



Connick Tree Consultants

TREE DEVELOPMENT REPORT

(BS5837:2012 ARBORICULTURAL IMPACT ASSESSMENT)

OUR REFERENCE	181716
CLIENT	Ms. Kulbinder Dosanjih
PLANNING AUTHORITY	London Borough of Richmond Upon Thames
SITE	2a Cole Park Road, Twickenham. TW1 1HW
SURVEY & REPORT BY	Mr Richard Tilling
DATE	6 th April 2021

CONNICK TREE CONSULTANTS
NEW POND FARM, WOODHATCH ROAD, REIGATE, SURREY RH2 7QH
01737 859754
www.connicktreecare.co.uk



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1 INTRODUCTION

1.1 INSTRUCTION

Connick Tree Consultants were instructed by Ms Kulbinder Dosanjih to produce an Arboricultural Impact Assessment of the proposed development works at 2a Cole Park Road, Twickenham, for alterations to the property including a replacement side extension and rear extension and replacement of the outbuilding shed with an outbuilding shed and gym in accordance with BS5837: 2012 Trees in relation to design, demolition and construction - Recommendations.

1.2 SCOPE OF REPORT

This Arboricultural Impact Assessment has been based on the tree survey data obtained during our site visit on the 5th November 2020 and root investigation work undertaken on the 26th March 2021. Details of all trees within and adjacent to the site can be found in the tree Survey Schedule attached as Appendix I. Their locations are shown within the Tree Constraints Plan attached as Appendix II.

The tree information recorded relates to the tree condition, age, safe useful life expectancy, location, canopy spread, canopy height and tree height and direction of first significant branch as well as any work that is required. Where trees are located within neighbouring third-party properties, the assessment in relation to their condition has been made upon the visible parts of the tree and all measurements estimated.

No information in regard to soil assessment was provided and no investigation was taken on site.

No topographical survey was provided. Any features present have been plotted by hand, no liability is accepted for the accuracy of these drawings, and they should not be scaled from.

The report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only. Trees are living organisms whose health and condition can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only.

1.3 DOCUMENTATION

I have been provided with the following information in regard to the development:

- Existing and Proposed Plans: 2A_OB_01
- Existing Elevations: 2A-02
- Existing Plans: 2A_01
- Proposed Elevations and Sections: 2A_06
- Proposed Elevations: 2A_05
- Proposed Plans: 24_04
- Existing Topographical: 39149_01_P rev A
- Existing Elevations and Sections: 39149_03_ES rev A



1.4 QUALIFICATIONS AND EXPERIENCE

I have based this report on my site observations and investigation, and I have come to conclusions in the light of my qualifications gained and experience obtained whilst working in the field of arboriculture. I have qualifications and practical experience in arboriculture and list the details of this in Appendix VI.

1.5 LIMITATIONS AND USE OF COPYRIGHT

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means without our written permission. Its contents and format are for the exclusive use of the person, firm or company to whom it is addressed (and that of any other person, firm or company whose interest was disclosed to us prior to its preparation). It may not be sold, lent out or divulged to any third party not directly involved in this situation without the written consent of Connick Tree Care.

DISCLAIMER: I have no connection with any of the parties involved in this situation that could influence the opinions expressed in this report.

2 SITE VISIT AND OBSERVATIONS

2.1 SITE VISITS

The initial site visit was undertaken on the 5th November 2020 by the author of this report; Mr R. Tilling who is a qualified arboriculturist. The weather at the time of inspections was low cloud with fair visibility.

An additional site visit was undertaken on the 26th March 2021 to undertake further root investigations.

2.2 GENERAL OBSERVATIONS AND BACKGROUND

The site is located on Cole Park Road a late 1940 development of properties close to Twickenham Town centre. The River Crane runs behind the properties to the south in a man-made channel with concrete revetments.

The trees which are the subject of this report are located in the grounds of the property to the rear and side. A further mature street tree is located to the frontage.

The site was found to be level with the house located adjacent to the pavement with little boundary definition. The property has access to the rear where a patio area with a small lawn is located to the west side. The rear boundary is narrow with a fence defining the rear boundary.

The surrounding area is Residential with the main rail line running east-west on the far side of the River Crane.

The proposed development is for alterations to the property including a replacement side extension and rear extension and replacement of the outbuilding shed with an outbuilding shed and gym.

The locations of all trees included in the survey are shown within the Tree Constraints Plan details attached as Appendix II.

