TREE FRONTIERS

ENHANCING THE PRESENT TO ENSURE THE FUTURE

Frogsditch Farm, Shepiston Lane, Heathrow

ARBORICULTURAL IMPACT ASSESSMENT

Site:	Frogsditch Farm, Heathrow
Postcode:	UB3 1LL
Client:	Cappard Estates Ltd

Document Ref:	186-FRO-RPT-AIA
Revision No	3
Date:	16th February 2023
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Schedule to be read in conjunction with this report:

Type	Reference	Version
Tree Schedule	186-FRO-INF-SCH	1

Third Party Reports relied upon for the Arboricultural Impact Assessment:

Document Name	Authoring Company	Document Reference
Site Location Plan	Mott Macdonald	MMD-372345-C-DR-00-XX-2003
Landscape Masterplan	BERRYS	WA44182_PL_01

NON-TECHNICAL SUMMARY

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EXECUTIVE SUMMARY

I have been instructed to provide an assessment of the impact from the development proposal on the existing tree stock at Frogsditch Farm, and to assist with the application for the submission of reserved matters for the outline application (Ref: 10181/APP/2018/4485) which was approved on 28th February 2020.

The development is for the demolition of 5 existing buildings and construction of replacement building/s with a combined floor space of 1,402.9 sqm and associated hard standing, fencing and landscaping for use class B8.

A tree survey has been completed following the guidance provided by BS5837 (2012) *Trees in relation to design, demolition and construction – Recommendations*. A total of seventeen trees and groups of trees have been recorded within the survey area, and all have been categorised as part of a quality assessment to determine the extent of the tree related constraints on site.

- One tree has been assessed as being of high quality and condition (Category A)
- Three trees and one group of trees have been assessed as being of moderate quality and condition (Category B)
- Six trees and five groups of trees have been assessed as being of low quality and condition (Category C)
- One tree has been assessed as being of poor quality and condition (Category U).

This updated survey provides greater clarity on the existing tree stock, particularly the western boundary of the site.

This development will not require the removal of any trees or groups of trees. No facilitation pruning is required for either site access nor to allow full implementation of site development works expected to be approved in the planning permission.

The retained trees will be protected throughout the development phase through the use of fencing to form a barrier, behind which there will be no access for machinery or materials required for development. The majority of this protection is already provided by existing site palisade fencing. Where this is not present additional temporary tree protective fencing will be erected.

It should be noted that while the tree survey data varies slightly from that presented in the approved outline application, the overall arboricultural impact or lack thereof, remains consistent with that presented at outline stage.

1. INTRODUCTION

Instruction

1.1 I have been instructed by Cappard Estates Ltd to undertake a tree survey and prepare an arboricultural report.

Scope

1.2 The scope of this instruction has been to:

- Undertake a tree survey to determine the range, age and quality of trees across the site;
- Provide advice and guidance to the project design team on all matters relating to trees (excluding ecological matters or landscape design); and
- Prepare the required reports and plans to assist with the application for the submission of reserved matters for the outline application (Ref: 10181/APP/2018/4485) approved on 28 February 2020.

1.3 The tree survey was to be conducted in accordance with the guidance provided in BS5837 (2012) *Trees in relation to design, demolition, and construction - Recommendations* ('BS5837').

1.4 All plans and reports following the tree survey were also to follow the recommended processes defined in BS5837 and any other industry advice that provides best practice guidance for managing the relationship between trees and construction processes.

Site Description

1.5 Frogsditch Farm ('the Site') is centred at OS Grid Reference TQ081787 and around postcode UB3 1LL.

1.6 The Site is approximately 1.17Ha (2.89 acres) in size and is predominantly covered in tarmac and currently used for vehicle storage. The majority of tree cover is associated with offsite trees along the western boundary of the site. Small groups of trees are present on the southern and north-eastern boundary too.

Caveats and Limitations

1.7 While all reasonable efforts have been made to identify the condition and quality of the trees on site, the statements made in this report and schedules do not take into account the effects of extreme weather events, vandalism or accidents, or changes to the site that may affect trees that have taken place since the date of the survey.

