development and methods for ensuring their protection have been described.

7.4 It is considered that the proposed development will pose no threat to trees to be retained and is sympathetic to the sylvan, leafy character of the area.

Appendix NLL1

Tree Schedule

Site: 2 Templewood Avenue, NW3 7XA

Surveyor: A Nicol

Date: 23/11/2021

Tree No.	Tree species	Tree height (m)	Stem diameter (mm)		Branch spread (m)		1 st sign branch (m/dir)	Life Stage	General Observations	Recommendations	Priority	Remaining contribution	BS5837 Cat.
			D1	D4	N	E	Canopy height (m)						
			D2	D5									
			D3	D Ave.	S	W						RPA diameter (m)	
T1	Common Beech	18	760		4	3	10E	M	Poor crown form and shape with no screening function. Large wound at base, east side 300mm wide x 600mm high (estimated). Included branch union main fork at 6m. Etiolated. Growing on an elevated position	Neighbours tree, ideally remove		20+	C
					2	3	10					9.3	
T2	English Yew	9.5	390	250	2	2	2.5S	SM	Misshapen and leggy shape, poor crown form. Causing damage to retaining wall. Minor screening to neighbouring property with very limited public visual amenity	Remove		20+	C
			150	180	5	5	3					4.2	
T3	English Oak	18	1160		10	9	3 main union	M	A good example of the species, dominant in the local landscape and provides screening to neighbouring properties. Excellent wildlife value. Protected status			40+	A3
					10	12.5	3.5					13.92	
T4	Japanese Maple	4	150		3	2	1.5	SM	Poor crown form	Remove		20+	C
					1.5	2	3					1.8	
T5	Japanese Maple	3	70		1	1	1.5	Y	Poor crown form	Remove		20+	C
					1	1	1.5					0.9	
T6	Japanese Maple	3	50		2	0	3	Y	Poor crown form	Remove		10+	C
					4	2.5	3					0.6	

Tree No.	Tree species	Tree height (m)	Stem diameter (mm)		Branch spread (m)		1 st sign branch (m/dir)	Life Stage	General Observations	Recommendations	Priority	Remaining contribution	BS5837 Cat.
			D1	D4	N	E							
			D2	D5									
			D3	D Ave.	S	W	Canopy height (m)					RPA diameter (m)	
T7	Japanese Maple	3.5	145		0.5	2	1.5S	SM	Poor crown form	Remove		10+	C
					2	2	3					1.8	
T8	Holly	3	140		1	1	2	Y	Low amenity value			10+	C
					1	1						1.7	
T9	Horse Chestnut	14	400		2.5	2.5	3	SM	Street Tree			40+	C
					2.5	2.5	4.5					4.8	
T10	Silver Birch	12	175		1	1	3	SM	Street Tree			20+	C
					1	1	4					2.10	
T11	Silver Birch	8	80		0.5	0.5	2	Y	Street Tree			40+	C
					0.5	0.5	3					1	
T12	Oak	12	#950		#3	#3	5S	SM	Neighbouring tree, rather over pruned and poor crown form			40+	C
					#3	#4						11.40	