2.3 SOIL TYPE

No on-site soil analysis was undertaken. Reference has been made to the British Geological Survey maps for an indicative guide to underlying soil characteristics. The online BGS 1:50,000 scale map for the area indicated the property is located on London Clay Formation- Clay and Silt with superficial deposits of Kempton Park Gravel Member- Sand and Gravel.

London Clay formation is a plastic clay subsoil which is susceptible to undergoing volumetric change in relation to changes in soil moisture and is described within the BRE Digest 240 Low-rise buildings on shrinkable clay soils: part 1 as having a high to very high volumetric change potential. As such it is recommended that a structural engineer is consulted to ensure the property is constructed in such a manner to avoid the risk of indirect damage through subsidence or heave.

3 TREE SURVEY

In total six arboricultural features were recorded during the survey process, within or adjacent to the site. This consists of three individual trees. Attached as Appendix I is a schedule summarising the information obtained within the survey process.

The trees surveyed have been assessed and categorised in accordance with the Cascade chart in section 4 of the BS5837:2012. This has identified that there are the following within or adjacent to the site:

1 individual tree was identified as 'A' grade of a high quality and value, which is worthy of retention and a high level of protection. Trees of 'A' grade should be retained and where necessary designs altered to accommodate them.

5 individual trees were identified as 'C' grade of low quality and value. Trees of 'C' grade should only be retained where they do not pose a constraint on the development. Where retained they will require tree protection.

The location of the trees is shown on the Tree Constraints Plan attached as Appendix II. All trees surveyed have been given a unique identification number and are identified on the schedules and plans by a 'T' prefix for individual trees.

3.1 TREES SUBJECT TO STATUTORY CONTROLS

A desktop assessment via the London Borough of Richmond Upon Thames council's planning portal does not list trees with Tree Preservation Orders, the website identified that the property is situated within the Cole Park Road Conservation area.

4 ROOT INVESTIGATIONS

Root investigations were undertaken on the 26th March 2021 via the use of an air pick which uses pressurised air to break up the soil within the excavation. Small sections are systematically broken up, the with the use of trowels and post hole spades the loosened soil is removed.

The depth of the excavations was terminated at approximately 1000 mm below ground level, this was based on the depths needed to construct the proposed single storey shed and gym and side extension.

In total two trial trenches were excavated. These excavations confirmed the presence of roots within the rear garden. The roots originate from tree T6. The location of the trial trenches is indicated in the root investigations plan, along with photographs of the findings attached as Appendix III.

In total four roots were identified within Trial trench 1, these consist of:

- R1 - 30mm in diameter, found at depth of 200mm and growing across the pit north to south
- R2 - 15mm in diameter root bundle, found at a depth of 180mm and growing across the pit north to south.
- R3 - 10mm in diameter, found at a depth of 400mm, which grows north to south rising to 280mm.

The second trench was excavated, closer to the front boundary wall, this was located 500mm from the base of tree T6. Within this trial trench roots were identified and consisted of:

- R4 – 10mm in diameter, found at depths from 150 to 450mm in depth, and growing east to west with some roots descending vertically to a depth of 600mm

5 TREE CONSTRAINTS

5.1 ROOT PROTECTION AREA

In order to avoid damage to the tree roots or rooting environment, a minimum area in m² should be left undisturbed around each retained tree (category A, B and C trees).

The root protection area's (RPA's) of the trees recorded within the survey are shown in the Tree Constraints Plan (Appendix II).

The root protection area has been calculated using the formula specified within section 4.6 of the BS5837:2012 standard and should initially be plotted as a circle centred on the base of the stem.

The RPA can be modified where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically. Any deviation in the RPA from the original circular plot should reflect soundly based arboricultural assessment of potential root disturbance and take into account the following factors, whilst still providing adequate protection for the root system.

- The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g., the presence of roads, structures and underground services).
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

The calculated RPA should be capped at 707m², which is equivalent to a circle with a radius of 15m or a square with approximately 26m sides (BS 5837:2012 Trees in relation to design, demolition and construction).

The RPA of tree T1 has not been amended although it is likely that rooting constraints exist due to the surrounding infrastructure and underground services.

5.2 CONSTRUCTION EXCLUSION ZONE

The Construction Exclusion Zone (CEZ) required by the current edition (2012) of BS 5837 Trees in Relation to Design, Demolition and Construction relates to the stem diameter of each tree when measured at a height of 1.5m from ground level. The CEZs are to be afforded protection at all times and will be protected by a combination of fencing and ground protection measures.