1.8 I can confirm that the survey has been undertaken in accordance with industry best practice recommendations and guidance, but no warranty is provided in relation to changes to the site that occur after the date of the survey that may have an impact on the tree stock present at the time of the survey.

1.9 Unless stated differently in captions, all photographs used in this report have been taken by the tree surveyor at the time of the site visit.

1.10 The comments and observations made within this report will cease to be valid either within two years of the date of the survey (unless specifically stated elsewhere within the report), or when site conditions change or any works to trees take place that have not been specified within this report, whichever is the sooner.

1.11 The survey has been undertaken without the benefit of a topographical survey. The location of all trees and groups detailed in this report have been plotted on site using a Trimble TDC600 digital mapper and no warranty is given as to the accuracy of this data.

1.12 This survey has been limited to identifying arboricultural features within the Site. It does not include any ecological assessment or landscape appraisal of trees, groups, woodlands or hedges beyond the scope of BS5837.

1.13 Although I am occasionally involved in landscape, ecological and planning issues, I have no formal qualifications in these areas and any comments made in this report to such matters are limited to the general context in view of my familiarity through my day-to-day work, and professional advice should be obtained on these matters where required.

1.14 This report relies on the following documents and plans that have been provided by third parties:

Document Name	Document Reference	Prepared By	Supplied Date
Site Location Plan	MMD-372345-C-DR-00-XX-2003	Mott Macdonald	January 2023
Landscape Masterplan	WA44182_PL_01	BERRYS	January 2023

2. DEVELOPMENT PROPOSAL

2.1 The development is for the demolition of 5 existing buildings and construction of replacement building/s with a combined floor space of 1,402.9 sqm and associated hard standing, fencing and landscaping for use class B8, and received outline approval on 28th February 2020.

3. TREE SURVEY AND CONSTRAINTS

Tree Survey

3.1 The tree survey was carried out by Paul Billin on 16th January 2023.

Tree Survey Methodology

3.2 The survey has been carried out as a ground based visual assessment only following the guidance provided in BS5837.

3.3 This report includes:

- A schedule of the relevant trees to include base line data and quality assessment.

3.4 The purpose of the tree survey has been to provide an assessment as to the quality and non-fiscal value of the trees on Site.

General Data Capture

3.5 For reference, individual trees are identified with the letter T and associated number on the Tree Schedule and on a plan showing the extent of tree constraints. The stem diameter of the trees on Site was recorded using a rounded down diameter tape or a digital hypsometer, measured at 1.5m above ground level. Measurements were recorded in millimetres, rounded to the nearest 10mm.

3.6 The height of the subject trees was measured to the nearest metre using a digital hypsometer.

3.7 Maximum crown spread of the subject tree was measured from the edge of the trunk to the tips of the live lateral branches taken at four compass points (N-E-S-W). Crown spread measurements were taken in metres.

3.8 Tree age was estimated from visual indicators (such as tree size and appearance of bark) which is provided as a provisional guide.

3.9 Groups of trees were identified with the letter G and number on the associated schedule and plans. Crown spread was assessed using topographical data to position the extents. Stem diameter of groups of trees was set as an average stem diameter of the trees within these individual groups and a maximum height of the tallest tree within the group.

3.10 If direct access to a tree was not possible, estimations from appropriate vantage points were taken. Any limitations or estimations are presented within the survey limitations section and noted in the associated schedules.

Categorisation

3.11 In compliance with Table 1 of BS5837 the trees surveyed have been categorised according to their arboricultural quality and value (non-fiscal) which is summarised below in Table 1.

Table 1 - Summary of BS5837 categorisation colours

Category	Colour	Description
A	Green	Trees of high quality with an estimated remaining life expectancy of at least 40 years
B	Blue	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
C	Grey	Trees of low quality with an estimated remaining life expectancy of at least 10 years
U	Red	Those 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

4. ARBORICULTURAL ASSESSMENT

4.1 The tree survey identified minor discrepancies in the original baseline data due to the time since the original tree survey. As such, updated tree details were recorded and are presented in this report and the attached schedule.

4.2 A summary of the discrepancies is detailed as follows:

- Trees since removed (Mott Macdonald Ref: T2); and
- Minor increases in tree stem, height and canopy growth.

4.3 Despite the minor variations to the survey data, no additional constraints than those detailed in the previously approved scheme have been identified. As such, no new tree related plans have been provided and a summary of the updated tree data has been included below for ease of reference.

Tree Quality

4.4 A summary of the tree surveyor's assessment on the quality of the trees is presented in Table 2.

Table 2 - Summary of tree quality on site

	Category A	Category B	Category C	Category U	Total
Group	-	1	5	-	**6**
Tree	1	3	6	1	**11**
Total	**1**	**4**	**11**	**1**	**17**

Below Ground Constraints - Root Protection Area

4.5 The Root Protection Areas (RPA) is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. This does not account for the actual depth of the soil within the area, nor does it account for any requirement for working space during development.

4.6 The RPA of each tree has been calculated in accordance with Section 4.6.1 in BS5837. This is determined through multiplying the stem diameter of each tree, measured at 1.5m above ground level, by a factor of 12.

4.7 The RPA is initially recorded as a circle with the tree in the centre. Where site conditions may influence the shape and size of the RPA (e.g. the presence of roads, buildings or other structures), the shape and size of the RPA can be amended in accordance with Section 4.6.3 in BS5837.

4.8 Existing site conditions in the form of existing built form, means that the rooting environment of four trees and six groups of trees likely have impeded root growth into the site. Although tree numbers vary, this constraint was identified in the consented arboricultural documents prepared by Mott MacDonald (Ref: 372345-TPN-HWY-001-C) and therefore is not discussed further within this report.

5. STATUTORY AND OTHER CONSTRAINTS

Statutory Considerations – Tree Protection

5.1 Frogsditch Farm is located within the boundary of the London Borough of Hillingdon (LBH), the Local Planning Authority (LPA). The LPA has a statutory obligation to ensure that provision is made for the protection of trees, through section 197 of the Town and Country Planning Act (1990). The principal form of protection comes through trees being subject to a Tree Preservation Order or being located in a conservation area. A search has been undertaken on the LBH website to determine the presence or otherwise of TPO or Conservation Areas.

5.2 The results of the search reveal that the Site is not located within a conservation area, and that none of the trees on site are subject to a TPO.

Forestry Act

5.3 The Forestry Act (1967) requires that permission is obtained from the Forestry Commission for the felling of any trees in England or Wales. There are certain exceptions from this requirement including the felling of trees required to allow a planning permission to be carried out[1].

5.4 In this instance there are no trees on site requiring felling permission from the Forestry Commission

Non-statutory considerations

5.5 An online search has also been undertaken to determine any non-statutory designations at the Site that may be a consideration in relation to trees. This has revealed that the Site has no such designations.

5.6 A search has also been undertaken on the Multi Agency Geographic Information for the Countryside (MAGIC) mapping system to determine if the woodland on or in proximity to the Site has been designated as ancient woodland. The results indicate that there is no woodland that meets the criteria for this designation.

[1] Tree Felling- Getting Permission (Forestry Commission)

Soils

5.7 Paragraph 4.3 of BS5837 recommends that a soil assessment be completed by a competent person to inform decisions relating to the RPA, tree protection, new planting design and foundation design. I am not able to provide this assessment as I have no formal qualifications in this area, and professional advice should be taken to provide any detailed reports.

5.8 However, generic soil data is freely available from online sources such as the Geology of Britain viewer[2] which can provide a broad indication of the underlying geology of a site. The results of a search for this Site describes the geology as being '*London Clay Formation - Clay, silt and sand. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period*'. This could weather to produce a shrinkable clay soil and therefore guidance on foundation design in relation to trees, such as NHBC Chapter 4.2, may need to be consulted if site specific soil tests confirm the presence of shrinkable clay.

5.9 The soil type will have an impact on any recommendations for replacement or enhancement planting that may form a part of any landscape strategy for a planning application.

6. NATIONAL AND LOCAL PLANNING POLICIES

National Planning Policy Framework 2021

6.1 National Planning Policy is currently defined by the National Planning Policy Framework (NPPF). This provides the most current and up to date planning guidance.

6.2 At the heart of the NPPF is a presumption in favour of sustainable development, and specifically states that for decision making, the LPA should be approving development proposals that accord with the development plan without delay.

6.3 Section 12 of the NPPF recognises the importance of integrating trees into urban environments as part of achieving well-designed places. While the primary focus is on new tree planting, the importance of retaining existing trees and incorporation into proposals is a driving factor, stating that:

> *"Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users."* (Paragraph 131)

6.4 In addition, Section 15 of the NPPF recognises the importance of conserving and enhancing the natural environment, and specifically acknowledges the role of trees and woodland in the provision of natural capital and ecosystem services.

[2] http://mapapps.bgs.ac.uk/geologyofbritain/home.html?

6.5 It further acknowledges the importance of ancient woodlands and veteran trees for habitats and biodiversity and requires that planning consent should be refused where development schemes require the removal of such features unless there are wholly exceptional reasons, stating that:

> *"development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists." (Paragraph 180, c)*

Local Planning Policy

6.6 The LPA has a duty to ensure that local matters are considered through the planning process, and this includes protection of trees.

6.7 The policies within the Local Plan that are relevant to trees are summarised in Table 3 below.

6.8 In this instance there are no tree removals anticipated and no significant issues to be considered for the protection of the retained trees.

Table 3: Summary of Local Planning Policy

Policy No	Title	Description (this is not a full copy of the policy. Only extracts relevant to trees are included below)
Local Plan 2	The London Borough of Hillingdon Local Plan Part 2 (January 2020)	• BE38 of the Unitary Development Plan Saved Policies 2007 which requires applications to provide an accurate tree survey showing the location, height, spread and species of the tree in relation to the proposed development. • Policy DMHB8 notes that development proposals should make provision for the restoration and long-term management of landscaping. • Policy DMHB 14 covers how trees and landscaping are to be incorporated into new developments, including that development proposals need to provide a landscape scheme.
LPP 7.21	The London Plan (2016)	Trees and woodlands: • Existing trees of value should be retained and any loss as the result of development should be replaced following the principle of 'right place, right tree'[1]. Wherever appropriate, the planting of additional trees should be included in new developments, particularly large-canopied species • Boroughs should follow the advice of paragraph 118 of the NPPF to protect 'veteran' trees and ancient woodland where these are not already part of a protected site.

7. ARBORICULTURAL IMPACT ASSESSMENT

General Considerations

7.1 Development can have an adverse impact on trees and other woody vegetation within a site, which can result in:

i. Immediate tree removal to facilitate the footprint of a new development;

ii. Potential future tree loss through the early decline of trees due to soil compaction or damage;

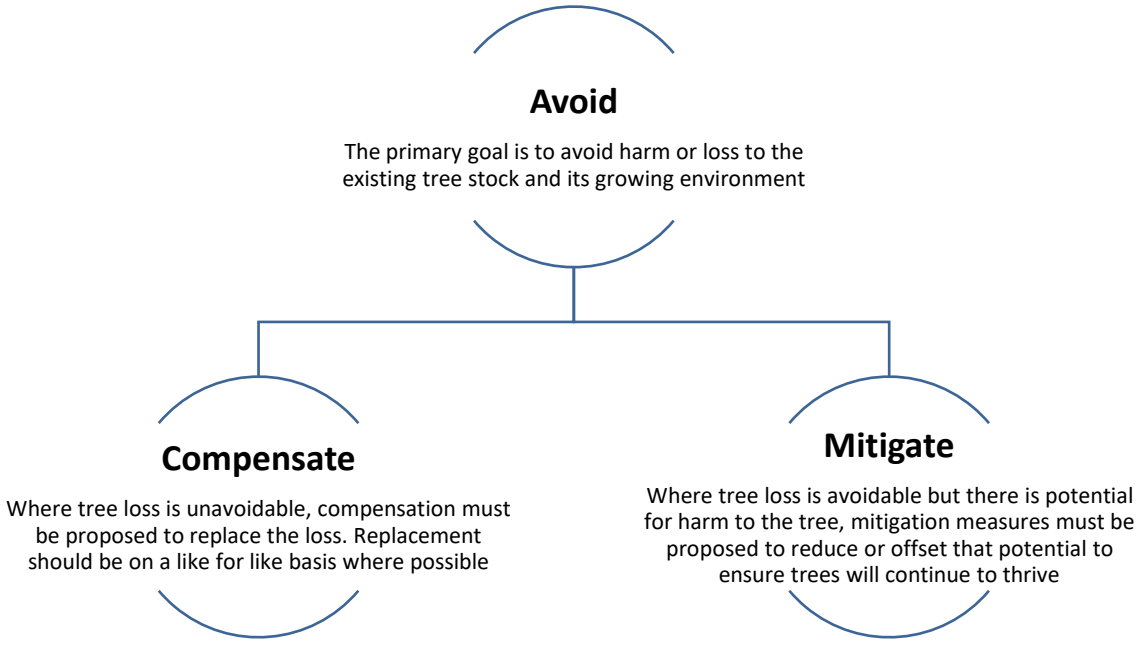
iii. Root disturbance and damage within a tree's rooting area; and

iv. Canopy removal or damage due to plant movement.

7.2 Best practice guidance proposed by the arboricultural sector seeks to ensure that there is a harmonious relationship between trees and development that will ensure that both trees and structures can be retained in the long term[3].

7.3 Where practical, development should seek to work with the natural environment, and development schemes that might result in harm should follow a mitigation hierarchy to ensure harm is minimised.

7.4 To assist the planning decision makers, this scheme should use the following mitigation hierarchy to consider the influence that trees might have on site design while also continuing to make a positive contribution to the site and local character of the area, both during and post development:



Assessing Impacts

7.5 The impact of any tree loss is assessed against a criterion in relation to the arboricultural significance of the loss, the detail of which is provided in Table 4. This table is not related to the quality categories provided in BS5837 but has a closer relationship to the sub-categories through assessing the impact that tree loss may have at the Site and its setting in the wider locality. This assessment is also useful in considering the impact of any potential loss against planning policy.

[3] BS5837 (2012) Page 1

Table 4 - Impact Assessment definitions

Scale of Impact	Definition
Major	Total loss or major/substantial alteration to key trees/features of the baseline (pre-development) conditions such that the post development character or composition will be fundamentally changed. This would generally apply to tree(s) that are of exceptional or high quality and condition and their loss would be irreplaceable. This would also include trees that have been categorised as being Ancient or Veteran, trees are rare examples of their species and or trees that offer significant amenity value to the character and setting of the area.
Moderate	Loss or alteration to one or more key trees/features of the baseline conditions such that post development character or composition of the baseline will be materially changed. This would generally apply to tree(s) that are of good quality and condition and make a notable contribution to the setting or character of the locality (visual amenity). This may include trees that would be hard to replace but for which there could be some mitigation over a medium timeframe (20-40 years).
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character or composition of the baseline condition will be similar to the pre-development circumstances/situation. This would generally apply to tree(s) that are of low quality and condition and/or their loss would have low impact on the locality. These trees would be relatively easy to replace within a short timeframe (10-20 years).
Negligible	Very little change from baseline conditions with any change barely distinguishable. This would generally apply to tree(s) that are of low quality and condition, and/or their loss would barely be noticeable. Any replacement planting would offer an improvement to the setting of the site in a very short time frame (1-10 years)
No Change	There is no change to the baseline conditions to trees from the development proposal.

Arboricultural Impact – Tree Loss

7.6 The proposed development will not result in the loss of any tree.

Arboricultural Impact – Tree Pruning

7.7 Facilitation pruning is not anticipated to be required for site access nor to allow full implementation of site development works to be approved in the planning permission.

Arboricultural Impact – Encroachment of the RPA

Access Routes

7.8 The access route along the western boundary, which also relays through to the site at the north, has been surfaced with a hard surface, finished with a tarmacadam wearing course, and edged with concrete block kerbs. The construction specification of the road is not known to the author.

7.9 The northern section of this access road is to be reverted to loose stone. As this area has already been subjected to hardsurfacing, and RPAs offset, there is negligible impact on the adjacent trees from these works.

7.10 No other alterations to the access drive are proposed and therefore no encroachment into the RPA of retained trees is required as a result of this design scheme.

7.11 It should be noted that while the tree survey data varies slightly from that presented in the approved outline application, the overall arboricultural impact or lack thereof, remains consistent with that presented at outline stage.

Underground Services

7.12 No details of underground services have been provided as part of this assessment.

7.13 There is sufficient space remote from trees to accommodate new underground services without encroaching the RPAs of retained trees.

7.14 Should any services be required within any RPAs an additional assessment by a suitably qualified arboriculturist will be required.

Principles of Tree Protection

7.15 The protection measures detailed in the submitted and approved arboricultural report (Mott MacDonald Ref: 372345-TPN-HWY-001-C) remain accurate and appropriate. For ease of reference, these have been reiterated below and will be adopted across the site for the duration of the project:

- All retained trees will be protected by fencing that will form the CEZ.
- Where fencing cannot provide the necessary protection measures, alternative systems will be installed that will ensure retained trees are protected. This may include the use of either temporary or permanent ground protection.
- There will be no storage of materials, or access for construction workers or machinery within any CEZ.
- There will be no excavation within a CEZ. All utilities and underground services will be located outside the CEZ or tap into existing service routes.
- Any storage or mixing station located outside of a CEZ will be located in a place that minimises the risk of contaminated runoff entering the CEZ and damaging the rooting environment. This may be achieved by using a non-permeable membrane on the ground, surrounded by sandbags to contain any spillage.
- There will be no fires within a CEZ.

- There will be no use of herbicides within a CEZ.

7.16 Provided that the measures detailed above are implemented and adhered to, it is unlikely that the retained trees will come to any harm from the development process.

7.17 In this instance there should be no requirement for the LPA to condition a detailed AMS as part of the final planning consent to secure the protection of the retained trees.

8. CONCLUSION

8.1 Providing the protection measures set out above are installed, maintained, and remain *in situ* until all works activity is completed, there will be no significant impacts on the retained trees.

8.2 Arboricultural site supervision is considered unnecessary and would be disproportionate to the risk associated with the work. A suitably qualified Project Arboriculturist must be engaged to provide technical advice should it be required.

About the Tree Surveyor

8.3 Paul Billin is a chartered arboriculturist, with an honours degree in forestry from University College of North Wales, Bangor (1981).

8.4 He has over 30 years' experience working in the sector and is a chartered member of the Institute of Chartered Foresters, and abides by their code of ethics and professional standards.

About the Author

8.5 I am a director of Tree Frontiers Ltd and a chartered arboricultural consultant, with a master's degree in urban forestry and arboriculture from Myerscough College, accredited by the University of Lancaster.

8.6 I have 9 years' experience working in the sector and am a chartered member of the Institute of Chartered Foresters. I am also a professional member of the Arboricultural Association and abide by the code of ethics and professional standards of these institutions.

9. REFERENCES

9.1 This report has relied upon the following external reference sources:

- British Standards Institution (2012) BS5837: *Trees in relation to design, demolition and construction – recommendations*. London: BSI
- Gov.uk (2021) *National Planning Policy Framework*. [Available online: https://www.gov.uk/government/publications/national-planning-policy-framework--2
- London Borough of Hillingdon online search of *Conservation Area Status and Tree Preservation protection* (Accessed 16.01.2023)
- British Geological Society (2023) *Geology of Britain Viewer*. [Available online: http://mapapps.bgs.ac.uk/geologyofbritain/home.html? (Accessed: 16.01.2023)
- Cranfield Soil and Agrifood Institute (2023) Soilscapes [Available online: http://www.landis.org.uk/soilscapes/# (Accessed 16.01.2023)
- Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees, A Handbook for Failure Analysis Research for Amenity Trees No.4*. HMSO