Appendix NLL2

Tree Constraints Plan

Tree Constraints Plan

SCALE :
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12/09/2022

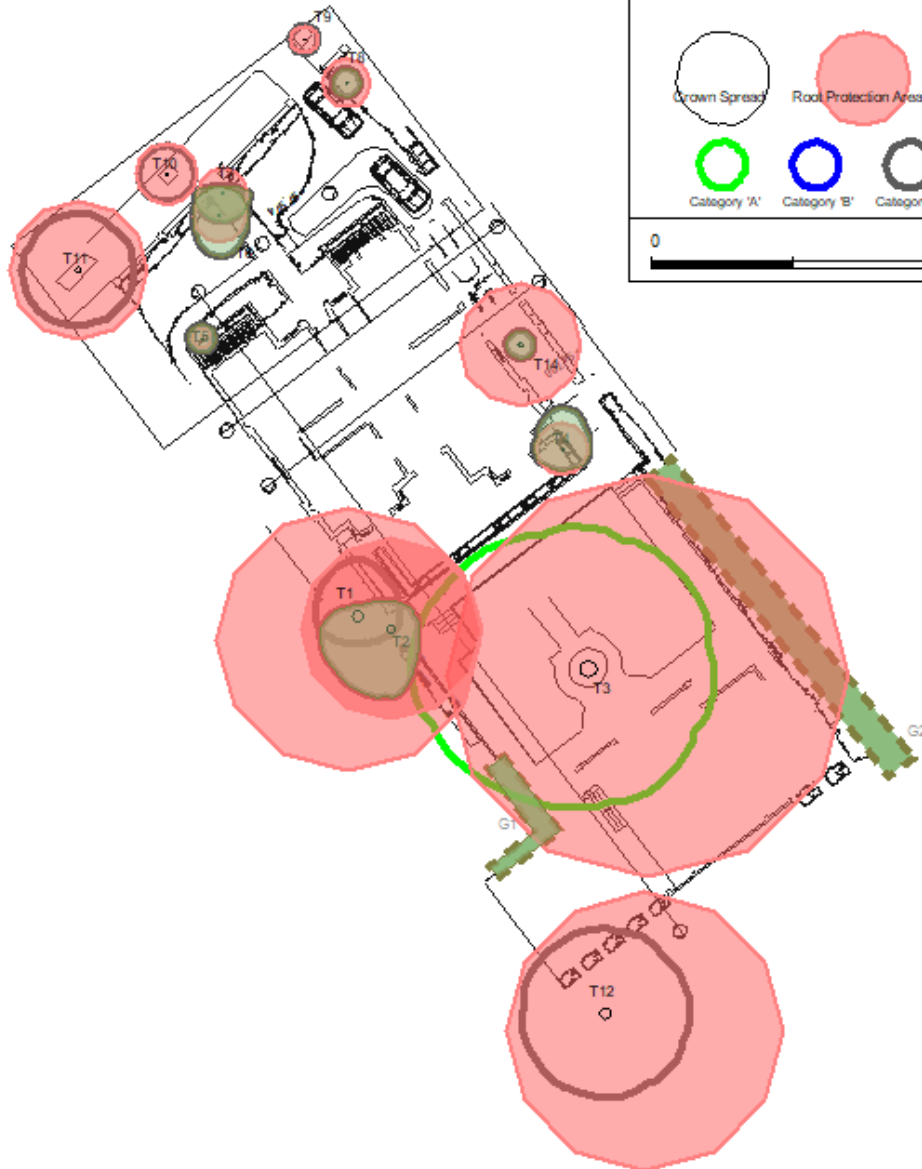


MAP FILENAME :
2 Templewood Ave, NW3

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0 30m



Appendix NLL3

Tree Protection Plan

Tree Protection Plan

SCALE :

1 : 500

@ A4

DATE :

