



Chartwell Tree Consultants Ltd

2 Greencroft Cottages, Farley Common,
Westerham, Kent, TN16 1UB
01959 569 280/07789 907 861

Arboricultural Report



BS5837 Tree Survey

At

**19 Ullswater Close
Bromley
BR1 4JF**

Client

Griffin Property Developments

**By
Sam Bateson**

**Date
16th July 2015**

Site 19 Ullswater Close
Inspection Date 13th July 2015
Inspected By Sam Bateson

Terms of Reference

- I received instructions from Griffin Property Developments to carry out a survey of the trees with regards a proposed development at the above address.
- The tree survey and arboricultural impact assessment are to be produced with relevant measurements in line with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction' for all the trees within the boundary of the proposed dwelling.
- An Arboricultural Method Statement (AMS) has not been requested at this stage.
- To make any other observations or recommendations as required based on the survey.

Scope of Report

- This preliminary assessment did not include a detailed examination of tree root systems, aerial access, or the use of internal decay detection equipment. A further supplementary Detailed Report may be advised as a result of the findings herein.
- The inspection was carried out with the aid of the following equipment:
 - Sounding mallet
 - Metal probe
 - 30m measuring tape
 - Rounded down diameter tape (Stem diameter measured at 1.5m)
 - Compass
 - TruPulse 200 Laser Clinometer
- The tree data gathered is for the purposes of a development site survey in accordance with BS5837: 2012 and is **not** a detailed tree safety inspection.
- A tree owner is advised to have all trees in their ownership regularly inspected; trees are to be re-inspected after strong winds.
- The information contained in this report should be considered valid for a period of 12 months from date of issue.
- Average measurements have been taken for trees within groups or hedges.

Third Party Disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Chartwell Tree Consultants Ltd at the instruction of, and for the use by, our client named within the report, the architect of the proposed development and the Local Authority Planning Department. This report does not in any way constitute advice to any third party who is able to access it by any means. Chartwell Tree Consultants Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage arising from reliance on the content of this report.

Site Information

- Consists of a semi-detached property with large attached garage to the side.
- Access can be gained from Ullswater Close.
- The DBH (Diameter measured at 1.5m off the ground) for trees within hedgerows or private properties has been estimated.

Rooting Zone

- The soil level has remained the same throughout the area so the root flares on all the trees are exposed.
- There is no evidence of any recent root disturbance or radial trenching having recently taken place.

Arboricultural Impact Assessment (AIA)

- **Description of the Proposed Development**

It is proposed to demolish the garage and re-build with a two storey property.

- **Legal Constraints**

The trees to the side and rear are protected by a Tree Preservation Order.

Impact of the Proposed Development on the Amenity Value of the Trees

- **Direct Loss of Trees**

I would recommend the removal of the Apple (T9) in order to incorporate the new design and as a **Category C** tree should not therefore be considered as a constraint to the development.

The poor physiological and structural condition of the Cherry (T3) is such that its removal is recommended on purely arboricultural grounds regardless of whether the development is permitted or not. For the purposes of the survey, these trees have been recorded as **Category U** (BS5837: 2012, Table 1) being in a condition where they cannot be retained as living trees for longer than 10 years. These trees are extremely poor specimens with any remedial works considered unlikely to produce trees with any degree of longevity.

It is my opinion that the loss of these trees will not have a significant detrimental impact on the visual amenity of the area.

Retained Trees

- Providing that adequate tree protection is implemented, the amenity value of the trees on the site will be preserved. Retained trees will be protected from soil compaction and impact damage where necessary by protective barriers and / or systems and methods of ground protection. Protective barriers will be fit for purpose, complying with BS5837: 2012 unless otherwise agreed with the Local Planning Authority (LPA). Such alternatives may include the use of temporary buildings or existing hard surfaces as part of tree protection or alternative fencing specification for areas of lower risk e.g. areas for future planting.

Above and Below Ground Constraints

- The British Geological Survey Map Sheet 271 (Solid & Drift Edition) indicates the underlying geology to be Harwich Member which is made up of sand and pebbles and is not generally considered to contain shrinkable soils. It is recommended that a geotechnical specialist / structural engineer undertake a detailed soil investigation to determine the actual underlying geology and Plasticity Index which may then inform the foundation design.

The design of any new planting and landscape proposals should be based upon a soil analysis which considers the pH and any nutrient deficiencies or imbalances.

- The proposed development will not result in an incursion into the root protection areas of the trees on the site. The patio areas surrounding the property will have to be installed using a non-invasive solution.
- It is my professional opinion that the development will not result in the significant loss of rooting area and will not result in any significant root damage. This is based upon:
 - Precautions (e.g. manual excavation) and site supervision to ensure that any roots encountered are dealt with appropriately.
 - Leaf fall in the autumn months can be mitigated by the use of non-slip paving areas and guards/grilles on the gutters and gullies.

- Sufficient distances (in accordance with BS5837: 2005 Table 3) should be allowed between young trees / new planting and built structures to minimize the impact of future growth.
- It is important that the foundation design of the new building gives consideration where relevant to the underlying soil type, retained and removed trees and new planting. Further information can be obtained from NHBC Chapter 4.2 'Building Near Trees'.
- **Conclusion**
The adoption of a detailed Arboricultural Method Statement should ensure there are no adverse effects as the result of any excavations and construction operations.

Arboricultural Method Statement (AMS)

- **Purpose**
An Arboricultural Method Statement (AMS) will be required where any demolition or construction operations, including access, are proposed within the RPA (or crown spread where this is greater) of any retained trees. This applies to trees within the scope of the proposed development.

The intention of the method statement is to minimise the risk of any adverse impact on the trees to be retained (especially damage caused by excavation and soil compaction) and to clearly demonstrate how relevant operations will be undertaken. It should also specify appropriate tree and ground protection measures in accordance with BS5837 which will be detailed on a Tree Protection Plan (TPP).
- **Heads of Terms**
Areas of relevance to the proposed development to be addressed in the detailed Arboricultural Method Statement include:

Pre-development tree works
All works will be carried out in accordance with BS3998: 2010 'Recommendations for Tree Work' and in line with a schedule of works agreed by the Local Planning Authority as part of any approved planning permission.

Tree protective barriers and ground protection measures (specification, location and dimensions)
Protective fencing will be fit for purpose, complying with Figures 2-4 in BS5837:2012 or any other specification agreed in writing with the Local planning Authority. For example, site huts or temporary buildings may be used as part of the protective barriers (BS5837 section 6.2.2.3). They shall be erected prior to any demolition or construction (excluding pre-development tree works) taking place at distances specified within the approved plans and remain in place until completion of the construction phase. Removal is only to take place following the approval of the Local Planning Authority / Local Authority Tree Officer.

Site access, parking and site facilities

To be in accordance with the plans agreed by the Local Planning Authority and outside of the Root Protection Areas of any retained trees unless appropriate ground protection measures are in place and approved by the LPA.

Works programme / phasing

The phasing and timing of any works likely to impact on the Root Protection Area of any retained trees is to be clearly identified to ensure that adequate protection, precautions and supervision are in place.

Storage of spoil and building materials

No spoil or building materials are to be stored within the Root Protection Areas of any retained tree unless specifically agreed by the Local Planning Authority. Details of the Construction Exclusion Zones can be seen on the Tree Protection Plan.

Demolition of the existing building(s) and removal of hard surfacing

In accordance with detailed method statement to avoid unauthorised incursions into the Root Protection Areas of any retained trees.

Changes to ground levels

Changes to ground levels are only to be made in accordance with the approved plans and where a detailed method statement has been produced to minimise the impact on the rooting systems of the retained trees. Where this necessitates the lowering of existing ground levels then this should only be undertaken with the use of hand tools and care taken not to damage any structural roots. Treatment of any exposed roots is to be in accordance with BS5837:2012.

Details of construction works within the Root Protection Areas

As per 'Changes to ground levels'.

Details of 'Special Engineering' methods

Where relevant, specifications relating to special engineering methods will be included as an annex to the Arboricultural Method Statement.

Location and installation method for drainage and other utilities

The use of overhead utilities is not anticipated for this development. Where possible, existing underground utility runs will be re-used. Where new services runs are required, these will be routed outside of the Root Protection Area of any retained trees unless specifically agreed by the Local Planning Authority and subject to a detailed method statement.

Upgrade or installation of new hard surfacing within Root Protection Areas

In order to minimise the impact on the rooting area and tree root function the design and construction of a new surface should adequately consider and allow for the following factors:

- Allow gaseous exchange (horizontally and vertically)
- Water permeable
- Preserves the soil structure at a suitable bulk density
- Prevention of contaminants entering the rooting area
- Allows for future growth of the root system
- Prevents damage to the roots during demolition or construction
- Recognises that the majority of roots are found in the top 600mm of soil

New surfaces should be installed with 'low invasive' techniques using hand tools and the utilization of a cellular confinement system as part of the sub-base.

Removal of boundary / retaining walls and installation of new fencing within Root Protection Areas

To be accompanied by a detailed method statement to ensure minimal damage to existing roots.

Site responsibilities and the role of the pre-commencement meeting

Unless otherwise agreed in writing, it will be the responsibility of the Site Manager to ensure that the content of the Arboricultural Method Statement is adhered to. The main contractor and any sub-contractors are to be briefed by the Site Manager on the relevant sections of this prior to commencing any work. The Site Manager is responsible for contacting the LPA at any time issues relating to the trees on site are raised.

Prohibited activities and general precautions

In line with BS5837:2012.

Arboricultural Supervision, reporting and audit process

Day-to-day supervision will be the responsibility of the Site Manager. Supervision by a qualified arboriculturist at key stages of the development is to be coordinated by the Site Manager and comments forwarded to the Local Planning Authority.

Emergency procedures

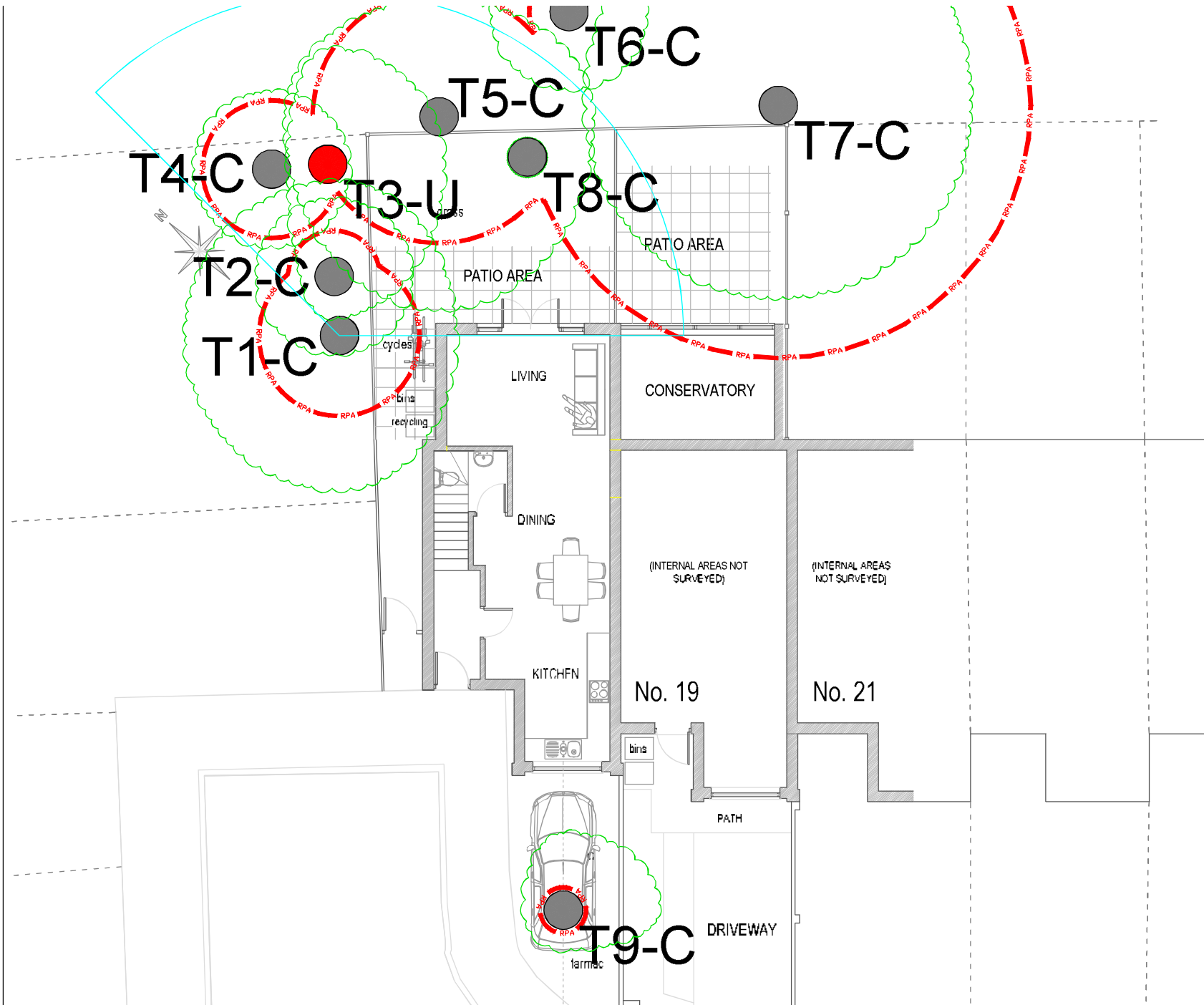
Clearly defined emergency procedures e.g. for fuel spillages or unauthorised incursions into Construction Exclusion Zones to be prepared and communicated to all site personnel.

TREE SURVEY SCHEDULE

Client: Griffin Property Developments
 Site: 19 Ullswater Close
 Date of Survey: 13th July 2015
 Arboricultural Consultant / Surveyor: S Bateson
 Weather: Clear
 Tagged: No

Notes:
 See attached KEY

Tree ID #	Species	Height (m)	Branch spread (m)				Diameter at breast height (mm)	Root Protection Area Radius (m)	Root Protection Area (m ²)	Age class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (Years)	Category Grading
			N	S	E	W									
T1	<i>Carpinus betulus</i> (Hornbeam) Third party owned	9	4	4	3	4	175	2.1	13.9	Y	Good	No significant defects visible.	No works required.	10+	C
T2	<i>Acer pseudoplatanus</i> (Sycamore) Third party owned	9	2	2	2	2	100	1.2	4.52	Y	Good	No significant defects visible.	No works required.	10+	C
T3	<i>Prunus Kanzan</i> (Cherry) Third party owned	7	3	4	3	1	200	2.4	18.1	SM	Poor	Poor shape & form. Low vitality. Declining.	Owner to consider removal	<10	U
T4	<i>X Cupressocyparis leylandii</i> (Leyland Cyp) Third party owned	8	2	2	2	2	150	1.8	10.2	Y	Good	No significant defects visible.	No works required.	10+	C
T5	<i>Acer pseudoplatanus</i> (Sycamore) Third party owned	12	3	5	4	4	275	3	34	SM	Good	No significant defects visible. Unable to inspect stem due to Ivy.	Crown lift to 5m. Prune clear of garden.	10+	C
T6	<i>Ilex aquifolium</i> (Holly) Third party owned	5	2	2	2	2	50,50,50	1.04	3.4	Y	Good	No significant defects visible.	No works required.	10+	C
T7	<i>Aesculus hippocastanum</i> (Horse Chestnut) Third party owned	12	6	5	5	5	350,300,300	6.6	136.9	EM	Good	No significant defects visible. Unable to inspect stem due to Ivy. Multiple stems at ground level. Minor trunk wounds.	Crown lift to 5m. Prune clear of garden.	10+	C
T8	<i>Cordyline</i>	3	0.5	0.5	0.5	0.5	100	1.2	4.5	Y	Good	No significant defects visible.	No works required.	10+	C
T9	<i>Malus</i> (Apple)	3	2	1	2.5	1	50	0.6	1.1	Y	Good	No significant defects visible.	Remove tree and grind stump.	10+	C



Notes
 Do not scale from this drawing
 All dimensions to be checked on site

TREE SURVEY & CONSTRAINTS PLAN

- T1 Tree Number
- A Category
- B Category
- C Category
- U Category
- Root protection area
- Branch spread
- ⤴ Tree Shade Arc

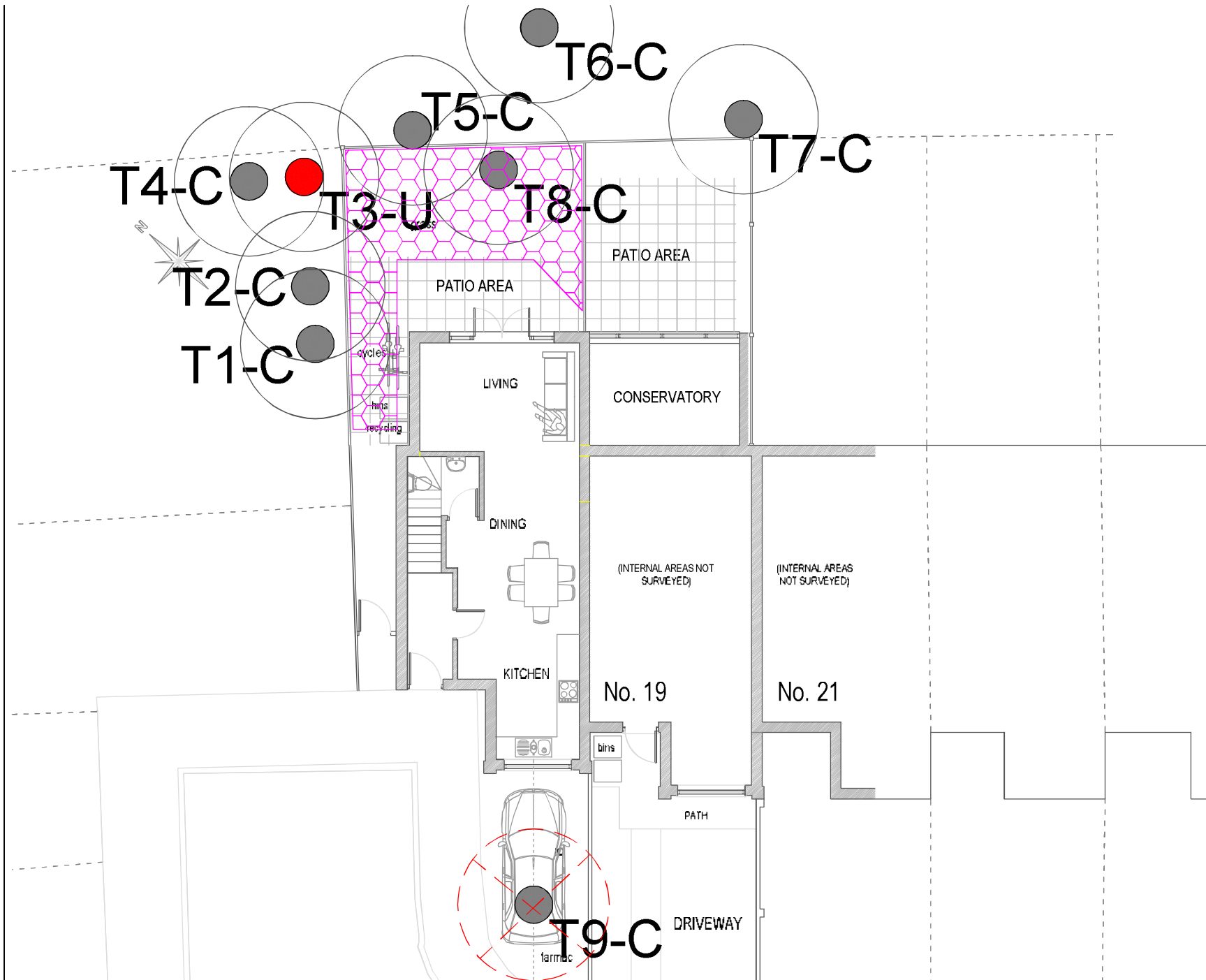
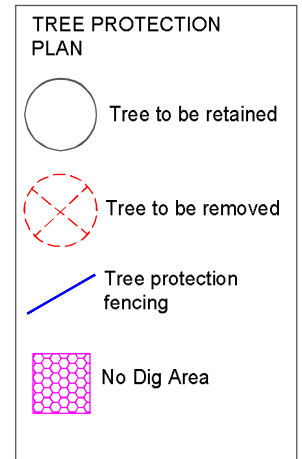
Title **Tree Survey & Constraints Plan**
 Job **19 Ulswater Close**
 Scale **1:100 @ A3**
 Date **14.07.15**
 Dwn **SB**

Dwg No **001**

Chartwell Tree Consultants
 2 Greencroft Cottage
 Farley Lane
 Westerham
 Kent
 TN16 1UB

Tel: 01959 569 280

Notes:
Do not scale from this drawing
All dimensions to be checked on site



Title **Draft Tree Protection Plan**
Job **19 Ullswater Close**
Scale **1:100 @ A3**
Date **16.07.2013**
Dwn **SB**

Dwg No **002**

Chartwell Tree Consultants Ltd
2 Greencroft Cottage
Farley Lane
Westerham
Kent
TN16 1UB

Tel: 01950 560 280

KEY TO SURVEY

T1, T2 etc. = Individual tree identification numbers (not TPO reference numbers)

G1, G2 etc. = Groups or hedges

Age Class:

Y = Young (<1/3 life expectancy)

MA = Middle Aged (1/3 – 2/3 life expectancy)

M = Mature (2/3 – full life expectancy)

Work Priority: (informed by *risk rating* based on observed defect(s), probability of failure, severity of impact and targets)

Urgent = <1 Month (unless stated otherwise)

High = <3 Months

Medium = < 6 Months

Low = < 12 Months

Routine = As part of regular grounds maintenance

Other Comments:

- **NESW** = North, East, South, West
- **Physiological Condition** = based upon the performance of the biological processes of the tree and its overall 'health'. Good = normal vigour, Fair = moderately reduced vigour, Poor = low vigour/decline.
- **Occluded wound** = where a wound has been progressively closed by the formation of new wood and bark around it.
- **Non-occluded wound** = where a wound has not closed (or is in the process of being closed) by the formation of new wood and bark.
- **Est.** = estimated measurement.
- **Av.** = average measurement.
- **Basal** = in or around the base of the trunk.
- **Epicormic** = growth arising from adventitious or dormant buds. In the case of European Lime trees this frequently occurs around the base of the tree.
- **Deadwood** = Minor (<25mm), Moderate (25mm-150mm) and Major (>150mm).
- **Self-set** = naturally established i.e. not intentionally planted tree.

Survey Range & Limitations:

1. The survey was carried out in the form of a visual assessment from ground level; a rubber mallet and simple probe were used to assess the extent of any decay found. Defects (including potential severity of impact), targets and potential ('likelihood') of failure have been considered and used to inform the risk rating and thereby the recommendations and priorities along with appropriate timescales.
2. Only the trees in 19 Ullswater Close and close to the boundary have been inspected as per instructions received. It is recommended that the owners of any adjacent trees likely to affect the site have their trees inspected by a qualified and competent arborist.

3. This survey expressly excludes any liability for indirect or direct structural damage that the trees may cause to property including any structural movement, subsidence and heave. Where necessary, the opinion of a structural engineer should be sought e.g. where trees are in close proximity to built structures. With regards drains, the advice of a drainage engineer should be sought.
4. As this survey is preliminary in nature, should any further investigation be required (e.g. using specialist decay detection equipment) then this will be highlighted in the recommendations.
5. All measurements are estimated and tree locations on the maps are approximate.
6. It should be noted that trees are dynamic, living organisms that are subject to an ever-changing environment and that there is no such thing as a 'safe tree' i.e. "...there can be no absolute guarantee of safety" (Mattheck 'The Body Language of Trees', p. 197) where failure can occur without defect or in excessive weather conditions.
7. The Local Planning Authority (Bromley) must be consulted prior to any works being carried out to establish whether any Tree Preservation Orders (TPO's) or Conservation Areas apply to the site. No works should be carried out until any necessary permissions have been obtained. Trees marked as 'TPO' on any maps are for information purposes only and should not be considered authoritative.
8. Full consideration must be given to current legislation by anyone proposing to carry out works to trees, particularly with regards to the presence of European Protected Species (including bats). Arboricultural ('tree surgery') contractors should be adequately trained, experienced and carry adequate insurance. All works should be carried out to the current edition of British Standard BS3998 'Recommendations for Tree Work'.
9. The information contained in this report should be considered valid for a period of 1 year from date of issue (unless otherwise specified in the survey) assuming that any recommendations are carried out. Additional inspection is recommended following exposure to extreme weather, significant wounding or damage (e.g. incursion into rooting zones, impacts, new fungal fruiting bodies, etc.) or any other event giving cause for concern.