



Arboricultural Impact Assessment

***Tooting Bec Lido, Tooting Bec Rd,
London SW16 1RU***

Client Name: Richmond and Wandsworth Councils

Project Number: P3288.1.0

Date: 31 May 2019

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Site:	Tooting Bec Lido, Tooting Bec Rd, London SW16 1RU
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1 Report Summary

This Arboricultural Impact Assessment has been prepared to support a planning application for development at Tooting Bec Lido, Tooting Bec Rd, London.

The site was an area of woodland and hard surfacing to the south of Tooting Bec Lido, located to the south of Central London. Development comprises the demolition of part of the existing building to allow the construction of a new mechanical equipment room occupying the same footprint as the previous building.

The survey obtained data on 13 individual trees and three groups, many of which were large with significant public visibility. Development has potential to affect trees within and beyond the site boundary.

The potential impacts on trees and proposed mitigation measures are set out in the table.

Potential Development Impact	Trees Affected	Proposed Mitigation Measures
<p>Damage to tree roots from compaction and contamination from construction activities.</p> <p>Damage to tree stems and crowns from construction activities.</p>	All retained trees.	Erect protective fencing to encompass all sections of tree crowns and RPAs, in accordance with the TPP, with this erected prior to the commencement of development and maintained in place until all development is complete.

At the time of writing the report, it has been confirmed that the site was not located within a Conservation Area, nor were any of the trees within this report subject to Tree Preservation Orders. The status of tree protection can change at any time and should be confirmed with the Local Planning Authority prior to any works on the trees taking place.

No tree work is required because of development. However, the removal of one individual tree and specific trees within another group, due to their condition, is recommended irrespective of development.

Any development impacts on retained trees can be effectively mitigated, subject to the correct implementation of all tree protection.

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2 Introduction

2.1 Brief

agb Environmental Ltd was commissioned by Richmond and Wandsworth Councils to undertake an Arboricultural Survey at Tooting Bec Lido, Tooting Bec Rd, London to accompany a planning application. The purpose of the survey was to identify:

- Tree age, condition, dimensions, general health and Root Protection Area (RPA);
- Constraints and potential tree removals in respect of the proposed layout;
- The location and means of protecting retained trees; and
- Preliminary methodology for implementing the proposed layout.

2.2 Documents and Information

The following documents were utilised in the preparation of this report:

- Drawing 5785-F - Topographical Survey;
- Drawing Tooting Bec Lido Proposed Plan- Site Layout; and
- BS5837:2012 *Trees in relation to design, demolition & construction - Recommendations*.

2.3 Survey Details and Constraints

The survey was undertaken on the 14th March 2019 by the agb Environmental Arboricultural Consultant, in adherence to the principles of BS5837:2012 *Trees in relation to design, demolition & construction - Recommendations*. Tree inspections have been undertaken from ground level using non-invasive techniques only, in accordance with the principles of the Visual Tree Assessment method developed by Mattheck and Breloer (1994).

The survey obtained data on 13 individual trees and three groups. Trees with a stem diameter below 75mm, when measured at 1.5m above ground level, were not included. The terms used to explain the data recorded are provided in **Appendix 1**.

Comments on tree condition and safety relate to the condition of trees at the time of survey. It should be recognised that tree condition is subject to change in response to a range of factors. This report does not take into account potential extreme climatic events that would be unexpected in this locality (which could include, but aren't restricted to, severe windstorms, floods or drought), or potential outbreaks of pests or diseases.

This report contains work recommendations to manage the risks posed to and by trees responsibly, reducing them to an acceptable level. Even after the recommended work has been carried out some trees could still fail, but it is unlikely that they will cause significant harm unless the weather conditions are extreme and / or there are major hidden defects.

This report considers the potential for trees to influence soil in such a way as to cause the proposed development, or other buildings, to suffer tree related subsidence or heave damage, but does not attempt to quantify this. Operations carried out in the vicinity of the trees, either in the past or future, could affect their health and stability; such operations could include, but aren't restricted to, trenches dug for the installation or repair of utilities.

3 Site and Surrounding Area Context

3.1 Site Description

The site was an area of woodland and hard surfacing to the south of Tooting Bec Lido, located 7.5km to the south of Central London. Surrounding land use comprised woodland and public open spaces, including Tooting Bec common, with land in high density residential use beyond.

Access to the southern half of the site was from multiple access points along the south-west boundary. The site boundaries comprised: Tooting Bec common to the south and south-west; the swimming pool to the north; and a security fence separating land alongside the railway line to the east.

The southern half of the site was entirely unsurfaced and contained trees and understorey vegetation, with numerous unsurfaced tracks/paths crossing the area. The northern half was delineated by a metal security fence, with this area containing a brick pump house and being entirely hard surfaced.

The site was predominantly flat with no major level changes.

3.2 Soil Assessment

Information from the Geology of Britain viewer (British Geological Survey, 2019) indicates that the bedrock geology local to the site is London Clay Formation - Clay and Silt. Local superficial deposits are Head - Clay, Silt, Sand and Gravel. Clay based soils generally have high volume change potential in response to soil moisture change, possibly resulting from the presence of trees.

An assessment of the soil conditions within the site will be required to inform foundation construction. This assessment must be made by a qualified structural engineer or geotechnical consultant.

3.3 Existing Tree Stock Summary

Photographs are provided in **Appendix 2**. Details of all trees surveyed are provided in the Tree Survey Table in **Appendix 3**, with locations in relation to the site in the Tree Constraints Plan (TCP) in **Appendix 4**.

The entire southern half of the site was occupied by trees, with mutual crown formation in some cases. The whole area was visible for public views from the west.

T1, English oak, T2 and T3, ash, T5, English oak, and G1, ash and elm, were located along the northern part of the woodland near to the metal security fence. T4, hawthorn, T10 and T13, English oak, and T11, sycamore, were located along the eastern boundary

The remaining trees T6 - T9 and T12, all English oak, and G2, mixed species, were located towards the centre and west of the southern woodland area with the larger oak trees having somewhat elevated levels of public visibility due to their location, at the edge of the woodland, and larger size.

The majority of the trees were assessed as moderate quality, Category B.

G1 and G2, were assessed as low quality, Category C, due to a reduced life expectancy, of between 10 and 20 years, and small stem diameter.

T4, was assessed as high quality, due its veteran classification and local importance.

T12 was considered to be Category U and recommended for removal due to its poor condition resulting in a life expectancy of less than 10 years. One tree within G1, touching the security fence, and dead trees within G2 were also recommended for removal to prevent uncontrolled failure.

4 Statutory Tree Protection

It has been confirmed with Wandsworth Council *TPO and Conservation Area Map* (2019) that the site was not located within a Conservation Area, nor were any of the trees within this report subject to Tree Preservation Orders. The status of tree protection can change at any time and should be confirmed with the Local Planning Authority (LPA) prior to any works on the trees taking place.

In the event that statutory tree protection is put in place, the LPA will contact the landowner, explaining the implications and the required process for contacting the LPA prior to commencing any work.

The presence of statutory tree protection may prevent work that may normally be carried out, such as reducing overhanging branches from a neighbour's tree back to the site boundary. In circumstances where work is required in an emergency, the work may proceed, though contact should be made with the LPA to advise them that this is the case prior to carrying out any work.

As the site cannot be considered as curtilage of a residential property, tree removal may be subject to regulation by the Forestry Commission Felling Licence restrictions, which limit the volume of timber that can be felled in any calendar quarter to five cubic metres. An application for a Felling Licence may be required if substantial tree removal is proposed at any time other than as part of an approved planning application.

If this report is submitted to accompany a planning application, any tree work specified, relating to trees subject to statutory tree protection, will be considered as part of that application. Therefore, if planning permission is subsequently granted, this would normally provide permission for all tree work. Clarification may be sought from the LPA over this.

5 Principal Survey Findings and Arboricultural Impacts

The main findings are summarised in the following section. For ease of reference, it is recommended that this section is cross referenced with the information and plans provided within **Appendices 3, 4, 5 and 6**.

5.1 Development Proposals

The demolition of part of the existing building to allow the construction of a new mechanical equipment room to the south which will occupy the same footprint of the existing building.

5.2 Tree Removals and Reduction

Details of all tree work and tree removals are provided in **Table 6.2** and illustrated on the Tree Protection Plan (TPP) provided in **Appendix 5**.

5.2.1 Removal and Reduction for Reasons of Condition

The following tree work is recommended for reasons of condition:

- Cutting of ivy and re-inspection of T2, T11, T13 and G1;
- Removal of hanging deadwood from T2;
- Removal of T12 and dead trees within G2 within six months of the survey date; and
- Removal of tree touching metal security fence within G1.

5.2.2 Removal and Reduction for Reasons of Incompatibility

Tree removal is not required for reasons of incompatibility with the proposed development.

5.2.3 Assessment of Proposed Tree Removal and Reduction

As removal of T12, and trees within G1 and G2, is recommended irrespective of development, any impact arising as a consequence of removal cannot be attributed to the proposal.

5.3 Tree Interface with Proposals

Where trees are retained, both the works required to develop the site and its future use have potential to adversely affect trees, either causing damage to them or threatening their long-term retention. Damage can occur both above ground to tree crowns, limbs and trunks, and to roots below ground within the calculated RPA. The potential causes of such threats, together with proposals to avoid or minimise them, are set out in this section.

Table 5.2: Potential arboricultural impacts and proposed mitigation.

Development Activity	Potential Risk	Consequence	Mitigation
Construction activities, including materials delivery, transport and storage, contractor parking, site facilities and working areas.	Soil compaction and contamination. Accidental contact damage.	Root damage and die-back. Crown damage, die-back and loss.	Retain existing security fencing for the entire duration of the development.

Existing fencing and hard surfacing within the compound provides suitable protection, but if surfacing work is required further consultation with the LPA is required.

6 Arboricultural Method Statement

The information in this section has been provided on the basis of the plans provided at the time the report was prepared. Should the site layout alter in the future, the advice provided may have reduced relevance and need to be revised prior to the commencement of the development.

6.1 Guidance Utilised

This section provides a site specific Arboricultural Method Statement (AMS), based on guidance provided within:

- BS5837:2012 *Trees in relation to design, demolition & construction - Recommendations*;
- BS3998:2010 *Tree work - Recommendations*; and
- Volume 4 - *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* (Issue 2, 2007).

6.2 Contact Details

The details of all the principal points of contact are provided in **Table 6.1**.

Table 6.1: Principal contact details.

Contact	Name	Address	Contact Details
Local Planning Authority	Planning Department	Wandsworth Council The Town Hall Wandsworth High Street London SW18 2PU	020 8871 7620 planning@wandsworth.gov.uk
Client	Mshindo Kiwanga Project Officer – Design Service	Richmond and Wandsworth Councils The Town Hall Wandsworth High Street London SW18 2PU	020 8891 7007 Mshindo.Kiwanga@RichmondandWandsworth.gov.uk
Arboricultural Consultant	Peter Brais Arboricultural Consultant	agb Environmental Ltd Newmarket Business Centre 341 Exning Road Newmarket CB8 0AT	01638 663226 peter@agbenvironmental.co.uk

6.3 Tree Works

Tree works should be the first activity on site to prevent accidental damage during development and to enable sufficient vehicular clearance such that the proposals can be implemented.

Tree work is a potentially dangerous occupation. All tree work contractors should be required to provide evidence that they are competent to undertake the required works and are adequately insured. The contractor should also be asked to provide a site-specific risk assessment prior to commencement of any tree works. All tree works should be in accordance with BS 3998:2010 *Tree work - Recommendations*.

Some of the trees may possess features that increase their potential for use by nesting birds and roosting bats. It is recommended that all tree works take place outside of the main bird

nesting season (generally accepted as being March-August inclusive). Where work is required on trees containing cracks, cavities, splits and major (>100mm diameter) dead wood, it is recommended that these features are inspected by a licensed ecologist or bat surveyor prior to work being carried out.

Details for all tree work are given in **Table 6.2**.

Table 6.2: Tree works.

Tree No.	Species	Work Recommended Irrespective of Development	Work Required to Facilitate Development
T2	Ash	Cut ivy and re inspect within one year of survey date. Remove hanging deadwood within six months of the survey date.	No work required.
T11	Sycamore	Cut ivy and re inspect within six months of survey date.	No work required.
T12	English oak	Remove to prevent failure within six months of survey date,	No work required.
T13	English oak	Cut ivy and re inspect within six months of survey date.	No work required.
G1	Ash Elm	Cut ivy and re inspect within one year of survey date. Remove tree touching fence within six months of survey date.	No work required.
G2	Elm Sycamore	Remove dead trees within group within six months of survey date.	No work required.

6.4 Tree Protection

Following tree works and before any other works commence on site, tree protective fencing shall be immediately installed in accordance with the Tree Protection Plan (TPP) in **Appendix 5** and specification in **Appendix 6**, signed accordingly with warning notices. It shall by default be located on the outer edge of the RPA or crown spread, whichever is greater, except where working space is required within RPAs.

Once all protection is in place and before any works commence on site, it is recommended that this be viewed and signed off, by the Project Arboriculturist. All protection shall be in place during the entire construction phase of the development.

6.5 Construction Access / Materials Storage

Access to the site for all activities will be from the existing pump house entrance to the west. The locations of all site facilities and any compounds will be limited by the presence of tree protection. It is recommended that the hard surfacing around the existing buildings is used for all facilities, storage and delivery, as it will be ideally suited to this purpose.

The limitations on materials storage are those given under **General Guidance** in **6.7**.

6.6 Schedule of Works and Supervision

Supervision is recommended for key stages during development where these have greatest potential to result in tree damage if carried out incorrectly. Arboricultural supervision may be made a requirement of the development by way of appropriate planning conditions. This supervision should be provided by the designated Project Arboriculturist. Following supervision, a photographic report would be presented to the LPA.

A proposed schedule detailing the scope and frequency of arboricultural supervision visits is detailed below in **Table 6.3**. This schedule is intended to minimise the potential for development to result in damage to retained trees, providing a logical sequence of works. However, the LPA may request an alternative schedule within any planning conditions.

Table 6.3: Schedule of works and supervision.

Sequence	Activity	Supervision Responsibility
1	Pre-commencement meeting.	LPA Tree Officer, Principal Contractor, Site Manager, & Project Arboriculturist.
2	All tree works.	Project Arboriculturist.
3	Installation of all tree and ground protection in accordance with the TPP.	Site Manager & Project Arboriculturist.
4	Main development phase.	Site Manager.
5	Removal of all tree protection following completion of all development.	Site Manager.
6	Soft landscaping.	Project Landscape Architect.
7	Assessment of tree condition post-development.	Project Arboriculturist.

6.7 General Guidance

The following general precautions must also be taken during the construction phase:

- No materials or fuel shall be stored close to or within the RPAs of trees to be retained or where new trees are to be established;
- There shall be no bonfires within 10m of the outer edge of the crown or RPA of a tree to be retained;
- Mechanical equipment must not be refuelled within the RPAs of retained trees or areas where new trees are to be established;
- No cement shall be mixed or stored within the RPAs of retained trees or areas where new trees are to be established;
- Cement mixers must not be washed within or uphill of the RPAs of retained trees or areas where new trees are to be established;
- The soil level within the RPA of a retained tree must not be raised or lowered without the agreement of the local authority Tree Officer;

- No plant shall be operated within the RPAs of retained trees unless the soil is suitably protected against compaction;
- Excavation should not take place within the RPAs of retained trees unless an arboricultural consultant or the local authority Tree Officer is supervising the work;
- The guidance provided by NJUG (2007) should be followed when installing underground services within the RPAs of retained trees;
- Surface water runoff must not be redirected into or out of the RPA of a retained tree;
- No materials shall be dumped within the RPA of a tree, whether in a skip or on the ground; and
- No vehicles shall be parked or operate within the RPA of a retained tree.

7 Conclusions

Development does not require tree removal. However, retained trees have potential to be damaged by development. The methodology and all tree protection requirements are provided to minimise this potential.

A pre-commencement meeting and arboricultural supervision, for key stages in the development that have potential impacts upon trees, are specified to ensure that all tree protection requirements and the methodology are clearly understood and correctly implemented.

8 References

British Geological Survey. (2019) *Geology of Britain viewer* [online]. <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (Accessed 13th March 2019)

Mattheck, C. and Breloer, H. (1994) *The body language of trees*. London: TSO

National Joint Utilities Group. (2007). Volume 4 *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* (Issue 2) [online]. Available at: <http://www.njug.org.uk/document-download/?URL=http://www.njug.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf> (Accessed 23rd July 2015).

Wandsworth Council. (2019) *TPO and Conservation Area Map* [online]. https://maps.wandsworth.gov.uk/map/Aurora.svc/run?script=%5cAurora%5cpublic_LB_TPO.AuroraScript%24&nocache=1083140200&resize=always%20 and https://maps.wandsworth.gov.uk/map/Aurora.svc/run?script=%5cAurora%5cpublic_conservation_areas.AuroraScript%24&nocache=751150328&resize=always (Accessed 13th March 2019)

Appendix 1 Explanatory Notes for Terms Used in Appendices 3, 4 & 5

Tree Number

Number used to indicate the approximate position on plans inserted as **Appendices 4 & 5**

Species

The species identification is based on visual observations.

Age Class

Sapling or newly established (Y) = a size which could be easily transplanted;

Semi-mature (SM) = prior to seed bearing age and could be transplanted with care;

Early Mature (EM) = of seed bearing age, may be close to or have achieved mature height, but with considerable apical dominance and lacking a broad, domed crown;

Mature (M) = fully grown, annual growth is much reduced, with a broad, domed crown;

Old Mature (OM) = exceptionally old for the species, possibly starting to decline;

Veteran (V) = often old for the species, the crown may be retrenching or displaying damage, containing features that provide many opportunities for wildlife, likely to offer important habitat.

Condition

The physiological condition of the tree:

Good (G) = normal growth and twig extension showing good vitality, canopy of typical density, with foliage of normal size and colour for the species - no notable indication of ill health.

Fair (F) = reduced twig extension, minor deadwood, but other than that few signs of ill health;

Poor (P) = small internodes and low vitality, the canopy may be thinning and contain dead twigs and/or branches in the outer canopy, discoloured, dwarfed, misshapen or wilting foliage, obvious presence of disease or infection;

Dead (D) = Dead

Height

The height of the tree measured to the nearest metre, or half-metre if below ten metres.

Crown Spread

The distance from the tree trunk to the most relevant of the four cardinal points of the compass, measured in metres.

Compass Bearing

N = north; S = south; E = east; W = west;

Crown Clearance

The existing height of the first significant branch or section of canopy, to the nearest half-metre, to inform on ground clearance, crown/stem ratio and shading.

Diameter at Breast Height (DBH)

Trunk diameter 1.5m above ground level recorded in millimetres measured with a diameter tape. If branches emerge below 1.5m, or if the trunk divides at or close to this height, the trunk diameter will be measured at a different height above the ground and this height will be mentioned. More than one figure indicates that the individual has several stems. Many stems are indicated with an 'M', where it is not possible to determine the number. If the DBH has been estimated this will be marked with an asterix (*) in the column.

PRF

Potential Roost Features – features that have potential for use by bats for roosting, likely to require further inspection if tree work is required.

Category & Remaining Contribution

The category assessed using the guidance in Table 1 of BS 5837:2012 and the potential for safe tree retention based on the current context.

(A) (light green) Trees of high quality and value: in such condition as to be able to make a substantial contribution (a minimum of 40 years is suggested);

- A1 - Exemplary arboricultural specimens
- A2 - Trees of particular visual importance as arb/landscape features
- A3 - Significant conservation/historical value.

(B) (mid blue) Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested);

- B1 - Might have been A Cat, but downgraded because of impaired condition.
- B2 - Present in numbers - reduced value as individuals but higher as a collective group.
- B3 - Trees with material conservation or other cultural value.

(C) (grey) Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm;

- C1 - Unremarkable tree, limited merit/impaired condition.
- C2 - Trees present in groups/woodlands without inferring greater collective value.
- C3 - Tree with no material or other cultural value.

(U) (dark red) Trees in such a condition that any existing value would be lost within 10 years and should, in the current context, be removed under sound arboricultural management.

Radius of the RPA

The radius of a circular Root Protection Area (RPA) in metres as specified using the guidance contained in BS 5837:2012.

Appendix 2 Tree Photographs



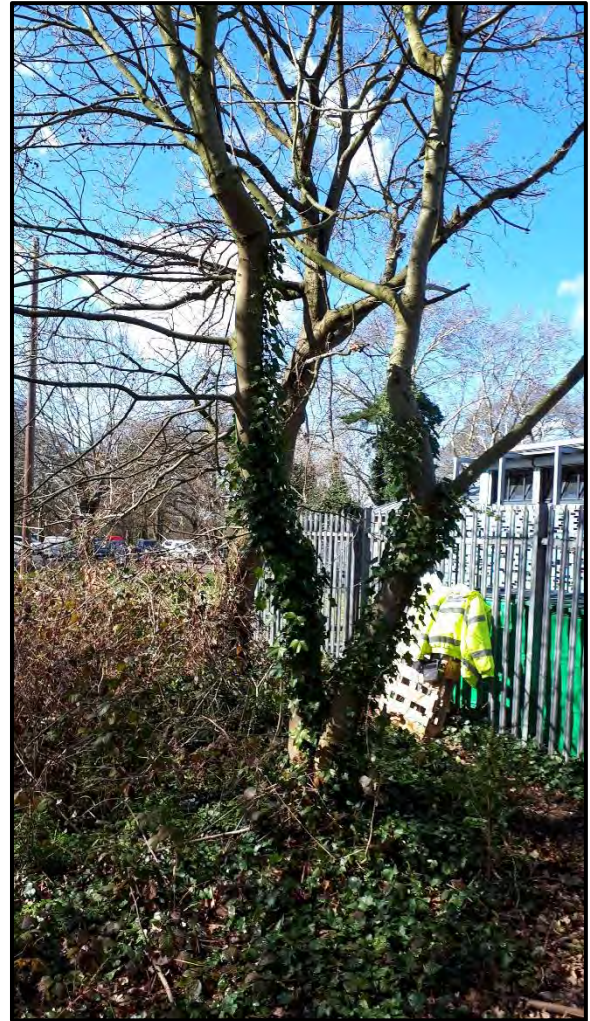
Photograph 1 (above). Overview of northern section of survey area, showing distribution and density of trees. Viewed looking towards the north-east from the adjacent open space.



Photograph 2 (left). From left-to-right (arrowed) T1, English oak, T2 and T3, ash. Located alongside the northern fenced boundary. Viewed looking towards the north-east.



Photograph 3. Close-up of the base of T1, English oak, showing stem leaning to the north. Viewed looking towards the west.



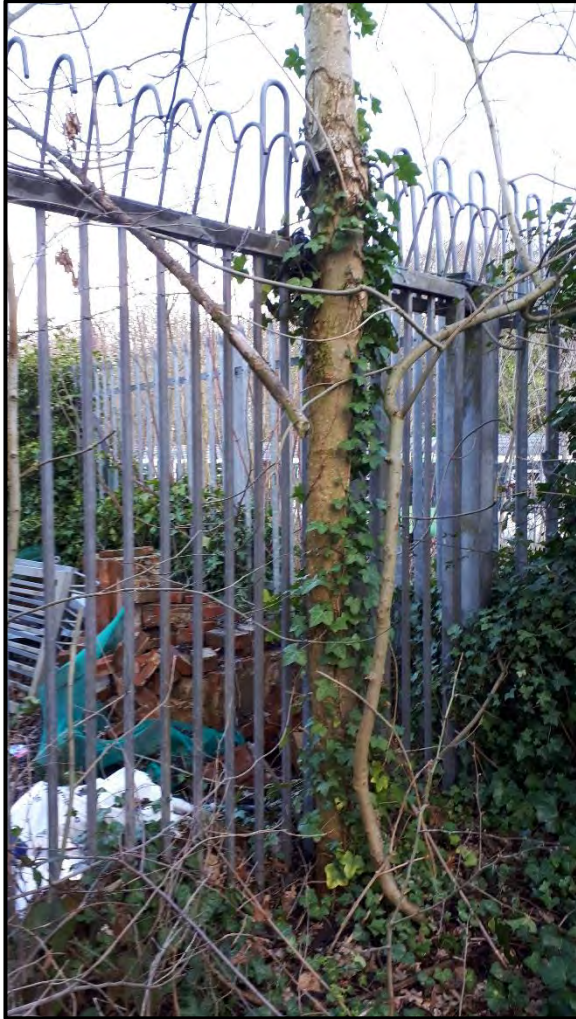
Photograph 4. Close-up of the base of T2, ash, showing, twin-stemmed form and ivy cover. T1 can just be seen in the background. Viewed looking towards the north-west.



Photograph 5. T3, ash, showing location in the centre of the northern boundary and proximity to the security fence. Viewed looking towards the west.



Photograph 6. G1, ash and elm, located in the north-east corner of the site. Note dense ivy cover on elm up to 6m. Viewed looking towards the north-east.



Photograph 7. Close-up of ash within G1, showing the stem touching fence at approx. 2m. Viewed looking towards the north-east.



Photograph 8. Close-up of the base of the ash within G1, showing wide-mouth bark include union (circled). Viewed looking towards the east.



Photograph 9. T4, veteran hawthorn, located towards the north of the boundary with the railway line. Viewed looking towards the east.



Photograph 10. T5, English oak, showing large size and high prominence. Viewed looking towards the north-east.



Photograph 11 (above). Close-up view of canopy of T5, showing large diameter decaying stub (circled). Viewed looking upwards towards the north-east.



Photograph 12 (right). T6, English oak, (centre, arrowed), showing large crown size and location at the western edge of the site. Viewed looking towards the east.



Photograph 13. T7, English oak, showing twin stem formation at 1.7m with normally formed union. Viewed looking towards the south-east.



Photograph 14. T8, English oak, located centrally within the site. Note normally formed branch union. Viewed looking towards the north.



Photograph 15. T9, English oak, showing V-shaped union with bark inclusion and absence of bulging. Viewed looking towards the south.



Photograph 16. T10, English oak, showing single stemmed form with good taper at base. Viewed looking towards the south-east.



Photograph 17 (above). G2, elm and sycamore, showing typical form of understorey trees within group. Viewed looking towards the south.



Photograph 18. G3, English oak (centre and centre-right), showing group of four larger trees with mutual crown formation, towards the south-west corner of the survey area. Viewed looking towards the north-east.



Photograph 19. T11, sycamore, showing location next to security fence, multiple stemmed form and ivy covering main stems. Viewed looking towards the east.



Photograph 20. T12, dead English oak, showing leaning stem. Viewed looking towards the northwest.



Photograph 21. T13, English oak, located just outside the red line boundary. Note dense ivy cover. Viewed looking towards the south.

Appendix 3 Tree Survey Table

All work recommendations provided in this table are given on the basis of tree condition at the time of the survey and do not relate to any development proposal.

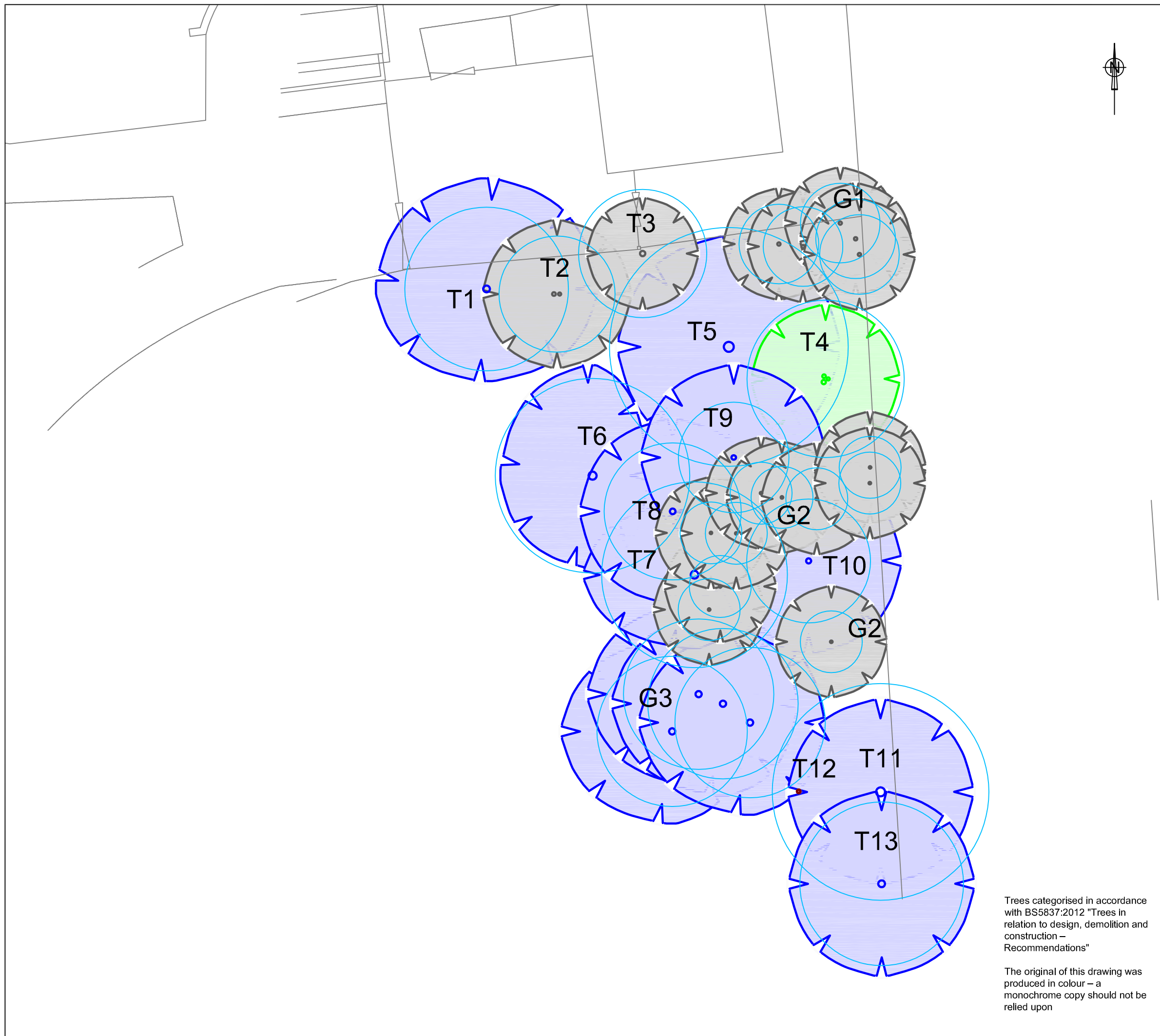
Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
T1	English oak <i>Quercus robur</i>	EM	G	9.0	6	5	6	6	1.5	370	Intermediate tree of good extension growth and crown density. Main stem leans at 18 degrees to the north. Unoccluded pruning wound, 90mm diameter, at 2.1m to the east. Typical minor (<25mm diameter) and moderate (25-100 diameter) deadwood up to 1m in length.	N	No work recommended.	B1	20-40	4.44
T2	Ash <i>Fraxinus excelsior</i>	EM	F	10	4	4	4	4	1.5	170 200	Intermediate tree of fair extension growth and crown density. Forms two stems at 0.3m with V-shaped union (VSU) and bark inclusion. Dead stub, 100mm diameter, at 1.8m to the north. Ivy cover up to 2m on both stems. Moderate deadwood hanger at 4m to the north. Significant minor deadwood throughout crown.	N	Cut ivy and re inspect within one year of survey date. Remove hanging deadwood within six months of the survey date.	C1	10-20-	3.12
T3	Ash	EM	G	12	3	3	3	3	3.0	290	Intermediate tree of good extension growth and crown density. Forms two stems at 2.5m with normally formed union (NFU). Decaying stub 0.2m in length at 2.5 to the north. Deadwood stub, 150mm diameter, at 3m to the east. Proximity to metal security fence would be expected to limit useful life expectancy.	N	No work recommended.	C1	10-20	3.48

Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
G1	Ash (Elm (x1) <i>Ulmus sp.</i>	EM	F G	12	3	3	3	3	3.5	180 Max	Boundary group of mutual crown formation. Good extension growth and crown density. Ivy cover on elm up to 6m. Some trees contained VSUs and bark inclusion. One tree touching metal security fencing with damage to main stem.	N	Cut ivy and re inspect within one year of survey date. Remove tree touching fence within six months of survey date.	C2, 3	10-20 20-40	2.16
T4	Hawthorn <i>Crataegus monogyna</i>	V	G	8.0	4	4		4	2.0	170 200 240	Intermediate tree of good extension growth and crown density. Forms three stems at 1m with NFU. Large size and age for species with veteran characteristics. Forms three stems at 1m with NFU. Longitudinal, partially occluded, wounds 20cm long at 0.5m to the west, leading to hollowing of stem. Bark damage and decay @ 2m to the east.	Y	No work recommended.	A3	40+	4.32
T5	English oak	EM	F	12	6	6	6	6	2.0	540	Dominant tree of good extension growth. Forms two stems @ 3m with obtuse angled NFU. Extensive area of burring 400mm in diameter around branch union to the south-east. Major (>100mm diameter) decaying deadwood up to 5m in length within canopy. Decaying deadwood, 250mm diameter, 1.5m in length @ 4m to the west.	Y	No work recommended.	B1	20-40	6.48
T6	English oak	EM	G	14	6	5	3	5	1.5	440 @ 1m	Dominant tree of good extension growth and crown density. Forms two stems 1.5m with NFU. Moderate and major deadwood branches @ 1.8 and 2.1m to the south-west up to 5m in length. Moderate deadwood @ 3m to the north-west.	N	No work recommended.	B1	20-40	5.28
T7	English oak	EM	G	12	4	4	3	6	1.5	420 @ 1.2m	Intermediate tree of good extension growth and crown density. Forms two stems at 1.7m with normally formed union. Moderate deadwood, 1.5m in length @ 3m to the south-west.	N	No work recommended.	B1	40+	5.04

Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
T8	English oak	EM	F	14	5	5	5	5	4.0	310	Intermediate tree of fair extension growth and crown density. Forms two stems at 2m with NFU. Several 50% occluded wounds up to 60mm in diameter. Moderate deadwood 1m in length @ 2.5m to the north.	N	No work recommended.	B1	20-40	3.72
T9	English oak	EM	G	12	5	5	5	5	3.0	250	Intermediate tree of fair extension growth and crown density. Forms two stems @ 2.5 m with VSU, bark inclusion without bulging.	N	No work recommended.	B1	20-40	3.00
T10	English oak	EM	G	12	5	5	5	5	3.0	280	Intermediate tree of good extension growth and crown density. Single stem form. Moderate and minor deadwood up to 5m long to the south-west.	N	No work recommended.	B1	20-40	3.36
G2	Elm Sycamore Acer <i>pseudoplatanus</i>	SM EM	P F G	8.0 Max.	3	3	3	3	0	140 Max	Group of smaller mainly, understorey trees of fair / good extension growth and crown density	N	Remove dead trees within group within six months of survey date.	C2, 3	10-20	1.68
G3	English oak (x4)	EM	F	12 Max	5	5	4	6	0.5	340 Max.	Group of four larger tree of good extension growth and crown density and mutual crown formation.	N	No work recommended.	B2,3	20-40	4.08
T11	Sycamore	EM	G	14	5	5	5	5	3.0	200 200 150 250 180 220	Dominant tree of good extension growth and crown density. Covered in immature ivy on majority of stem. Forms multiple stems at ground level. Additional stem removed at ground level to east leaving unoccluded, 200mm diameter, stump with onset of decay.	N	Cut ivy and re inspect within six months of survey date.	B1	20-40	4.92

Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
T12	English oak	SM	D	6.0	-	-	-	-	-	180	Dead tree with no foliage. Structural integrity starting to break down.	N	Remove within six months of survey date,	U	<10	-
T13	English oak	EM	G	14	5	5	5	5	1.5	370 @ 1m	Intermediate tree of good extension growth and crown density. Located close to boundary fence alongside railway line. Ivy covered up to 4m. Moderate deadwood up to 4m. Moderate deadwood up to 3m in length to the north @ 4m and 8m.	N	Cut ivy and re inspect within six months of survey date.	B1	20-40	4.44

Appendix 4 Tree Constraints Plan



REV	DATE	DESCRIPTION

LEGEND

-  Category U
-  Category A
Trees of high quality
-  Category B
Trees of moderate quality
-  Category C
Trees of low quality
-  RPA using formula in accordance with BS5837:2012

LOCATIONS ARE APPROXIMATE.

PROJECT
TOOTING BEC LIDO,
TOOTING BEC ROAD, LONDON

TITLE
TREE CONSTRAINTS

CLIENT
RICHMOND AND WANDSWORTH COUNCILS



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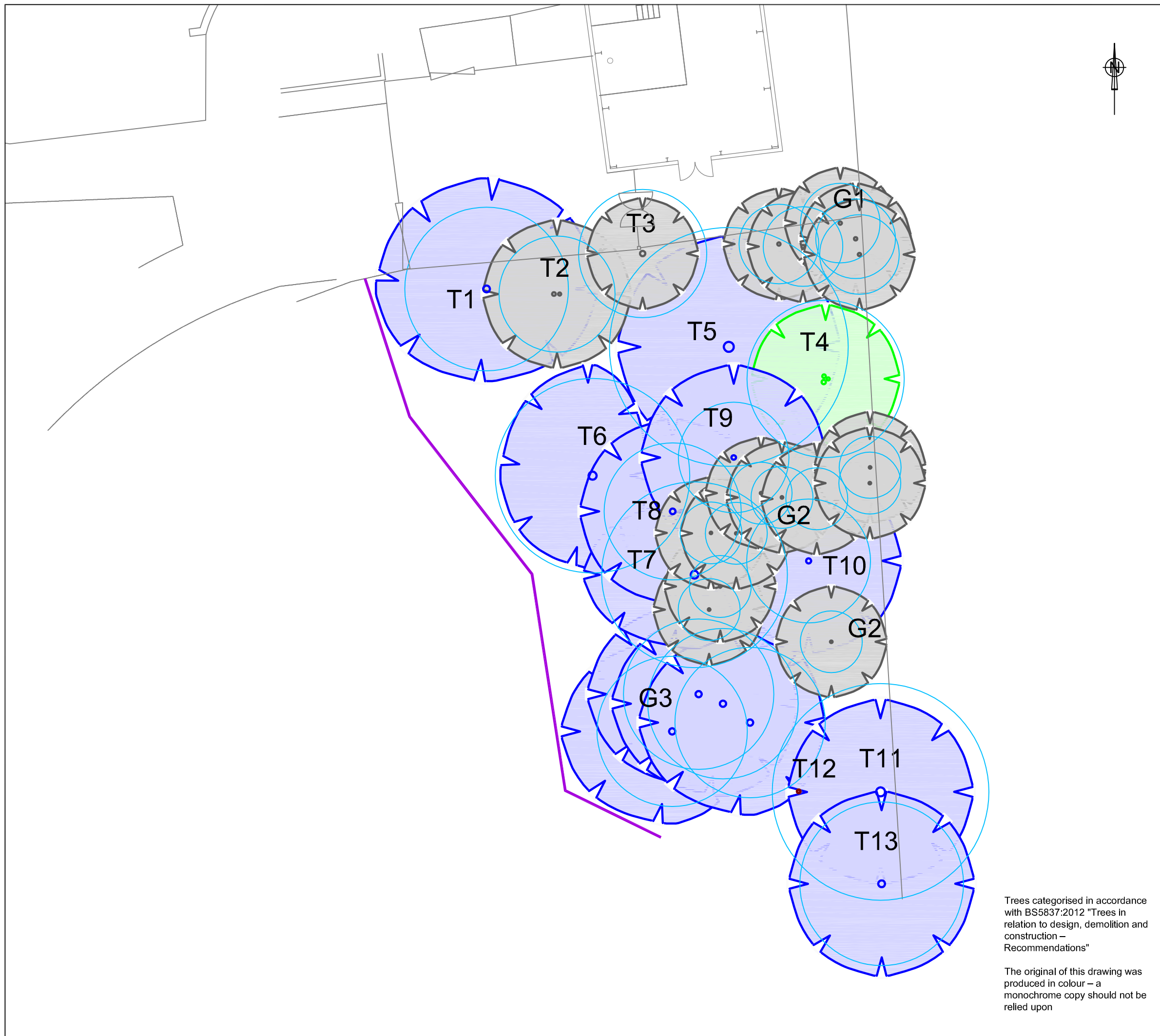
DATE 18/03/19
SCALE 1:200 @ A3

PROJECT NUMBER . DRAWING NUMBER
P3288.1 . 001






Trees categorised in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"

The original of this drawing was produced in colour – a monochrome copy should not be relied upon

Appendix 5 Tree Protection Plan



REV	DATE	DESCRIPTION

- LEGEND**
-  Category A
Trees of high quality
 -  Category B
Trees of moderate quality
 -  Category C
Trees of low quality
 -  RPA using formula in accordance with BS5837:2012
 -  Location of Protective Fencing

LOCATIONS ARE APPROXIMATE.

PROJECT
TOOTING BEC LIDO,
TOOTING BEC ROAD, LONDON

TITLE
TREE PROTECTION

CLIENT
RICHMOND AND WANDSWORTH COUNCILS



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DATE 18/03/19
SCALE 1:200 @ A3

PROJECT NUMBER . DRAWING NUMBER
P3288.1 . 002

Trees categorised in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"

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Appendix 6 Tree Protective Fencing Specification

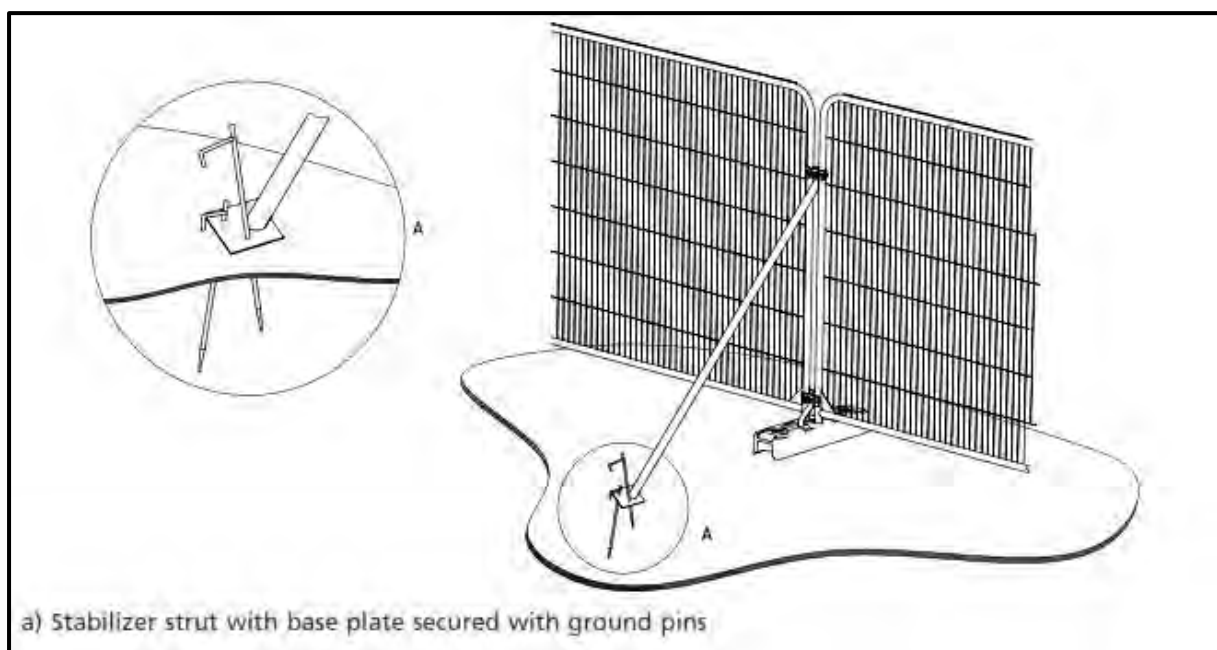
Specifications:

Tree Protective Fencing Panels shall be 2.0m high x 3.5m in length. (see image below).

Tree protective fencing example.



Given the existing soft surface onto which the fencing will be placed, it is considered that Heras fencing will be most appropriate form of tree protection. The Heras fencing will comprise of continuously joined panels, and will be secured utilising an ‘above ground stabilizing system’, with the fencing base stabilizer strut secured with ground pins with a base plate, as illustrated below:

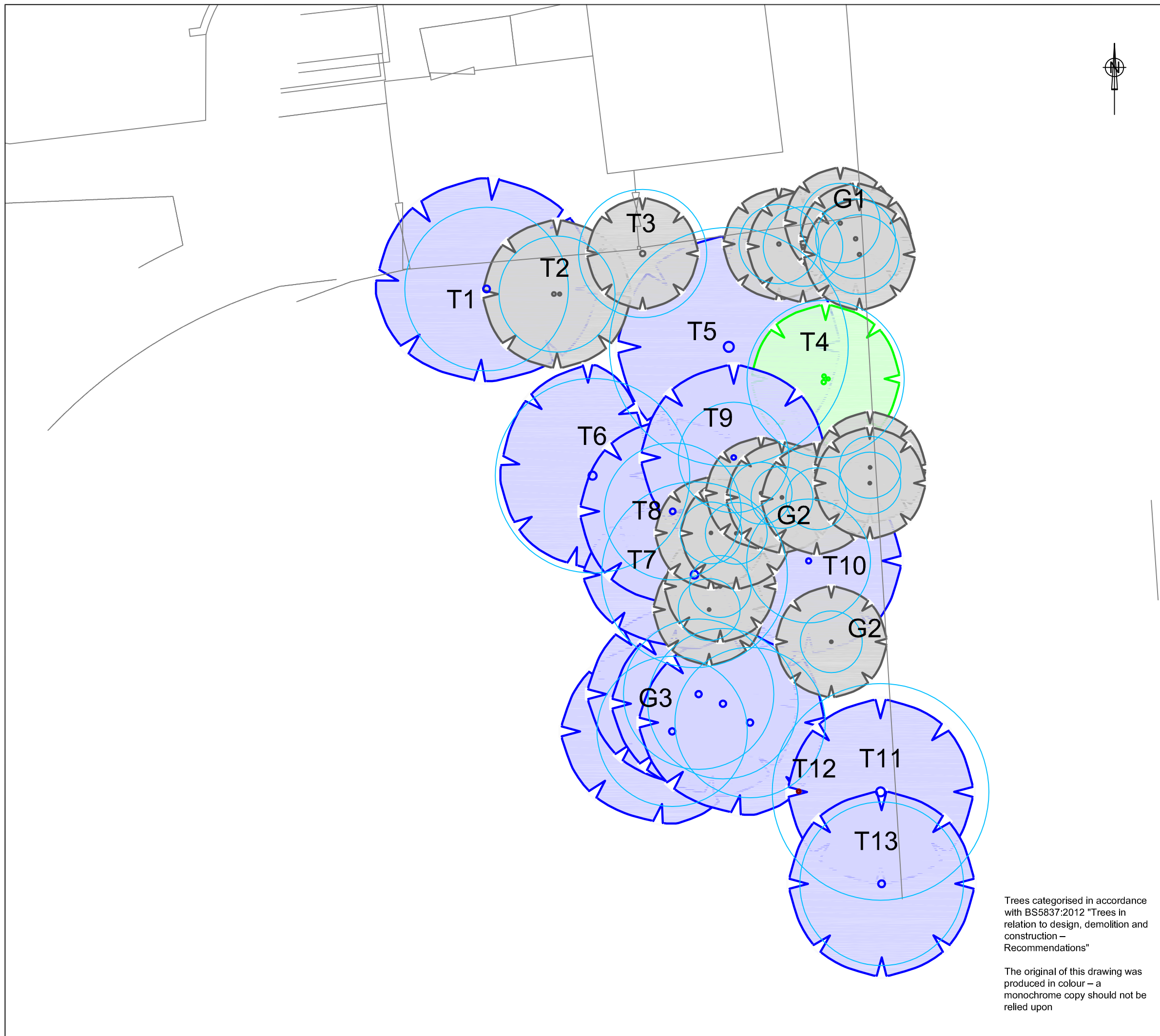


Tree protective fencing construction.

Location:

Fencing shall be positioned as far as possible on the perimeter of the Root Protection Area (RPA) to define a Construction Exclusion Zone and will be further identified by 'Tree Protection' warning signs (see image below).





REV	DATE	DESCRIPTION

LEGEND

-  Category U
-  Category A
Trees of high quality
-  Category B
Trees of moderate quality
-  Category C
Trees of low quality
-  RPA using formula in accordance with BS5837:2012

LOCATIONS ARE APPROXIMATE.

PROJECT
TOOTING BEC LIDO,
TOOTING BEC ROAD, LONDON

TITLE
TREE CONSTRAINTS

CLIENT
RICHMOND AND WANDSWORTH COUNCILS



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DATE 18/03/19
SCALE 1:200 @ A3

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P3288.1 . 001

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