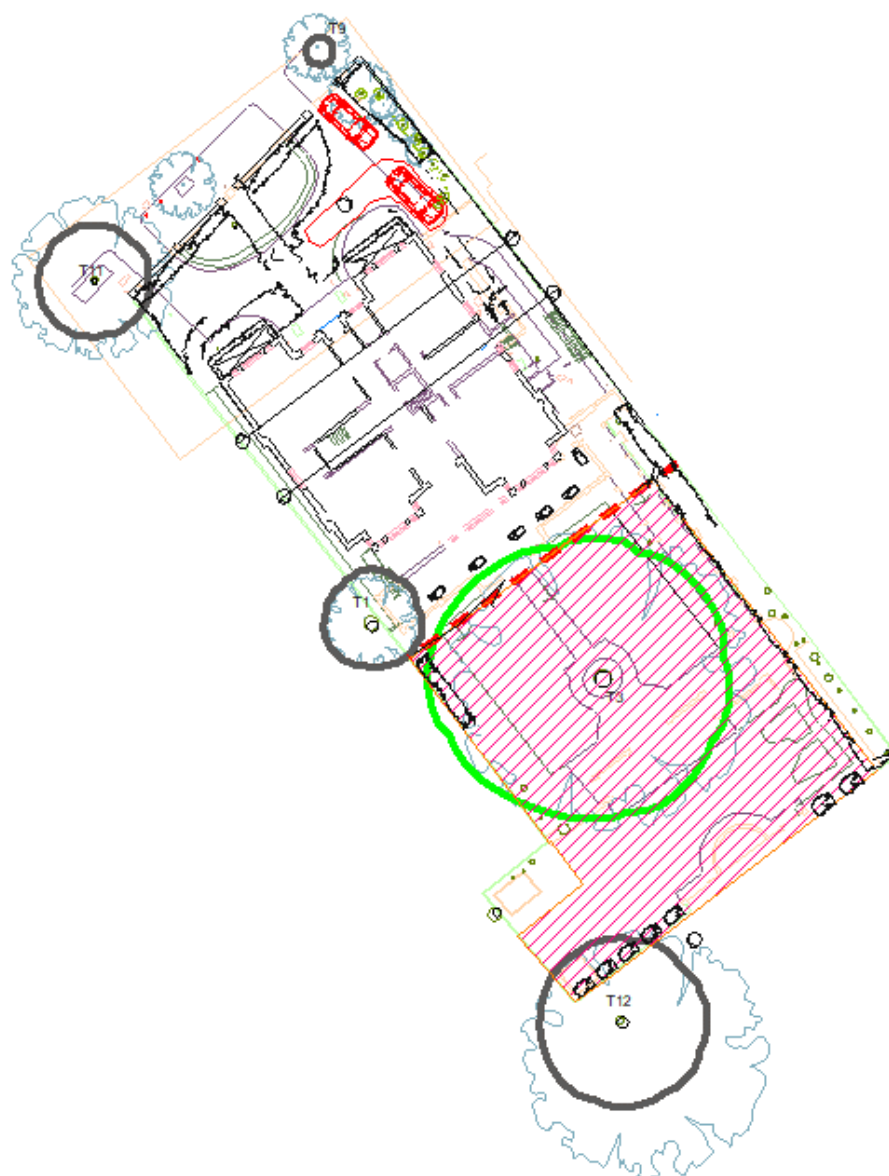
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 No Dig Area
 Tree Protection Fence

Appendix NLL4

Tree Removal Plan

Tree Removal Plan

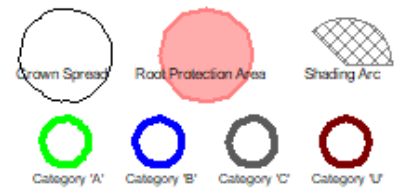
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12/09/2022

