

**12 PARKHILL ROAD,
LONDON**

**ARBORICULTURAL IMPACT
ASSESSMENT AND METHOD
STATEMENT**

A Report to: Lucy Read

Report No: RT-MME-129521-02

Date: April 2019



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REPORT VERIFICATION

This study has been undertaken in accordance with British Standard 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".

Report Version	Date	Completed by:	Checked by:	Approved by:
Final	05/04/2019	Dean Moore Dip Arb (Arboricultural Consultant),	Duncan Smith BSc (Hons) M.Arbor.A (Principal Arboricultural Consultant)	Dr Katy Read CEnv, MCIEEM, MCIWEM, C.WEM DipSM (Executive Director)

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees, groups and hedgerows on site and to inform a review of the conclusions and recommendations made.

It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be re-assessed by a suitably qualified and experienced arboriculturist.

NON-TECHNICAL SUMMARY

Middlemarch Environmental Ltd was commissioned to prepare a combined Arboricultural Impact Assessment and Method Statement for the proposed development at 12 Parkhill in London. It is understood that the site under consideration will be the subject of a planning application for development.

This report has been prepared with reference to a desk study and a field survey of the trees present on site undertaken in February 2019.

The desk study exercise identified that the Common Lime situated in the front garden is protected by a Tree Preservation Order (Reference 35H-T32) and the site is situated within Parkhill Conservation Area.

The original field survey was undertaken in February 2018 by Duncan Smith (Principal Arboricultural Consultant). The survey identified that the site contains several early-mature and mature trees and a single hedgerow which were found to be in relatively good condition.

At the time of the Arboricultural Survey (February 2019), The most significant tree recorded within the survey was the Common Lime located adjacent to Parkhill Road. This mature specimen was prominent in the local landscape and in a good condition, however, brick-built garden walls and a gate post located next to the stem of this tree were displaying structural defects, possibly resulting from lateral growth of the stem and basal epicormic growth.

In addition to the Common Lime, which was considered as high value, a number of Birch, Maple and fruit tree species were also noted to be in a good condition offering moderate retention value. These trees were typically less significant in the local landscape due to their location within the rear garden of the dwelling. Several trees exhibited pruning wounds and were in a poor structural condition, which has resulted in their limited future potential. As such these specimens were typically considered to be of a lower retention value.

To ensure the protection of trees selected for retention during the course of the proposed development, it is recommended that the guidance set out in Section 5 of this report is followed. and that, during development of the site, the retained trees are protected by the erection of tree protection barriers to the specification set out in BS5837:2012.

The Project Arboriculturist for the development is:

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1. INTRODUCTION

1.1 PROJECT BRIEF

Lucy Read commissioned Middlemarch Environmental Ltd to prepare a combined Arboricultural Impact Assessment and Method Statement in respect of the proposed development at 12 Parkhill Road in London.

The purpose of this report is to detail the impact that the proposed development will have upon the site's existing tree stock and set out recommendations for the subsequent mitigation or avoidance of impact. Section 5 of this report details the specific measures to be adopted to ensure the protection of retained trees during the proposed development.

The site contractor must ensure that they read and understand all of the information within Section 5 prior to commencement of any onsite works.

Middlemarch Environmental Ltd has previously prepared an Arboricultural Survey of this site for Lucy Read. The findings of this assessment are detailed in Report Number RT-MME-129521-01.

1.2 SITE DESCRIPTION

The site under consideration, hereinafter referred to as the study area, is a rectangular shaped parcel of land of approximately 0.07 ha in size which is located to the east of Parkhill Road in the London Borough of Camden at Ordnance Survey Grid Reference TQ 277 848.

The study area is located within a predominantly residential area to the north-west of Camden Town in London. The western site boundary is delineated by Parkhill Road whilst Maitland Park residential estate lies beyond the residential boundary to the east.

The study area includes a four-storey residential property and associated front and rear gardens. The rear garden includes a lawned area centrally, a patio immediately adjacent to the house and borders containing shrubs and mixed broadleaf trees.

The location of the trees and hedgerow surveyed can be found on Middlemarch Environmental Ltd Drawing Number C129521-01-01, within Section 6 of this report.

1.3 DEVELOPMENT PROPOSALS

The proposed development includes the demolition of the existing extension and the construction of a new extension with a new side passageway to access the rear garden from the driveway. The proposed development has been designed so that all of the existing trees are retained without significant impact through development.

1.4 DOCUMENTATION CONSIDERED

This assessment is based upon the information provided by the client in addition to information collected by Middlemarch Environmental Ltd during a survey of the site undertaken in February 2019 (RT-MME-129521-01). The documents and drawings considered are detailed within Table 1.1.

Author	Document	Drawing Number	Date
Lucy Read Architects	Proposed Lower Ground Floor	06_2010 Rev F	December 2018

Table 1.1: Documentation Considered

2. METHODOLOGY

2.1 DESK STUDY

Consultation with the Local Planning Authority was undertaken to identify whether the site is situated within a Conservation Area or if any of the trees present within or near the site are covered by Tree Preservation Orders (TPOs).

2.2 CONDITION STATUS

To determine the status of the trees within the site a full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

All trees have been assigned a unique reference number. Individual trees above 75 mm in diameter (at 1.5 m above ground level) have had their position plotted to a survey drawing. The trees were visually assessed and a schedule prepared listing: tree number, species, trunk diameter at 1.5 m above ground level (or in accordance with Annex C of BS5837:2012), tree height, crown spread (cardinal points), crown clearance (cardinal points), height of first branch and growth direction, age class and estimated remaining life expectancy in years. Measurements for tree height, first branch height, crown clearance and crown spread were taken to an accuracy of 0.5 m. Stem diameter measurements were recorded to the nearest 10 mm. Any specific observations or recommendations with regard to management were also noted. All these observations and measurements are summarised in Section 4.

Each tree was assessed and assigned to one of the following categories:

- Category A: Those trees of high quality and value with an estimated remaining life expectancy of at least 40 years.
- Category B: Those trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years.
- Category C: Those trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm.
- Category U: Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

- 1: Mainly arboricultural qualities
- 2: Mainly landscape qualities
- 3: Mainly cultural values, including conservation.

2.3 ROOT PROTECTION AREA (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the Category A, B and C trees. This is a minimum area around a tree which is deemed to contain sufficient roots and rooting volume to maintain the tree's viability. Protection of the roots and soil structure in this area should be treated as a priority.

These figures have been calculated utilising the formulas within Section 4.6 and Annex D of British Standard 5837:2012.

3. STATUTORY PROTECTION

3.1 TREE PRESERVATION ORDER AND CONSERVATION AREA DESIGNATIONS

Rav Curry (London Borough of Camden Council) confirmed by email on the 20th February 2019 that the mature Common Lime located in the front garden adjacent to Parkhill Road, T1, is subject to a Tree Preservation Order, Reference 35H-T32 (21/04/58).

An internet search using the online mapping provided by Camden Council (<http://gis.camden.gov.uk/geoserver/ConservationAreaExternal.html>) also confirms that the study area is situated within Parkhill Conservation Area.

Reference to the Multi Agency Geographical Information for the Countryside (MAGIC) website indicates that no ancient woodland sites have been recorded within a 15m radius of the survey area.

3.2 PROTECTED SPECIES

Bats

Mature trees often contain cavities, hollows, peeling bark or woodpecker holes which provide potential roosting locations for bats. Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2010 (Habitats Regulations 2010, as amended). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. Consequently, causing damage to a bat roost constitutes an offence.

Generally, should the presence of a bat roost be suspected whilst completing works on any trees on site then an appropriately licensed bat worker should be consulted for advice.

Birds

Trees and hedgerows offer potential habitat for nesting birds which are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties. This legislation makes it an offence to intentionally or recklessly damage or destroy an active bird nest or part thereof.

As the trees on, and adjacent, to the site provide potential habitat for nesting birds all tree work should ideally be completed outside the nesting bird season.

If this is not possible then the vegetation should be subject to a nesting bird inspection by a suitably experienced ecologist prior to commencement of works. If any active nests are identified then the vegetation, and a defined buffer zone, will need to remain in place until the young have naturally fledged.

4. ARBORICULTURAL IMPACT ASSESSMENT

4.1 INTRODUCTION

This section of the report details the potential impacts that the proposed development may have upon the site's tree stock. The assessment has been based upon the documents detailed in Table 1.1 with reference to the results of the Arboricultural Survey undertaken in February 2019 (RT-MME-129521-01).

The location of the trees can be found on Drawing Number C129521-01-01 in Section 6 and a schedule of the trees surveyed can be found within the Arboricultural Survey (RT-MME-129521-01).

4.2 IMPACTS FROM DEVELOPMENT LAYOUT

4.2.1 Tree Removal and Pruning

No trees are to be removed or pruned as part of the proposed construction work.

4.3 IMPACTS FROM DEMOLITION AND RELATED OPERATIONS

4.3.1 Building Demolition

The existing extension is to be demolished and replaced with a new building on a similar footprint of the existing building with the exception being the southern façade which is to be moved further northwards to allow a new passageway between the front and rear gardens. All nearby trees will be protected by Tree Protection Barriers as shown on the Tree Protection Plan, Drawing Number C129521-02-01, within Section 6 of this report.

4.3.2 Removal of Hard Surfaces

The existing patio to the rear of the property is to be lifted and extended. Nearby trees will be protected with Tree Protection Barriers as shown on the Tree Protection Plan, Drawing Number C129521-02-01, within Section 6 of this report.

4.3.3 Removal of Services

There are no areas on site where the removal of existing underground services is likely to require works within the RPAs of retained trees.

4.4 DIRECT IMPACTS FROM CONSTRUCTION

4.4.1 Works within RPAs

The proposed patio area to the rear of the property will be widened through the addition of a new dwarf retaining wall which will marginally extend into the Root Protection Area (RPA) of T3. The works required in this location are not expected to result in significant impacts upon the tree, subject to the adoption of appropriate working practices as detailed in Section 5.

4.4.2 Works within Canopy Spreads

The proposed patio area will require works to be located beneath the canopy of T3 which currently provides clearance of 3.5 m above ground level and as such no tree pruning works to lift the existing canopy are foreseen.

4.4.3 Working Space

There are no areas on site where working space for the construction of the new building or patio will need to be provided within the RPAs of retained trees.

4.5 IMPACTS FROM CONSTRUCTION RELATED OPERATIONS

4.5.1 Site Access

It is understood that construction access to the site will be provided via the existing entrance driveway off Parkhill Road. It will be necessary to ensure retained trees adjacent to the access route are protected from potential impact damage by the installation of tree protection barriers prior to the commencement of the development.

4.5.2 Delivery and Storage of Materials

Material deliveries to the site will utilise the existing driveway. Further to the main storage area there will be a minor storage area to the rear of the property, as shown on the Tree Protection Plan Drawing Number C129521-02-01. Retained trees will be protected from harm by the prior installation of tree protection barriers and the completion of access facilitation pruning works.

4.6 POST-DEVELOPMENT IMPACTS

4.6.1 Shading

The orientation of the site is such that significant shading of primary living spaces from retained trees is generally considered unlikely to occur. As such, conflicts between the proposed development and retained trees, resulting in future pressure for tree removal, are not anticipated.

4.6.2 Privacy and Screening

The proposed development has been designed so that all of the trees along its boundaries are retained to provide privacy and screening.

4.6.3 Seasonal Nuisance

The nature of the proposed development is such that significant seasonal nuisance due to leaf litter is generally considered unlikely to occur. Regular cleaning and maintenance of the roof and skylight of the extension however will be required due to the nearby trees, but this should be considered routine. As such, significant conflicts between retained trees and the proposed development, resulting in future pressure for tree removal, are not anticipated.

4.7 SUMMARY OF IMPACTS

Overall the proposed development will allow retention and incorporation of all of the existing tree stock and only minor works within the Root Protection Area (RPA) of tree number T3 will be required. The proposed work will only encroach by a small amount and as such, these works are unlikely to have a detrimental impact on this tree.

Additionally, the proposed works are unlikely to impact significantly upon the long-term health of retained trees. Whilst some works are to be undertaken within the RPAs of retained trees the nature of those works are such that they can be completed without impacting significantly upon the trees subject to the adoption of appropriate working practices.

5. ARBORICULTURAL METHOD STATEMENT

5.1 INTRODUCTION

The following sections of this report detail the specific measures to be adopted to ensure the protection of retained trees during the proposed development.

The site contractor must ensure that they read and understand all of the following sections prior to commencement of any onsite works.

5.2 CONSTRUCTION EXCLUSION ZONE

The Construction Exclusion Zone is the area considered necessary to ensure that the tree roots and canopy are protected from damage during the construction processes. The extent of the exclusion zone is based upon guidance within BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' in particular the diameter of the stem of each tree (when measured at a height of 1.5m from ground level) in combination with the canopy spread of the tree is considered.

The exclusion zones are to be defined on site throughout the course of the development by the use of protective barriers as described below.

The Construction Exclusion Zones are to be afforded protection at all times. No works that cause compaction of the soil or severance of tree roots, except where undertaken in accordance with the guidance provided within this document, will be undertaken within any exclusion zone.

5.3 PROTECTIVE BARRIERS

The protective barriers will be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site or the stripping of soil commences. Signs will be installed on the protective barriers to inform site staff of responsibilities and these will include the headings listed in Appendix 1.

The locations of the protective barriers to be installed are shown on the Tree Protection Plan; Drawing Number C129521-02-01, located within Section 6 of this report.

The protective barriers are to be constructed in accordance with the specification detailed in BS5837:2012 (Figure 2; Appendix 2). Any variation to the specification of the protective barrier will be agreed with the Local Planning Authority Arboricultural Officer.

The Construction Contractor will inform the Project Arboriculturist when the protective barriers have been installed and the Project Arboriculturist will attend site to confirm that they have been installed in accordance with the Tree Protection Plan. The Local Planning Authority will be notified in writing once this inspection has been undertaken.

The barriers will remain in place until completion of the development and then they will only be removed with the consent of the Local Planning Authority to permit completion of the scheme.

Other than works detailed within this method statement or approved in writing by the Local Planning Authority no works, including storage or dumping of materials, shall take place within the Construction Exclusion Zone as defined by the protective barrier.

5.4 GROUND PROTECTION

There are no areas on site where the installation of ground protection measures is considered necessary within the RPAs of retained trees.

5.5 PRECAUTIONS IN RESPECT OF TEMPORARY WORKS

It is not foreseen that access will be needed in the exclusion as defined by Tree Protection Barriers, illustrated on the Tree Protection Plan Drawing Number C129521-02-01 as the existing driveway blocks will provide sufficient protection to the underlying roots.

If further temporary access is required to the exclusion zone or the RPA of a retained tree then such access will only be gained after consultation with Project Arboriculturist and/or the Local Planning Authority (see Section 5.17 for contact details).

5.6 ACCESS DETAILS

Pedestrians

It is understood that pedestrian access to the site during construction will utilise the existing entrance driveway.

5.7 CONTRACTORS CAR PARKING

No car parking will be provided on site or within the Construction Exclusion Zone.

5.8 STORAGE SPACE

Indicative locations for site storage areas within the site are shown on the Tree Protection Plan; Drawing Number C129521-02-01. The site storage areas shall be located outside of the Construction Exclusion Zones where existing surfacing is not considered sufficient to provide protection and their establishment must not cause harm to retained trees.

5.9 INFRASTRUCTURE REQUIREMENTS

Examination of the proposed plans and details of existing underground services shows that the underground drainage connects into the main inspection chamber but the routes in the extension/side passage area will be new. These new underground services will be located within the existing extension footprint and outside of the Construction Exclusion Zones and as such no impact upon tree roots will occur.

If any underground services are to be installed within the RPA of a retained tree, then the Project Arboriculturist will be consulted (see Section 5.17 for contact details). The methodology for the installation, maintenance or removal of any services within a RPA will be in accordance with NJUG Volume 4 'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees'. This will include hand dug "broken" trenches to ensure that maximum protection is given to tree roots.

5.11 DEMOLITION, HARD SURFACE REMOVAL & REMOVAL OF STRUCTURES

To minimise the potential for harm to occur to trees as a result of the demolition works all machinery involved in the demolition or removal of the existing extension will use a 'top-down, pull-back' demolition methodology with the buildings being demolished, so far as is possible, within their own footprint.

To control the dust that may arise from demolition activities, a water dust suppression unit, which emits a fine water spray, may be utilised during the works. If used, the dust suppression unit will be sited outside of the Construction Exclusion Zone.

5.12 NEW HARD SURFACES/BUILDINGS

The new patio area will require works within the RPA of T3. The works shall be completed in accordance with the following methodology:

1. The location of the patio wall shall be set-out in by the Project Manager.

2. Once the position of the patio wall has been marked out and tree protection fencing erected the works can commence.
3. The wall foundations are to be dug by hand.
4. Once the foundations are at the desired depth the trench within the RPA of T3 will be lined with a non-permeable membrane and then filled with concrete.

5.13 CONSTRUCTION OF STRUCTURES WITHIN THE RPA/CONSTRUCTION EXCLUSION ZONE

Construction of the patio area will require works to be marginally located within the RPA of tree number T3. No aspects of the proposed development are expected to require the construction of new structures within the Construction Exclusion Zone, or within the RPA of any retained trees.

5.14 SOFT LANDSCAPING

Any soft landscaping within the exclusion zone will be undertaken by hand. A 500 mm radius from any tree stem will remain uncovered to allow penetration of water and air into the soil.

5.15 ON SITE MONITORING REGIME & CONTACT DETAILS

All operations will be monitored by the main contractor who will ensure that all works within this document are followed (this will be built into the contract specification).

If any issues arise in relation to the retained trees the Project Arboriculturist will be contacted for advice. The Project Arboriculturist for the development is:

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Induction and Personnel Awareness

Details of tree protection and methods of working around trees will be included within site inductions to new members of site staff.

A copy of this document and the related Tree Protection Plan will be kept on site and accessible to staff at all times.

A pre-commencement site meeting will be arranged between the contractor, Project Arboriculturist and any other interested party. During this meeting all outstanding items will be finalised and these will be communicated to the Local Planning Authority.

5.16 USE OF SUBCONTRACTORS

The main contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

5.17 CONTINGENCY PLAN FOR SOIL CONTAMINATION

Water will be readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact the Project Arboriculturist for advice.

5.18 RESPONSIBILITIES

It will be the responsibility of the main contractor to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site.

The main contractor will be responsible for contacting the Local Planning Authority should any issues be raised related to the trees on site.

If pruning works to trees are required at any time then permission must be sought from the Local Planning Authority first and then the works must be carried out in accordance with BS3998:2010 'Tree Work – Recommendations'.

The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective barriers will remain in position until completion of all construction works on the site.

The barriers and signs will be maintained in position at all times and checked on a regular basis by a designated person on site.

5.19 GENERAL PRECAUTIONS

No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 m of the trunk of any tree that is to be retained. No fires will be lit within 20 m of the trunk of any tree that is to be retained.

6. DRAWINGS

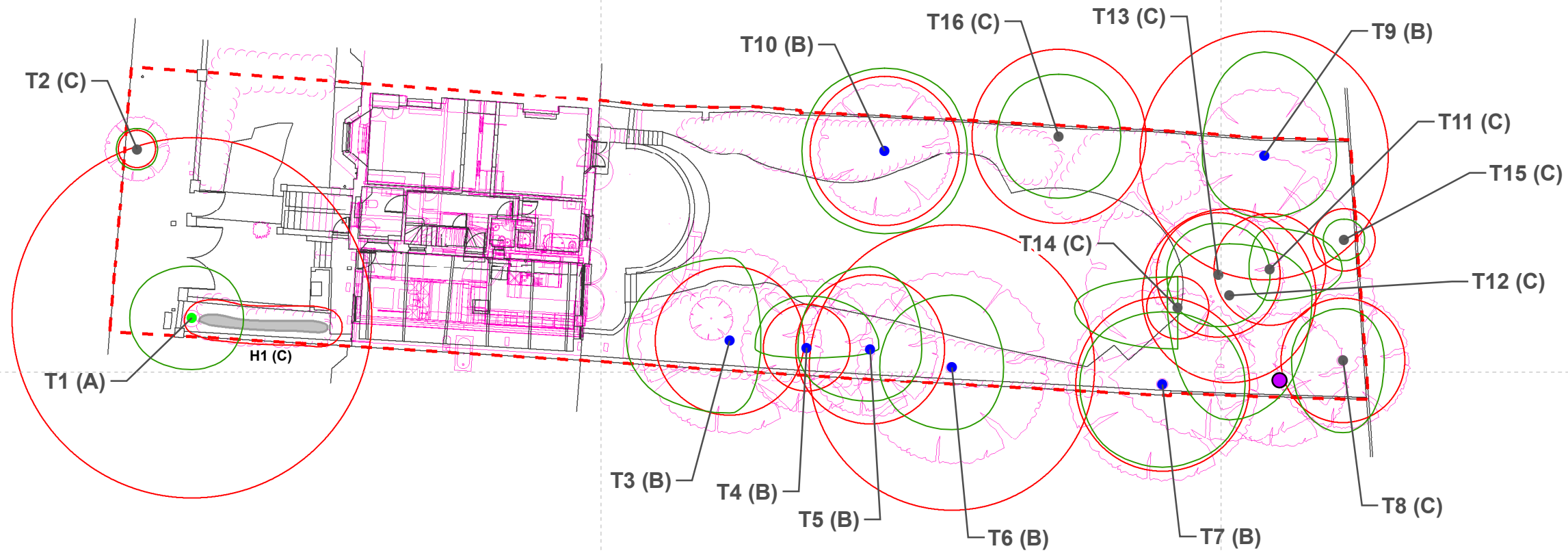
Drawing Number C129521-01-01 – Tree Constraints Plan

Drawing Number C129521-02-01 – Tree Protection Plan

Legend

- Category A tree
- Category B tree
- Category C tree
- Dead tree
- Category C group
- Current canopy extent
- Root Protection Area
- Site boundary
- Existing CAD
- Proposed CAD

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



Project		12 Parkhill Road	
Drawing		Tree Constraints Plan - Overlay	
Client		Sarita Kraljevic	
Drawing Number	C129521-01-01-overlay	Revision	00
Scale @ A3	1:250	Date	April 2019
Approved By	DS	Drawn By	CD



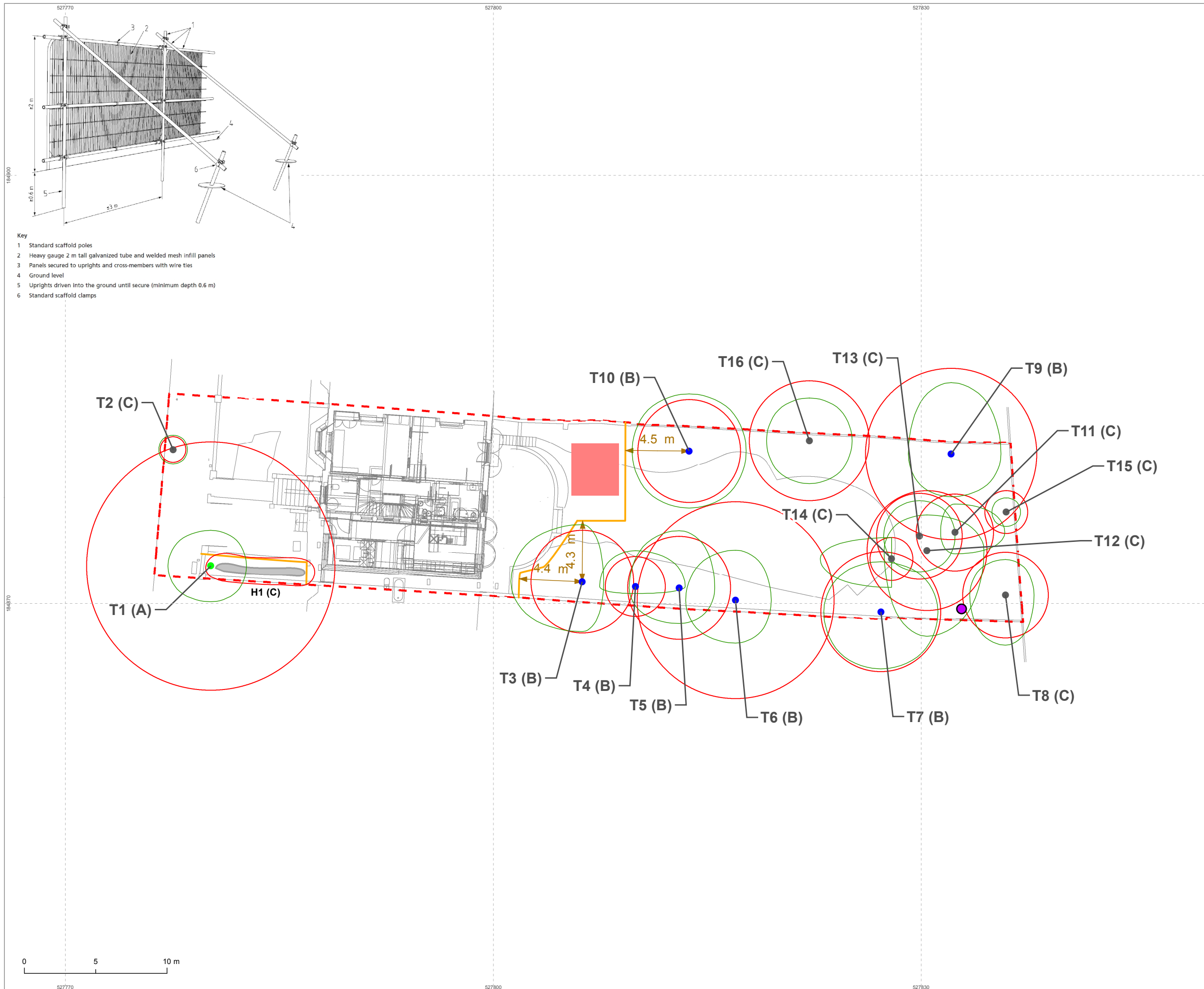
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Legend

- Category A tree
- Category B tree
- Category C tree
- Dead tree
- Category C group
- Current canopy extent
- Root Protection Area
- Tree protection barrier subject to BS 5837:2012
- Material storage
- Site boundary
- Proposed plan

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



- Key**
- 1 Standard scaffold poles
 - 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
 - 3 Panels secured to uprights and cross-members with wire ties
 - 4 Ground level
 - 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
 - 6 Standard scaffold clamps

Project		12 Parkhill Road	
Drawing		Tree Protection Plan	
Client		Sarita Kraljevic	
Drawing Number	C129521-02-01	Revision	00
Scale @ A3	1:250	Date	April 2019
Approved By	DS	Drawn By	GT

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APPENDICES

APPENDIX 1: Headings for Protective Barrier Notices and Example Protection Sign

APPENDIX 2: Details of Protective Barrier

APPENDIX 1

Headings for Protective Barrier Notices

Root Protection Area (RPA) Model Notice

DON'T excavate within this area

DON'T use any form of mechanical plant with this area

DON'T store materials, plant or equipment within this area

DON'T move plant or vehicles within this area

DO contact the Local Authority Arboricultural Officer or owner of the tree if excavation within this area is unavoidable

DO protect any exposed roots uncovered within this area with dry sacking

DO backfill with a suitable inert granular and top soil material mix as soon as possible on completion of work

ANY WORK in this area requires a permit from the Local Authority Arboricultural Officer



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION**

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

APPENDIX 2

Details of Protective Barrier

Figure 2 Default specification for protective barrier