5.3 ABOVE GROUND CONSTRAINTS

The current height and canopy spread of the trees is an important factor which needs to be considered when deciding the layout of a proposed development. The shading of trees, and/or their size can cause anxiety to residents, leading to pressure for pruning or removal. However, as the proposed development within this site is to re-configure and replace existing shed and side extension it is considered that any shading that may affect the new building and garden will not be greater than that already present and should not be considered as a constraint.



6 ARBORICULTURAL IMPACT ASSESSMENT

The following Arboricultural Impact Assessment has been made in relation to the proposed development details provided by our client. This is for alterations to the property including a replacement side extension and rear extension and replacement of the outbuilding shed with an outbuilding shed and gym an approximate location of the foot print of the proposed development has been included within the attached Arboricultural Impact Plan.

6.1 SIGNIFICANT TREES

The survey identified that there is an individual 'A' grade tree which is of high quality and value adjacent to the site.

The category 'A' tree is identified as T1 which is a mature London Plane, located within the public footway to the front of the property. Full details of this and other trees can be found within the attached Tree Survey Schedule as Appendix I.

6.2 TREE LOSS

Consideration has been given to retaining all the trees. However, ultimately their removal is dependent on their condition and proximity to the development. This report has identified that one tree requires removal to facilitate the development. This tree has been identified as T6 a Haggerston Grey Cypress growing in a restricted area within the side garden of 2a Cole Park Road.

The removal of tree T6 along with trees T2, T3 and T4 have all been previously agree under section 211 noticed referenced 21/T0211/TCA.

6.3 IDENTIFIED IMPACTS

The survey process and the Arboricultural Impact Plan (Appendix IV) has indicated the extent of the theoretical Root Protection Areas (RPA) and crown spreads of the surveyed trees in relation to the development and identifies the potential impacts resulting from the proposed development. The details of the impacts caused by each construction stage is identified within Table 1 below:

Table 1: Identifying impacts.

Tree No.	Total RPA m ²	Development Section	Impact of proposed development.
T1	452.4	Excavations required to form side extension and Gym/shed foundations	The excavations required to form the side extension and Gym/ shed foundations will encroach upon 18.41 m ² of the total RPA, equating to approximately 4 %.

6.4 TREE PROTECTION MEASURES

All trees to be retained should be protected prior to the undertaking of any construction works via the erection of protective barriers to form a construction exclusion zone (CEZ). Due to the tree location, rooting area and space within the site the CEZ will be formed using temporary ground protection. However, the trunk of tree T1 the category 'A' London Plane will also require protection from direct contact.

The necessary protection measures are identified within the draft Tree Protection Plan attached as Appendix V.

The barrier fencing for tree T1 will be formed using sheet plywood to form a box around the tree. This will be self-supporting as no posts are to be placed in the ground due to the presence of roots from tree T1.

All fencing will need to be erected prior to any works commencing and will remain intact until all works are completed on site. The protected area must be regarded as sacrosanct and should not be removed or altered without prior recommendation by the project arboriculturist.

6.5 TEMPORARY GROUND PROTECTION

The temporary ground protection is to be constructed using proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g., 150mm depth woodchip), laid on a geotextile membrane. This method is suitable for pedestrian-operated plant up to a gross weight of 2-ton gross. If machinery greater than this is to be used, then a specific method will need to be utilised. This is likely to be formed using multiple layers of a three-dimensional cellular confinement system.

7 SUMMARY

On completion of the site survey, root investigations and report it is concluded that the proposed development will have a minor impact upon two trees within and adjacent to the site. These trees are as follows:

- T6 a category 'C', Leyland Cypress (*X Cupressocyparis leylandii* 'Haggerston Grey') which will require removal as it is likely to cause direct damage to built structures in the future and early removal is recommended.
- T1 a mature London Plane (*Platanus x hispanica*) tree which is managed as a high pollard/ heavy reduction by the local council and located within the adjacent public footway in Cole Park Road and can be retained, however the development will encroach upon 4% of its total RPA.

The RPA of T1 has not been adjusted to take into consideration the existing rooting constraints existing on site without further investigation it is impossible to determine the areas where better rooting environments exist outside of the plotted RPA. The root investigations did not find any significant roots within the trial trenches that may have come from the adjacent Plane tree and therefore offered no evidence to the contrary.