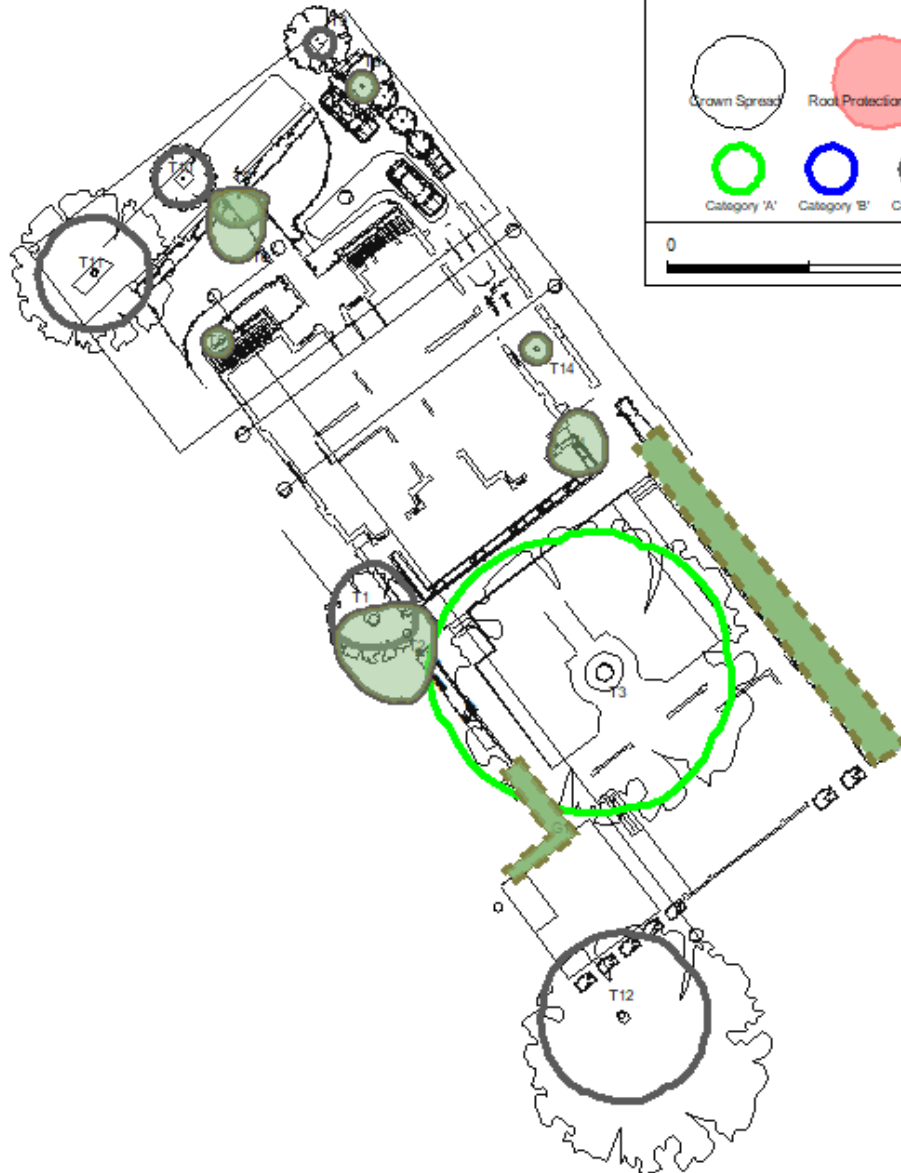


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0 30m



Appendix NLL5

Tree Planting Plan

andy@nicol.work

07624 879286 01768 631771



Tree Planting Plan

SCALE :
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@ A4

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Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



