



Fallen&Found Arboriculture Ltd

Company No: 11872391 / VAT Registration 317617696

Professional Tree Inspection



Q2029\Carter\PTI\2022_V1

Monday 19th April 2022

147
Brook Gardens
Emsworth
Hampshire
PO10 7LL



19/04/2022

Contents

1. Introduction	3
1.1. Instruction.....	3
1.2. Scope.....	3
1.3. Document disclosure	3
1.4. Ecological constraints.....	3
1.5. Qualifications and experience.....	4
1.6. Background information	4
1.7. Legal protection of trees	4
1.8. Survey methodology	4
2. Location.....	5
2.1. Site visit	5
2.2. Site location	5
2.3. Site description	5
3. Inspection & observations	6
3.1. Tree dimensions.....	6
3.2. Initial Observations	6
3.3. Roots and root buttresses.....	6
3.4. Stem	7
3.5. Branch attachments and branches	7
3.6. Leaves and shoots	7
4. Conclusion.....	8
5. Recommendations	9
5.1. Considerations	9
6. Additional information.....	10
6.1. Limitations of the report.....	10
7. Appendix A.....	11
8. Qualifications	22
References	23



19/04/2022

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Quality Control			
Author	Oliver Lower	Checked by	Stephanie Smith (19/04/2022)



19/04/2022

1. Introduction

1.1. Instruction

1.1.1. I have been instructed by you (**Mrs Michelle Carter**) to conduct a ground-based professional tree condition inspection of a singular Field Maple tree (*Acer campestre*) growing at **147, Brook Gardens, Emsworth, Hampshire PO10 7LL**.

1.2. Scope

1.2.1. The purpose of this tree inspection is to assess the tree regarding its health, condition and to identify any immediate and non-immediate risks posed by the trees to public safety. Risk level will be assessed depending on the hazard, probability of failure, the target area, and public occupancy. Consideration will also be given to the probability of direct damage to above-ground structures at the site.

1.2.2. All my tree observations are of a preliminary nature, with the tree inspection being carried out from ground level without any investigations using invasive or diagnostic equipment. All data and findings will be assessed to form relevant conclusions on which subsequent recommendations will be made. The assessment and conclusions contained within the report are in the interest of health and safety and the continued management of the tree. All observable significant biomechanical features will be photographed and discussed within the body of the report.

1.3. Document disclosure

1.3.1. I have not been provided with any supplementary documentation regarding the subject tree/s, neither has there been any other third-party input or detailed schematic used for the purposes of this report.

1.4. Ecological constraints

1.4.1. Any works on or around any of the trees or hedges contained within or located outside of the site should bear in mind The Wildlife & Countryside Act 1981 as amended the Countryside and Rights of Way Act 2000. All wild Birds are protected by the Wildlife and Countryside Act - 1981, Conservation - Natural Habitats -Regulations 1994 and Countryside Rights of Way Act – 2000. This makes it an offence to intentionally kill, injure, take, possess or trade in any wild animal listed and prohibits interference with places used for shelter or protection, or intentionally disturb animals occupying such places. The Bird Breeding season extends from the 1st of March to the 31st of July, as a result, all disturbing activities should be avoided during these times.

1.4.2. All species of Bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981. It is an offence for anyone intentionally to kill, injure or handle a Bat, to possess a Bat (whether live or dead), disturb a roosting Bat, or sell or offer a Bat for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by Bats for shelter, whether they are present or not. These issues are outside of my area of experience and separate advice from a suitably qualified ecologist should be sought in the instance that any of these constraints apply to this site.



19/04/2022

1.5. Qualifications and experience

1.5.1. The conclusions and recommendations contained in this report are formed from my own site observations and the provided information. The opinions expressed within it are based on my arboricultural experience. My qualifications and experience in arboriculture are included in **Section 5** at the end of this document.

1.6. Background information

1.6.1. It is proposed to install an actor within the lower portion of the trees canopy close to the main stem and bole of the tree's superstructure. Considering this, Concerns have been raised regarding the biomechanical, biological and over all condition of the subject tree. Subsequent concerns regarding the practicality and safety implications associated with the planned operation have also been raised.

1.7. Legal protection of trees

1.7.1. This report is not associated with the legal protection of the trees included in this survey. The presence of any statutory protection including Tree Preservation Orders and Conservation Areas should be ascertained by the owner/contractor prior to the commencement of any potential tree works at the site.

1.8. Survey methodology

1.8.1. The survey will be conducted using the Visual Tree Assessment (VTA) techniques which were devised by Prof. Dr Claus Mattheck & Ass. Jur Mrs Helge Breloer at the Karlsruhe Research Centre, Germany in 1994. Assessment and recommendations given or made have been done so using my own expertise and judgement given the situation and application. A pair of binoculars will be used to further inspect the tree crowns, stems and branch attachments where applicable. Component parts of tree structure will be recorded using a compass to give aspect and a laser measure to indicate height. The recorded data and any pertinent observations will be categorised in order of importance. This will be calculated by assessing the potential risk posed by any observed hazards. The location of the tree/s, the potential hazard posed, and the density of public use in that area will be considered when categorising any recommendations. In this report, a hazard is any part of a tree which displays outward signs that there is a significant possibility that it may fail. The risk is then assessed by combining the information about its significance and the likelihood of its failure.

1.8.2. Risk level will be assessed depending on the hazard, probability of failure, the target area, and public occupancy. Recommendations will be made to reduce risks to be as low as is reasonably practicable, whilst pertaining to the retention of trees where possible. Trees with biomechanical features, dead wood, fallen trees and decaying structures will be retained where practicable or where it is safe to do so. The purpose of the survey is to identify hazards which pose an unacceptable risk to the residents and the public frequenting the site.

Inspection Instruments			
Height	Haglöfs ECII Clinometer	Assessment tools	Thorex sounding mallet.
Distance	Laser Measure		1m inspection pin.
DBH (Diameter @ 1.5m agl)	10m Diameter tape		Binoculars



19/04/2022

2. Location

2.1. Site visit

2.1.1. I undertook a site visit on the morning of **Friday 8th April 2022** for the purpose of conducting a ground-based professional tree inspection of the tree. The weather during the inspection was sunny with a light wind. Overall, the weather did not pose a significant constraint on the surveying process and most parts of the tree's above-ground structures were visible during the survey.

Conditions (Avg)	Result
Temperature	15°C
Cloud Cover	10-30%
Precipitation	0%
Humidity	60%
Wind Speed (Beaufort)	F2



Red circle is indicative of tree location.

2.2. Site location

2.2.1. The subject tree is located close to the rear garden boundary of 147, Brook Lane.

2.3. Site description

2.3.1. The property comprises of a semi-detached main house with small vehicular driveway and garden. Access to the property is gained via a path leading from the north adjacent to the western side of the main house. A small rectangular rear garden project southward from the main house. The garden comprises of small herbaceous borders and numerous potted plants. The overall topography of the site is level with firm ground conditions throughout. The surrounding environment consists of a medium sized residential estate with predominantly privately owned properties. The overall tree character the surrounding properties is limited with predominantly small ornamental tree species interspersed throughout the estate.



19/04/2022

3. Inspection & observations

3.1. Tree dimensions

Species: Field Maple (*Acer campestre*)

Number of trees: 1

Avg Height: 9.6m

(1) Stem Diameter @ 1.5m agl: 550mm

(2) Stem Diameter @ 1.5m agl: 960mm

Crown radius average spread: 4.62m

Height of crown clearance: 4m

Age class: Over-Mature

Vitality: Poor

Above ground targets: Main House; Conservatory; Adjacent Properties; Neighbouring Shed; Greenhouse; Neighbouring Gardens.

3.2. Initial Observations

3.2.1. The subject tree is medium sized with a canopy which has been previously reduced multiple times. After inspecting the growth extension associated with regrowth emanating from pruning wounds on the tree, I perceive the last crown reduction operation to have taken place within the last five years¹. The tree has two main stems which originate from the same point at ground level. Ivy has colonised the western most stem and proliferated upwards into the tree's canopy. The tree is located within striking distance of numerous above ground targets and areas of high-moderate occupancy from property owners.

3.3. Roots and root buttresses

3.3.1. The theoretical rooting zone of the tree encompasses the rear garden of 147, Brook Gardens. Numerous flower and shrub beds are located throughout the garden. To the south of the subject tree a large shed is located. Consequently, only a cursory inspection of the rooting zone is possible where the surface soil is observable. I did not observe any obvious fungal fruiting bodies, soil cracking or other indications of instability associated with the tree's rooting zone. I did, however, note that the neighbouring shed appears to have been constructed very close to the southern side of the tree. I could not observe the foundation type of the shed from the garden of 147, Brook Gardens.

3.3.2. There is sufficient evidence to suggest that the subject tree was once part of a historical hedge line prior to the development of the estate. Upon inspection of the root buttress area of the tree I observed significant decay and bark necrosis in several locations.

3.3.3. The two main stems of which the tree comprises appear to originate from a common coppice stool. A large decay cavity is located close to ground level on the western side of the stem 1 (easternmost)². A probe can be inserted to an approximate depth of one metre at an oblique angle into the cavity. The decayed area surrounding the basal cavity measures 400mm wide and 1000mm in height. The decayed heartwood at this location has a dry crumbly texture and is dark red in colour³. Another area of decay is present on the adjacent stem located to the west of stem 1 at approximately the same height.

¹ Appendix A, Figure 1

² Appendix A, Figure 2

³ Appendix A, Figure 2



19/04/2022

3.4. Stem

3.4.1. An old desiccated fungal fruiting body was present on the south-eastern side of stem 1 located beneath some ivy at an approximate height of 400mm above ground level. A photograph of this area can be viewed in Figure 4 of Appendix A within this document. Further heavily decayed fruiting bodies were also present upon the floor beneath this area. I inspected the fungal fruiting body which I removed from beneath the ivy. Although old and desiccated it is obvious to me that this fruiting body belongs to the known heartwood decay pathogen Beefsteak Fungus (*Fistulina hepatica*)⁴.

3.4.2. Further fungal fruiting bodies belonging to the saprophytic⁵ fungi Jelly Ear (*Auricularia auricula-judae*) were present upon a further area of decay located on the southern side of stem 1 at an approximate height of 300mm above ground level⁶.

3.4.3. Sounding of the southern side of stem 1 using a sounding mallet produced a dull resonance characteristic of hollowing or an internal cavity. This resonance could be reproduced by striking the entire south-eastern quadrant of the main stem from close to ground height to an approximate height of one metre above ground level.

3.4.4. Bark necrosis is prevalent on the southern side of Stems 1 and 2⁷.

3.5. Branch attachments and branches

3.5.1. A large lateral limb projecting eastward from Stem 1 has significant decay and cavity formation⁸. Historic pruning wounds have failed to occlude leading to the formation of cavities and the propagation of decay⁹. The subject limb projects toward a small garden shed before changing direction and projecting vertically. The uppermost portion of this limb carries a significant amount of growth which makes up the easternmost extent of the tree's canopy. A black exudate was observed at the base of this limb where its branch attachment is made to the parent stem. Further decay is observable in this area accompanied by cambial dysfunction¹⁰.

3.5.2. A branch emanating from Stem 1 at approximately 1.6m above ground level projects south over the neighbouring property and above a large garden shed. During my inspection of the limb, I observed exposed heartwood which is undergoing decay. I also noted dead bark which I was able to remove by hand. Removal of this dead bark revealed necrotic and dysfunctional cambium beneath¹¹.

3.6. Leaves and shoots

3.6.1. Although not in leaf, I observed normal shoot growth extension uniformly throughout the tree's canopy.

⁴ Appendix A, Figure 5

⁵ A fungus which absorbs organic material from already dead material.

⁶ Appendix A, Figure 6

⁷ Appendix A, Figure 7

⁸ Appendix A, Figure 8

⁹ Appendix A, Figure 9

¹⁰ Appendix A, Figure 10

¹¹ Appendix A, Figure 11



19/04/2022

4. Conclusion

The subject tree is growing in a linear formation with other adjacent trees which clearly demark a historic field boundary. This often occurs when a development takes place and isolates trees and tree groups. A consequence of this is that trees which were previously controlled/pruned as part of a hedgerow boundary are allowed to grow unhindered. As a result, it is common to find trees with stem formations comprising of multiple components often originating from a singular coppice point.

Full inspection of the westernmost stem (Stem 2) was not possible due to the dense external covering of Common Ivy¹². Ivy provides an important habitat for a wide range of vertebrates and invertebrates as well as a food source for a range of bird species. There is little evidence to suggest that Ivy has the ability to harm a healthy tree which it colonises. However, it can smother sickly trees eventually shading out regrowth and existing foliage. The dense evergreen Ivy foliage combined with the tightly held Ivy stems can obscure structural defects such as cavities, potentially weak forks and fungal fruiting bodies (Patch, 2004).

The decay and subterranean cavity discovered during the inspection indicates the presence of a now fully decayed and no longer existent central stem which was historically located between the two surviving main stems which the tree comprises of.

The known heartwood decay pathogen Beefsteak Fungus which was identified during the inspection is known to parasitise a wide range of broadleaved tree species including Field Maple. When this decay pathogen is hosted on tree species with a durable heartwood i.e., Common Oak it is known to be slow acting. Consequently, the interaction between the decay and host can be managed through pruning of faulted tree components or through crown reduction. Unlike Oak, Field Maple is not known to have a durable heartwood with comparatively lower amounts of Suberin and Polyphenols both of which are chemicals which have highly antifungal properties. As a result, the decay caused by Beefsteak fungus will proliferate at a much higher rate eventually resulting in biomechanical failure of the tree or component parts of its structure.

Cambial degradation and the formation of cavities were observed in numerous locations around both stems of the tree. The higher proportion of these were observed on the most eastern stem (Stem 1). This is likely in part because of the thick Ivy coating affecting Stem 2. The presence of Saprophytic fungi, large areas of bark necrosis, cavities and poor wound occlusion are all indicative of a tree which is in a state of biological decline.

The close proximity of numerous above ground targets within striking distance of the subject tree significantly increases the tree related risk associated with the subject.

Considering the biomechanical defects discovered during my inspection of the tree, combined with the tree's location, it is my professional opinion that the subject tree poses an unacceptable risk to yourself, your neighbours and a variety of above ground-built structures, all of which are within striking distance of the tree in the event of its full or partial failure. Due to the condition of the tree, I perceive its future failure to be foreseeable especially in the event of severe weather.

¹² *Hedera helix*



19/04/2022

5. Recommendations

The subject tree should be removed by being sectionally felled to ground level as soon as practicable.

5.1. Considerations

- 5.1.1. All tree works should be conducted by a fully qualified and insured arboricultural contractor conforming to **BS 3998: 2010 "Tree Work – Recommendations."** The contractor should prepare and fill out all necessary Risk Assessments appropriate for the task/tasks and adhere to current health and safety standards. A list of Arboricultural Association approved contractors can be found on their website www.trees.org.uk.
- 5.1.2. The TPO status or the presence of any Conservation Areas, SSSI/NNR/SAC or Schedule Monument designations applicable to the site and trees discussed in this report should be confirmed as a priority. In the event of legal protection being afforded to the trees, all prescribed tree works will require the written consent of the Local Planning Authority prior to their commencement.
- 5.1.3. All contractors should implement appropriate Biosecurity measures. The Arboricultural Associations, Application of Biosecurity in Arboriculture, Guidance Note 2¹³ provides guidance on the responsibilities of Tree Work Contractors.
- 5.1.4. Any vegetation clearance and other tree works associated with the management of the trees must take into consideration the Bird Breeding season¹⁴.
- 5.1.5. Any replacement trees (where recommended) should be planted in accordance with **BS 8545:2014 Trees: from nursery to independence in the landscape – Recommendations** by an experienced person. Newly planted trees should be subject to a two-year aftercare program to ensure successful establishment.

¹³ <https://www.trees.org.uk/Help-Advice/Biosecurity>

¹⁴ Section 7



19/04/2022

6. Additional information

6.1. Limitations of the report

6.1.1. As living dynamic structures inhabiting a constantly changing environment, trees are exposed to pests, diseases, extremes of weather and rooting environment alterations. This report is based upon the condition of the tree/trees at the time of inspection. As a result, the contents of this report are an assessment of the tree/trees at the time of the survey. Reassessment may be required in the event of an extreme weather event, physical site changes or obvious changes in physical condition or appearance. Notwithstanding this report can only be regarded as valid for twelve months from the date of its issue **19/04/2022**. The survey and its conclusions are based on the data gleaned by a ground level inspection. The inspection does not benefit from a detailed third-party technical report. The conclusions and recommendations contained in this report are formed of my own opinions based on arboricultural experience and modern tree assessment techniques.

6.1.2. Only visible parts of the tree will be inspected. Areas which are obstructed (ivy-clad or covered by dense foliage) may need to be cleared in order that visual assessment can be carried out. In this instance, the recommendations to facilitate such inspection will be made. Defects noted from ground level may require further investigation to ascertain their significance. In this instance, a climbing inspection may be recommended.

6.1.3. Trees with external signs characteristic of internal issues will be recommended for further surveying using modern electronic internal examination equipment. Recommendations and suggestions about non-arboricultural matters may be given. This may include built structures, construction techniques, and soil data. Any opinion expressed as such should be viewed as provisional and confirmation from a qualified professional sought.



19/04/2022

7. Appendix A

Figure 1





19/04/2022

Figure 2





19/04/2022

Figure 3





19/04/2022

Figure 4





19/04/2022

Figure 5





19/04/2022

Figure 6





19/04/2022

Figure 7





19/04/2022

Figure 8





19/04/2022

Figure 9





19/04/2022

Figure 10





19/04/2022

Figure 11





19/04/2022

8. Qualifications

This report was constructed and written by

Oliver Lower *ND Arb L3, Dip Arb L4, Dip Arb L6*

Director & Principal Arboricultural Consultant

I have 18yrs experience in the Arboricultural industry having worked in both the UK and New Zealand during that time. and have attained the following accreditations a Level 4 Diploma (ABC) & Level 6 Diploma (ABC) in Arboriculture as well as a LANTRA Professional Tree Inspection Qualification. I provide consultancy service to a number of local government authorities and tutor in Arboriculture at Merrist Wood college. A comprehensive list of my qualifications, experience and training can be found on LinkedIn using this link: <https://www.linkedin.com/in/oliver-lower-527a7377/>

Qualifications:

Professional Tree Inspection (LANTRA)

National Diploma Arboriculture L3

Level 4 Diploma Arboriculture (ABC)

Level 6 Diploma Arboriculture (ABC)



19/04/2022

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