The excavated trial trenches found roots from T6, which is to be removed, no further roots were found within the trenches. The soil was found to be of a dark sandy loam within the upper 200 mm, with sand, gravel and some sandy clay present. Throughout the trenches old tarmac, brick debris, glass and old clay pipe was found, indicating the soil has been built up over the years.

Desk top investigations into the surrounding area has highlighted the property to have been built within the garden of one of the original houses within the street. The property at 2a Cole Park Road was built post 1970 when the Plane trees would have already been established within the street scene. The construction process may have impacted on the rooting environment and restricted root spread.

To facilitate the development of the side extension and Gym/shed it is believed that foundations can be excavated by hand to a depth of 100mm, the same as the trial trenches, which found no significant roots. The foundations will also overlap the existing shed foundations and the existing downstairs shower room that already impact on the rooting environment of T1.

The advice given above is a summary of the required precautions to ensure that the proposed development can be constructed with a minimal impact to all retained trees. The exact methods of construction required in and adjacent to the RPA of retained trees and a final Tree Protection Plan should be addressed within a separate Arboricultural Method Statement.

8 GENERAL PRECAUTIONS

8.1 SITE FACILITIES

The position of the site office, compound, toilets and storage space will be sited outside of the RPA of any retained trees or within existing hard standing. Any re-siting of these during the course of the proposed development will need to be approved in writing by the Local Authority Tree Officer.

8.2 STORAGE SPACE

There will be no spoil or construction material stored within the protected sections of the RPA of the retained trees or shrubs on the site. Where possible all storage should be contained within pre-existing hard surfaces. Possible locations have been identified within the Tree Retention and Protection Plan.

8.3 PERIMETER FENCING

Works to erect perimeter fencing can have a negative impact upon retained trees. To ensure all retained trees are not impacted it is essential that all fence post holes are formed by hand and away from the base of trees. If roots are identified the hole should be relocated.

8.4 HAZARDOUS MATERIALS

No mixing or storage of materials will take place up a slope where they may leak into a CEZ.

No hazardous materials such as fuels, oils or cement will be stored within the storage area in the rear garden.

Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of materials, it is essential that any slope of the ground does not allow contaminates to run towards a tree root protection area.

8.5 TREE SURGERY WORKS

All tree works considered necessary for health and safety reasons or to facilitate the development will be undertaken in accordance with British Standard 3998 (2010) Recommendations for Tree Works.

All works required are outlined within the Tree Survey Schedule.

9 SITE PHOTOGRAPHS

View from Cole Park Road



View of rear garden looking towards river



View of rear garden looking towards Cole Park Road



View of hardstanding with T1 to lower left of image

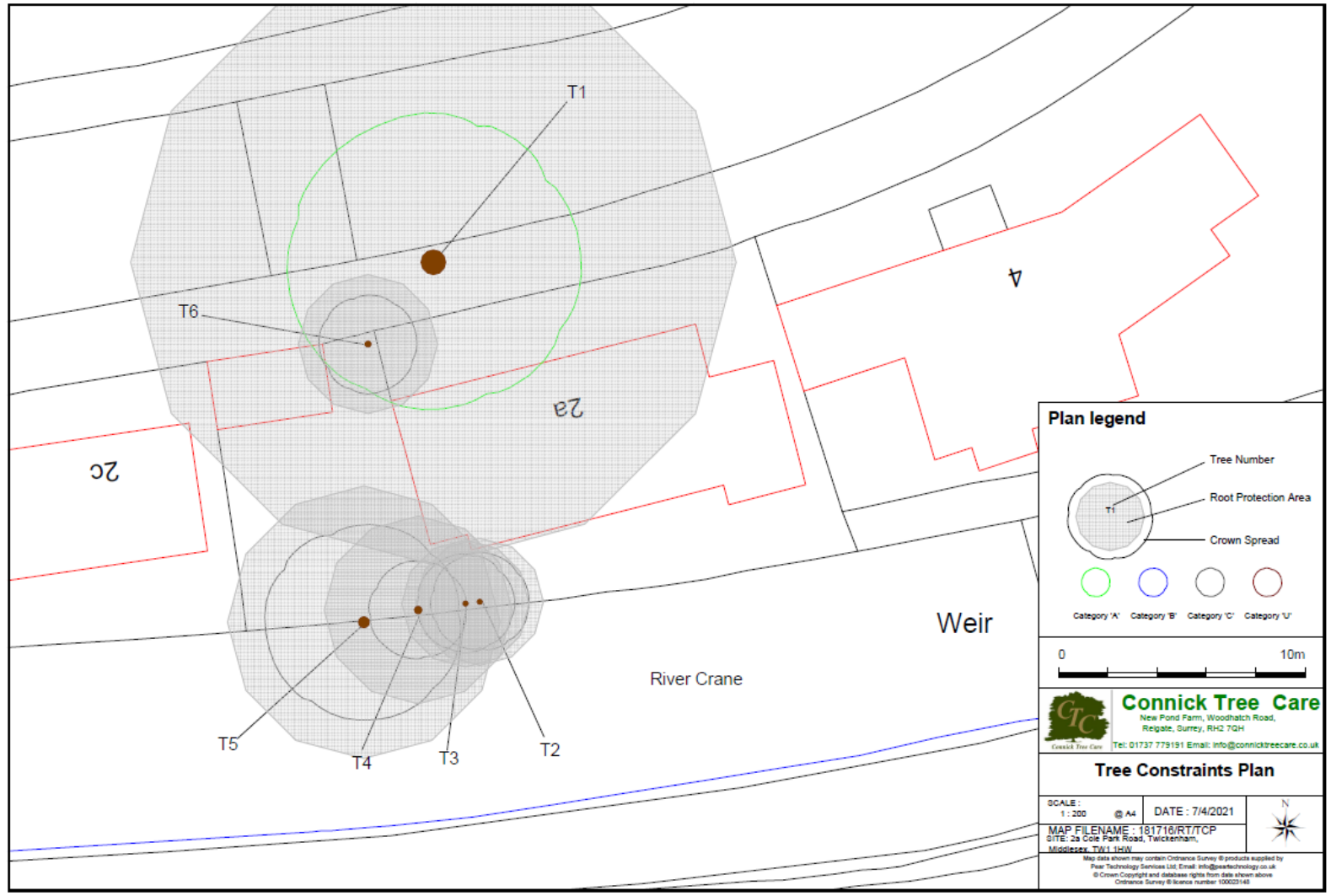




APPENDIX I TREE SURVEY SCHEDULE

Tree ID	Common Name	Age Class	Height (m)	Stem Diameter (mm)	Overall Structural Condition	Overall Physiological Condition	Root Protection Area (Radius m/ Area m ²)	Comment	Life Expectancy	Category
T1	London Plane (<i>Platanus x hispanica</i>)	2	16	1000	Good	Good	12 452.4	Crown break from 5.5m in height above ground level, tree was not reduced in line with other trees in the street and now has 6m regrowth compared to 2m on neighbouring trees	Over 40 yrs.	A
T2	Leyland Cypress (<i>X Cupressocyparis leylandii</i>)	1	3	210	Poor	Fair	2.52 20	Crown has been removed leaving stem with asymmetric regrowth. Growing adjacent to river.	20 to 40 yrs.	C
T3	Leyland Cypress (<i>X Cupressocyparis leylandii</i>)	1	3	210	Poor	Fair	2.52 20	Crown has been removed leaving stem with asymmetric regrowth. Growing adjacent to river.	20 to 40 yrs.	C
T4	Flowering Cherry (<i>Prunus spp.</i>)	1	6	310	Fair	Good	3.72 43.5	Crown has been reduced in the past with 3m regrowth evident	20 to 40 yrs.	C
T5	Weeping Willow (<i>Salix chrysocoma</i>)	1	7	450	Fair	Good	5.4 91.6	Leaning over river with restricted rooting environment	20 to 40 yrs.	C
T6	Leyland Cypress (<i>X Cupressocyparis leylandii</i> 'Haggerston Grey')	1	7	230	Fair	Good	2.76 23.9	Growing close to front boundary wall, bike storage built around tree stem restricting visual inspection	20 to 40 yrs.	C

APPENDIX II TREE CONSTRAINTS PLAN



APPENDIX III ROOT INVESTIGATION LOCATIONS AND PHOTOGRAPHS

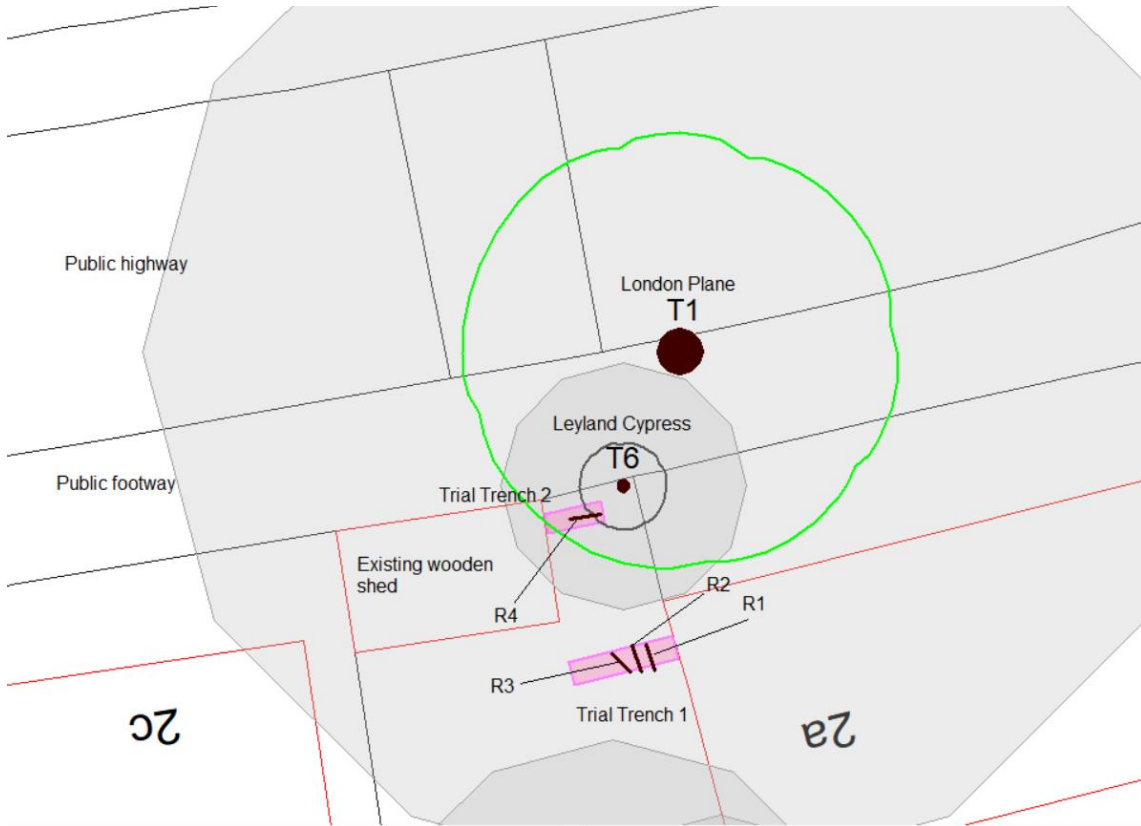


Figure 1: Showing location of trail trenches and roots found

Fig 1 Trial trench 1



Fig 2 Trial trench 1 with back gate to top left of image



Fig 3. Trial trench 2 by front wall, shed to left of image

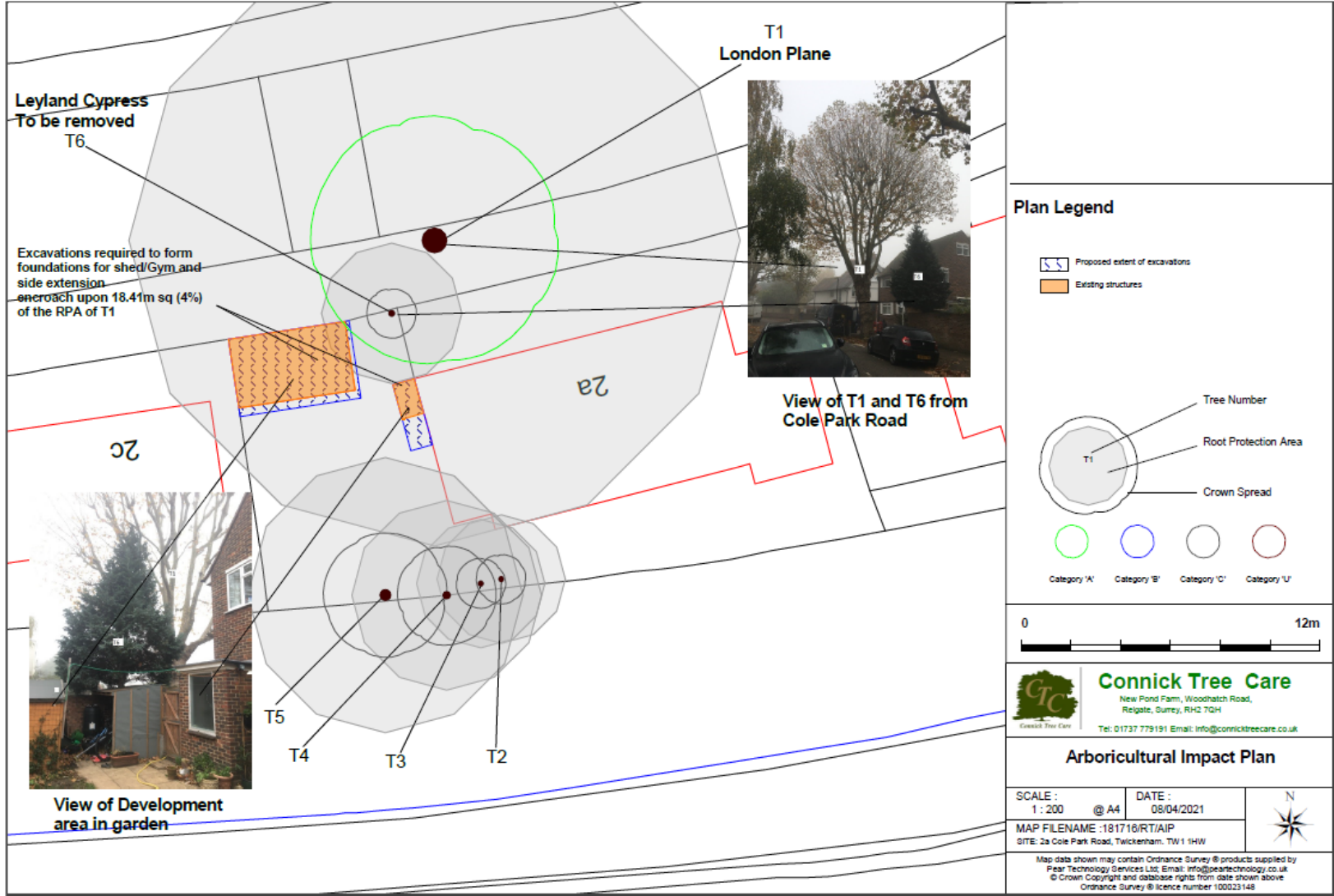


Fig 4. Trial trench 2 with T6 to lower right of image



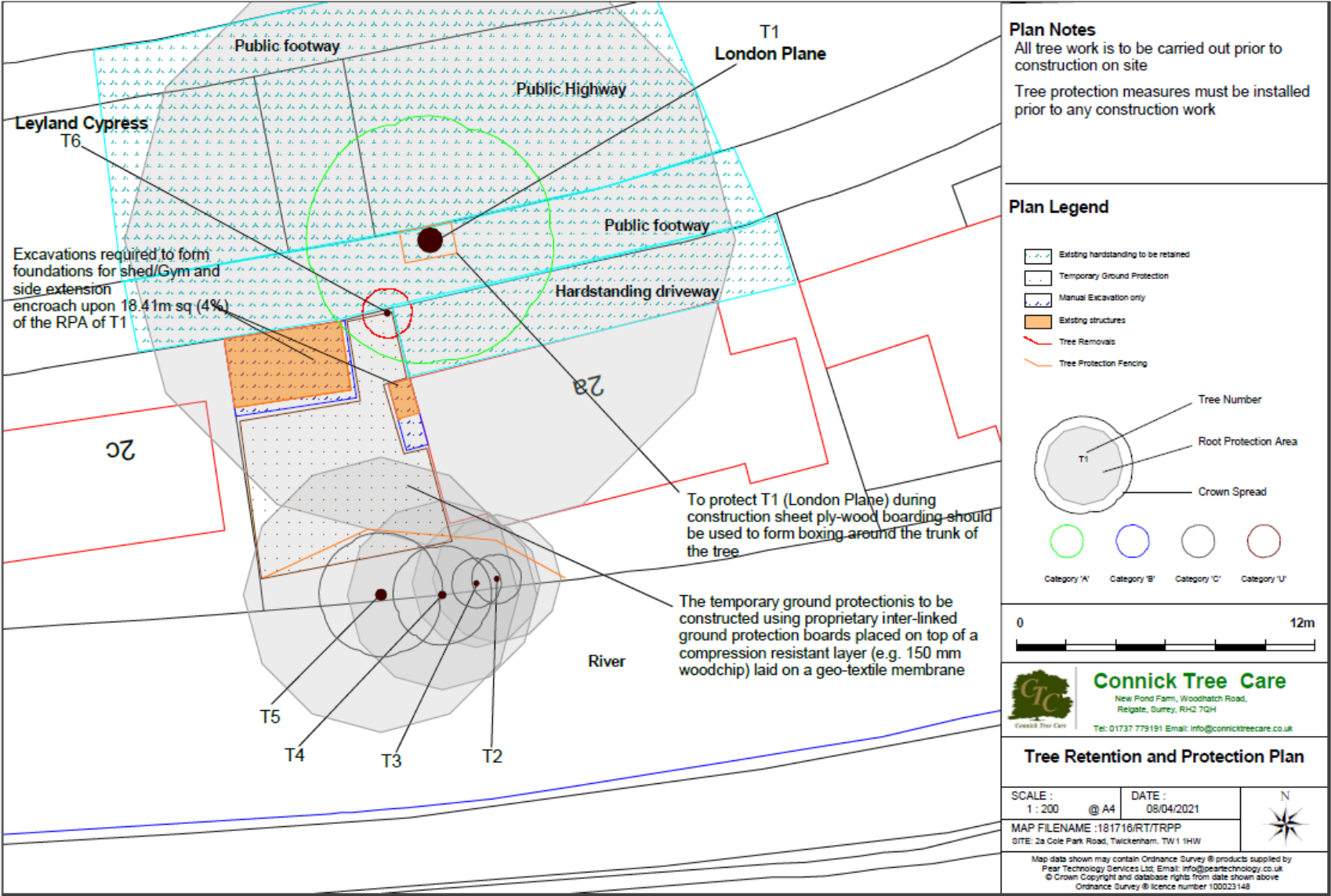


APPENDIX IV ARBORICULTURAL IMPACT PLAN





APPENDIX V TREE RETENTION AND PROTECTION PLAN





APPENDIX VI QUALIFICATIONS AND EXPERIENCE

Richard Tilling

Subject	Level	Date
Microdrill Training	Pass	November 2019
Getting to grips with subsidence	Pass	March 2019
Undertaking Aerial Inspections	Pass	February 2019
Lantra Accredited Professional Tree Inspection	Pass	May 2010 - Refreshed May 2018
CMI Level 3 certificate in First Line Management	Pass	July 2017
NPTC Level 3 Certificate of Competence in the Thorough Examination of Arboricultural Equipment	Pass	April 2006 – Refreshed May 2016
IOSH Training - Managing Safely	Pass	April 2013
Higher National Diploma in Arboriculture	Pass	September 1992 – June 1995

2. CAREER SUMMARY

I began my career in the Arboricultural industry in 1995 following the successful completion of a Higher National Diploma course at Houghall Agricultural College in County Durham. The Course included three placements. Three months with Guildford Borough Council's Arboricultural Department, three months at the National Trusts Winkworth Arboretum and twelve months working for an independent Tree Surgery company.

Upon leaving college I worked for a sole trader Tree Surgeon for two years working mainly for domestic customers. This was followed by sixteen years working for larger tree surgery firms carrying out both domestic and commercial work where I completed certification in climbing and chainsaw use, risk assessments and health and safety.

I progressed from climbing supervisor, followed by two years of quoting for private work, through general management to Contract Management in one of the largest UK tree firms where I managed Council tree contracts including Sutton, Bromley, Bexley, Richmond upon Thames, Hounslow, and Islington councils.

During my career within the Arboricultural industry I have built up valuable practical based Arboricultural knowledge, in depth contract management skills and gaining certification including Professional Tree Inspection Course over ten years ago and LOLER inspection: Certificate of Competence in the Thorough Examination of Arboricultural Equipment over fifteen years ago.



My qualifications have allowed me to carry out varied tree survey work including a full survey of Camden Councils tree stock, 'dead, dying and dangerous' surveying for The Royal Borough of Kingston upon Thames Council, Health and Safety surveying for Transport for London (Southern) and climbing bat roost inspection surveying for Chiswick House and Gardens.

My Contract Management role has giving me experience of Health and Safety, Asset Management and Contract meetings.

I joined Connick Tree Care in January 2018 to expand my knowledge in tree assessment and to get back to a closer relationship with trees and woodland as a whole. I now work as an Arboricultural Consultant with a wide experience of individual tree assessments including Micro drilling, health and safety surveying, Climbing inspections, full site surveying, Insurance or Mortgage surveys and woodland inspection.