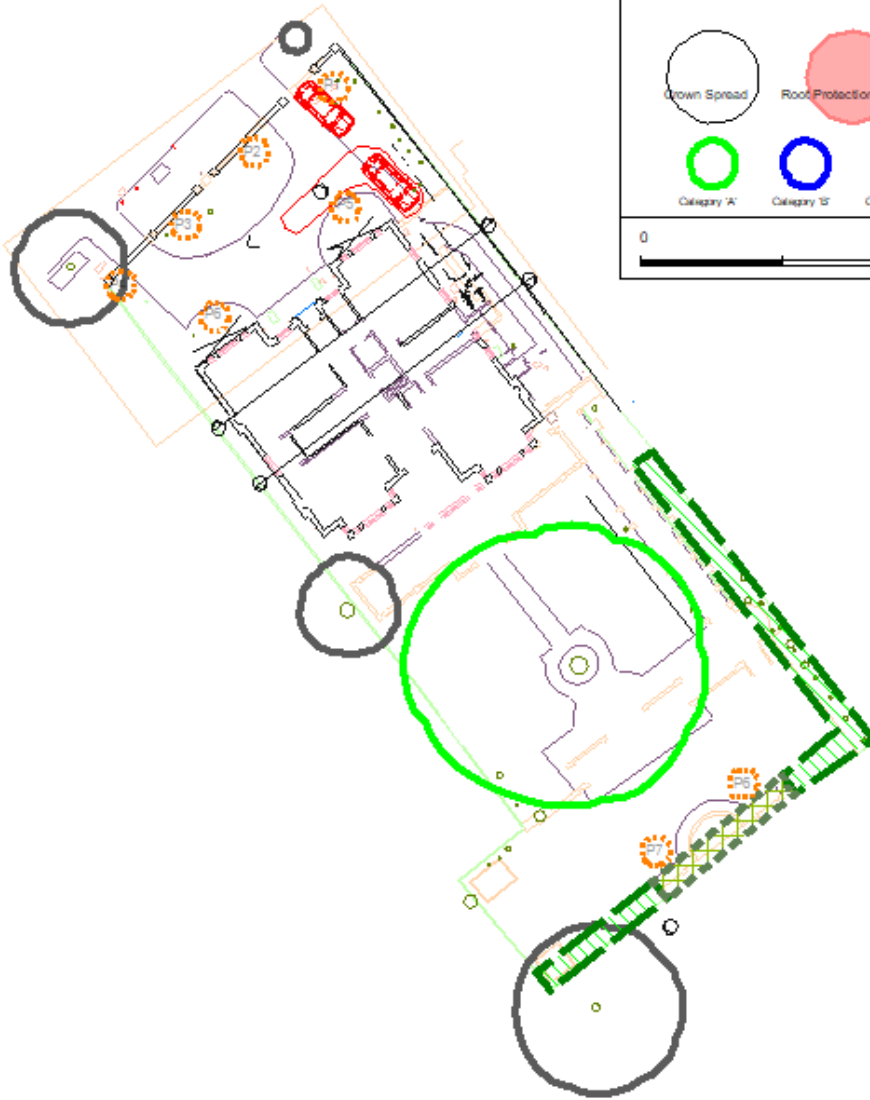
Category 'C'



Category 'U'

0

30m



Appendix NLL6

Site Induction Sheet

Trees are an important part of this development and all trees noted on the Tree Protection Plan are protected by planning conditions and by virtue of being in a Conservation Area. Trees must not be damaged in any way, including indirectly through compaction/contamination of soil, so that they can fully integrate into the finished project and stay healthy well into the future. All persons working on this site have a responsibility to be aware of trees and to abide by tree protection procedures.

How can trees be damaged?

Above the ground – contacts and impacts with branches and trunk (for example by machine operations: piling rigs, high-sided vehicles, crane use, fixing to trunks, unauthorised cutting back of branches). Make sure there is adequate clearance under the canopy and don't stray close to the trunk. Damage to bark allows infections to enter the tree.

Below the ground – roots spread out from the trunk horizontally at shallow depths and are therefore easily damaged. Vehicle and pedestrian movements and storage of materials on unprotected ground causes compaction, especially in wet weather, and must be avoided. Soil stripping during site clearance or landscaping is prohibited in root protection areas. The effects of root damage may take some time to become obvious, but can result in disfiguring dieback of leaves and branches, or even death.

Tree protection procedures

Provided that the simple steps below are followed most tree protection is straight forward:

- Stay out of Construction Exclusion Zones (CEZs). These are the areas of ground surrounding retained trees that are protected by barriers and/or ground protection. If you need to go into a CEZ, you must first gain permission from the site manager.
- No construction activity of any description within CEZs.
- No Fires.
- If authorised to work within a CEZ, for example, for installation of an above-ground no-dig driveway you must follow procedures set out in the **Arboricultural Method Statement**.
- If damage occurs, you must inform the site manager, who must, in turn, inform the project arboriculturalist.

Planning Authority enforcement action needs to be avoided:

- 'Breach of Conditions' noticed can prevent a site from being signed off.
- 'Temporary Stop Notices' halt site operations and result in associated high costs.
- Willful damage/destruction of TPO/Conservation Area trees can result in company and/or individual prosecutions- fines can be anything up to £20,000 (County Courts are unlimited). Remember that fines may apply to the person committing the offence as well as the site owner and main contractors!

I have received site induction in tree awareness and tree protection procedures:

Print Name:

Sign:

Date: