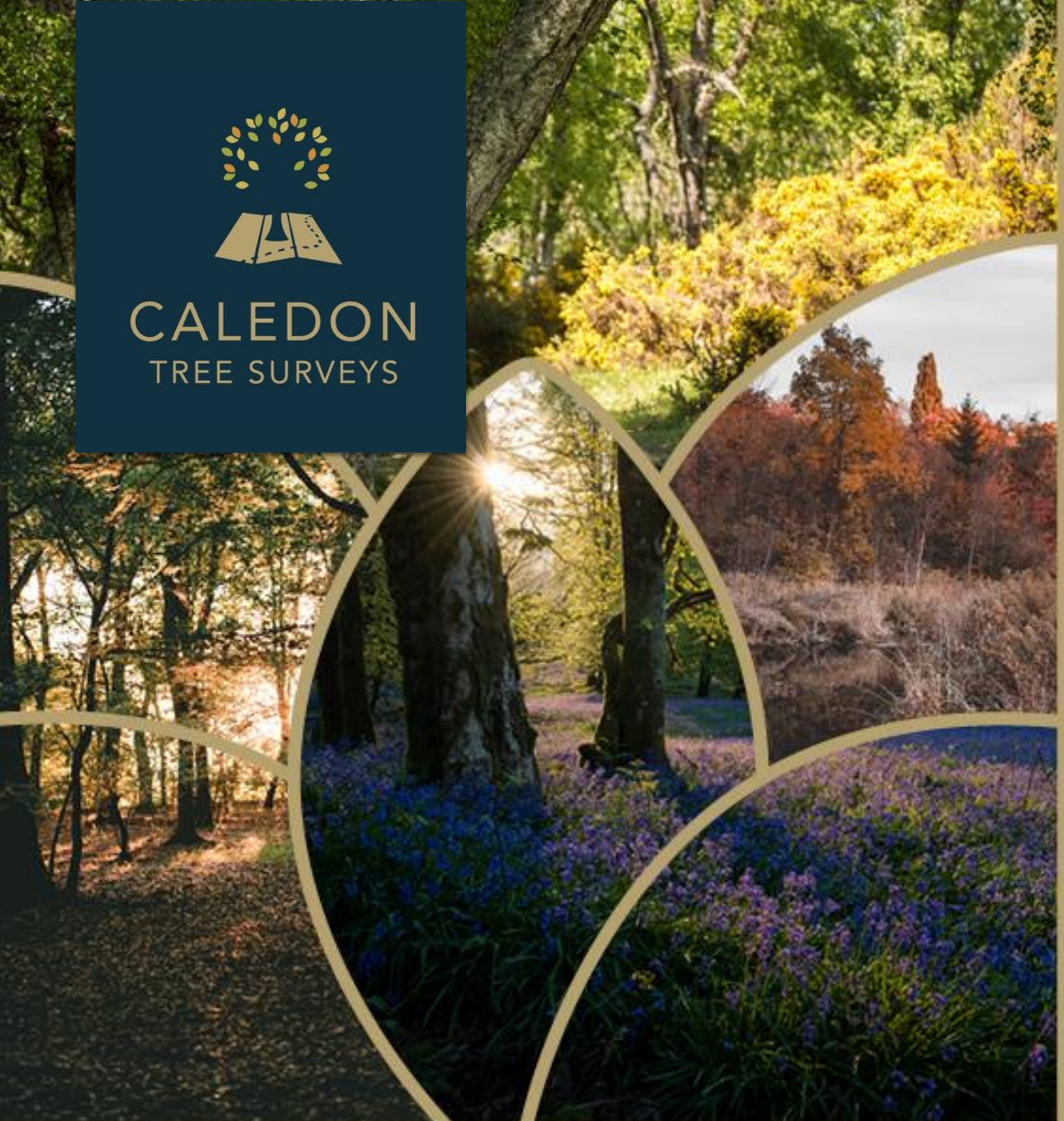

CALEDON
TREE SURVEYS

BS5837:2012 Tree Survey

Land at Old Manse Stud
Station Road
Balfron
G63 0SX

December 2023

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Abstract

Site: Land at Old Manse Stud, Station Road, Balfron, G63 0SX

Grid Reference: NS 54090 89072

Client: Countryside Steadings

Date: December 2023

Survey Reference: BS_231206

Document Reference: BS_231206_SR

Table of Contents

Section B Report Overview

1 Structure of Report

The report comprises the following sections:

- This **Overview:** a guide to navigating the Report and a summary of the survey findings
- **Preliminaries**: background information about our commission and how we approached the project
- **Tree Survey:** the essential data about the trees and some more detailed interpretation of our findings; also a note of any works which might need done to make the trees safe
- **Appendices**: Photographs, maps and keys to the survey terminology

Section C Preliminaries

2 Terms of Reference

2.1 Title

2.1.1 BS5837 Tree Survey: Land at Old Manse Stud, Station Road, Balfron, G63 0SX..

2.2 Definition of survey area

2.2.1 As indicated by red-line boundary (RLB) on your supplied OS map extract *Land at Old Manse Stud, Station Road, Balfron, G63 0SX* drawing Ref. 0209385/ID dated November 2023.

2.3 Authority

2.3.1 The survey was instructed on 13 December 2023 by John Campbell on behalf of Countryside Steadings.

2.4 Survey team

2.4.1 David Gallacher, Graeme Millar

2.4.2 David Gallacher is a Lantra qualified Professional Tree Surveyor and Inspector and is a member of the Arboricultural Association and The Consulting Arborists Society. Graeme Millar is a Technician Member of the Arboricultural Association. Caledon Tree Consultants was established in 1995.

2.5 Date(s) of inspection

2.5.1 22 12 2023.

2.6 Purpose of survey

2.6.1 The objective of the survey is to provide an assessment of and report on the nature, condition and essential characteristics of the tree canopy on land which is being considered for development.

2.7 Scope of survey

2.7.1 The scope of the survey is defined as a *Stage 1 Visual Tree Assessment* (Mattheck & Breloer, 1995) and the report is compliant with *British Standard Specification No 5837*:2012. All comments on specimen condition are made with reference only to the status-quo position of the site. Unless specified, the survey excludes any reference to underground services.

2.8 Limitations

2.8.1 This report is the property of and for the sole use of the clients cited above and should under no circumstances be relied upon by third parties. The findings contained herein are strictly related to the condition of trees and the pattern of usage of surrounding land evident at the time of the inspection.

2.9 Note on hazard and risk in relation to trees

2.9.1 Trees are complex living organisms subject to biotic and abiotic influences and the unpredictable forces of nature. In addition, latent defects both above and below ground which may impinge on the health and structural stability of a tree can be present without physical evidence being available to the naked eye. As noted by the Hon Mr Justice Mackay in a recent landmark ruling relating to the issue of tree safety: "*Both experts in the case agree...that there is no such thing as an entirely safe tree*" [1].

2.9.2 The issue of safety surrounding a tree comprises a balance between Hazard (defined as the potential to cause harm) and Risk (the level of likelihood that a hazardous tree will cause damage). It is part of the purpose of this document, within the specified limitations, to note defects and other conditions within and surrounding the trees which constitute a hazard.

2.9.3 Assessment of the level of risk associated with any recorded hazard has been made on the basis of current manifest evidence (*eg* proximity of roads, footpaths etc) but it is the responsibility of the client to take account of any alterations to surrounding conditions or pattern of land-use

[1] *Bowen (A Child) & Ors v The National Trust [2011] EWHC 1992 (QB) (27 July 2011)*

3 Site Characteristics

3.1 Location

3.1.1 The survey site lies on the NW periphery of the Stirlingshire village of Balfron, to the SE of Station Road.

3.2 Elevation

3.2.1 90m above sea level.

3.3 Topography

3.3.1 Generally level with minor engineered embankments.

3.4 Surrounding landscape

3.4.1 Slightly inclined from W to E.

3.5 Wind exposure

3.5.1 Moderate-substantial. The subjects stand in a location locally exposed to prevailing south-westerly winds.

3.6 Environment

3.6.1 Soil analysis was not carried out but soil quality is taken to provide an adequate growing medium for the trees.

3.6.2 Drainage as it affects the trees appears at the time of the survey to be generally effective.

4 Survey Methodology

4.1 Basis of recording

4.1.1 The canopy is recorded and assessed under the following headings:

- Trees No 9719-9732: individually recorded tree specimens
- Tree group G1

5 Desk Study

5.1 Tree protections

5.1.1 Our briefing indicates that the subject property does not fall within the scope of a designated Conservation Area or Tree Preservation Order.

5.1.2 Development works are ongoing at the time of the survey and trees on site may be the subject of condtion(s) on any planning consents issued by the local planning authority (LPA).

5.1.3 Under the terms of such conditions it may be prohibited to cause or permit interference, damage or destruction to any tree, group of trees or woodland specified in the condition without the express permission of the relevant local authority department.

5.2 Stirling Local Development Plan

5.2.1 Policy 10.1 of the Stirling Local Development Plan states:

(a) Development proposals should provide protection from adverse impacts resulting from development to important individual trees, groups of trees or hedgerows that contribute to local amenity or have nature conservation or historic interest.

(b) During the construction phase ensure the protection and management of retained trees on development sites in accordance with BS 5837:2012 Trees in relation to design, demolition and construction (April 2012).

(c) All proposals on sites with existing trees or other significant vegetation features within or close to the site boundaries should:

(i) Include an appropriate tree survey and demonstrate how the findings of the tree survey and assessment have informed the development proposals.

(ii) Identify trees proposed for removal and retention, with details of how protection will be afforded.

(iii) Bring forward tree planting proposals to compensate for any removal and / or workable mitigation measures where development would impair connectivity between important woodland habitats.

(iv) Demonstrate suitable arrangements for the long-term management of retained trees and any compensatory planting (on or off-site as appropriate according to the nature and scale of the development). Developers should notify owners of any affected trees.

(v) Ensure the long-term retention of existing and proposed trees by positioning buildings an appropriate distance from them, taking into account the ultimate height of the trees.

(vi) Compensatory planting should take into consideration effects on flood risk. See the Natural Flood Management Handbook for further details.

Section D Tree Survey

6 Commentary

6.1 Overview

6.1.1 This survey studies the tree canopy on the peripheries of a residential development under current construction.

6.1.2 The recorded trees are principally contained within a loosely structured copse to the south of Station Road, with two individual specimen trees standing adjacent to an access driveway.

6.1.3 The majority of specimens are in reasonably good condition, although indicating a notable absence of active arboricultural management and the effects of the rather exposed location.

6.1.4 No interventions are currently recommended with respect to the duty of care owed by the owner occupier to users of the property.

6.2 Specimen trees to W of driveway off Station Rd: trees No 9719 & 9720

6.2.1 Fairly substantial mature Oak specimens in reasonably good condition, constituting a significant feature on the local landscape. See Images No 01, 02 & 03 at Appendix 1, below.

6.2.2 Both indicate a range of deadwoods and fracture sites partly indicative of the exposed location, and No 9719 features a substantial trunk wound, currently undergoing effective compartmentalisation. See Image No 02 at Appendix 1, below. The Oaks are recorded in the survey at BS5837 Retention Category B2.

6.3 Trees within copse in N sector of site: Nos 9722-9732 & tree group G1

6.3.1 The site perimeter to the north of the current development area features a small mixed-species wooded group, generally populated by self-seeded trees of modest stature but featuring occasional older, more substantial specimens. See Image No 06 at Appendix 1, below.

6.3.2 Oak No 9729 is a substantial tree, historically well-structured, but now featuring a large wound from the loss of a co-leader and with a decay cavity forming at the open fracture site. See Image No 05 at Appendix 1, below.

6.3.3 Oak 9725 is a less well-structured mature specimen indicating significant developmental suppression. See Image No 04 at Appendix 1, below. Both of these trees are recorded in the survey at BS5837 Retention Category B2.

6.3.4 Other trees in this area are mixed broadleaf and coniferous specimens, generally of rather modest individual quality and variously graded in the survey at BS5837 Retention Category B2 or C2. They do however combine into a reasonably well-functioning roadside copse, with tree group G1 comprising a background canopy of smaller, rather underdeveloped specimens.

7 Summary of Recommendations

7.1 General

7.1.1 No interventions are currently recommended in order to meet the owner's or occupier's Duty of Care to users of the site.

7.2 Disease management

7.2.1 The canopy should be re-inspected in summer 2024 to assess the progression of Chalara Ash Dieback, and appropriate management recommendations brought forward.

7.3 Re-Inspection of Canopy

7.3.1 The canopy should be re-inspected by a qualified arboricultural consultant and this report updated within a period of two years of the date of issue of this report.

Section E Tree Survey Appendices

Appendix 1. Site Photographs

BS_231206 Land at Old Manse Stud, Balfron Image No 01

Oak No 9719

BS_231206 Land at Old Manse Stud, Balfron Image No 02

Oak No 9719, showing trunk wound with vigourous wound-wood developing

BS_231206 Land at Old Manse Stud, Balfron Image No 03

Oak No 9720 (In foreground)

BS_231206 Land at Old Manse Stud, Balfron Image No 04

Oak No 9725 on NE edge of site, showing suppressed development and smaller Sycamore impacting on trunk

BS_231206 Land at Old Manse Stud, Balfron Image No 05

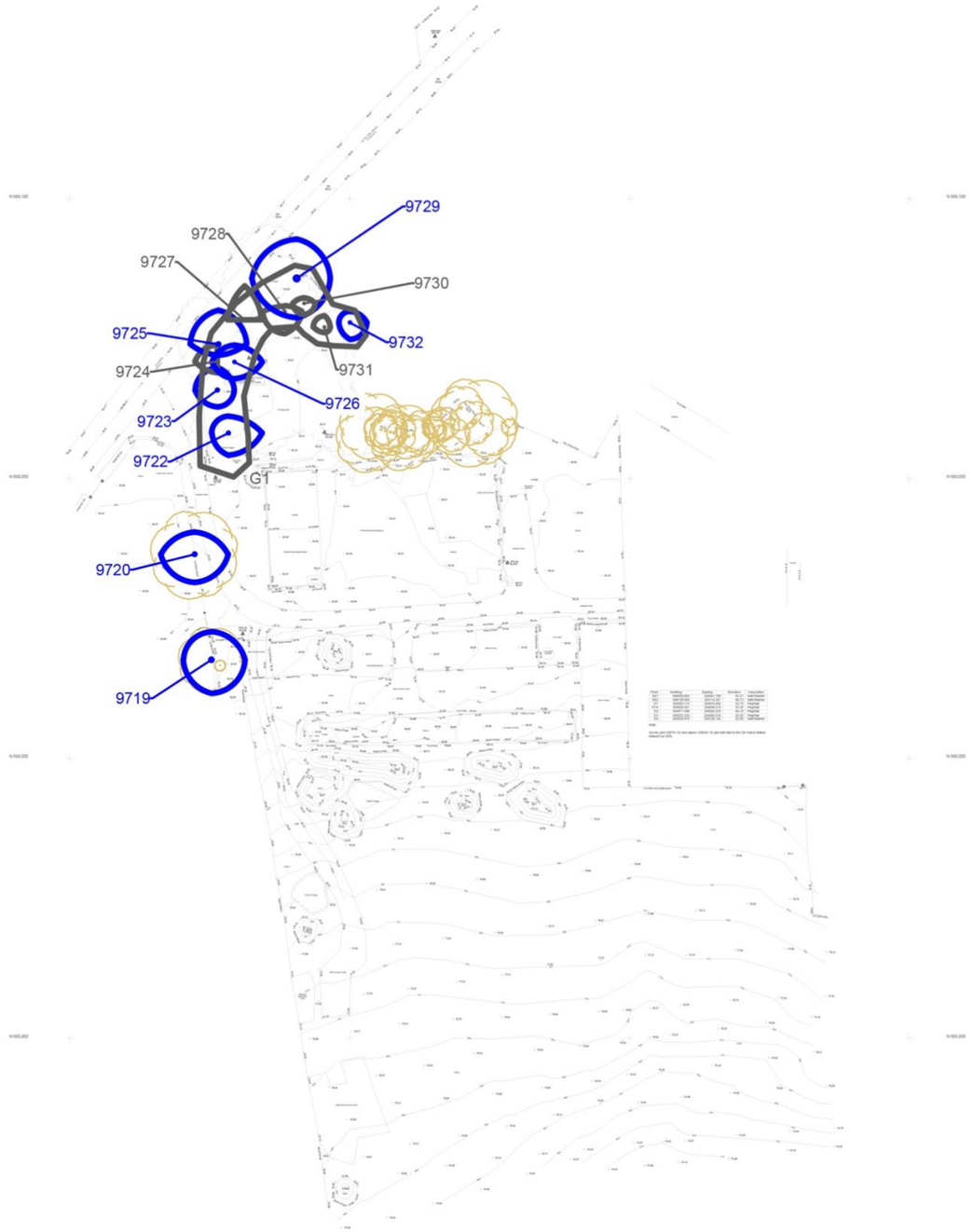
Oak No 9729 showing major fracture wound from loss of co-leader

BS_231206 Land at Old Manse Stud, Balfron Image No 06

Tree group G1 (and individually recorded constituent specimens), from SW

Appendix 2. Mapping Figures

A2.1 Tree Survey Mapping



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BS5837:2012 Tree Survey:
Old Manse Steading, Balfron
Trees No 9719 - 9720; 9722 - 9732
Tree Groups No G1

Scale: 1:1000 @ A3

Survey Date: 22/12/2023
Survey Reference:
BS_231206

N

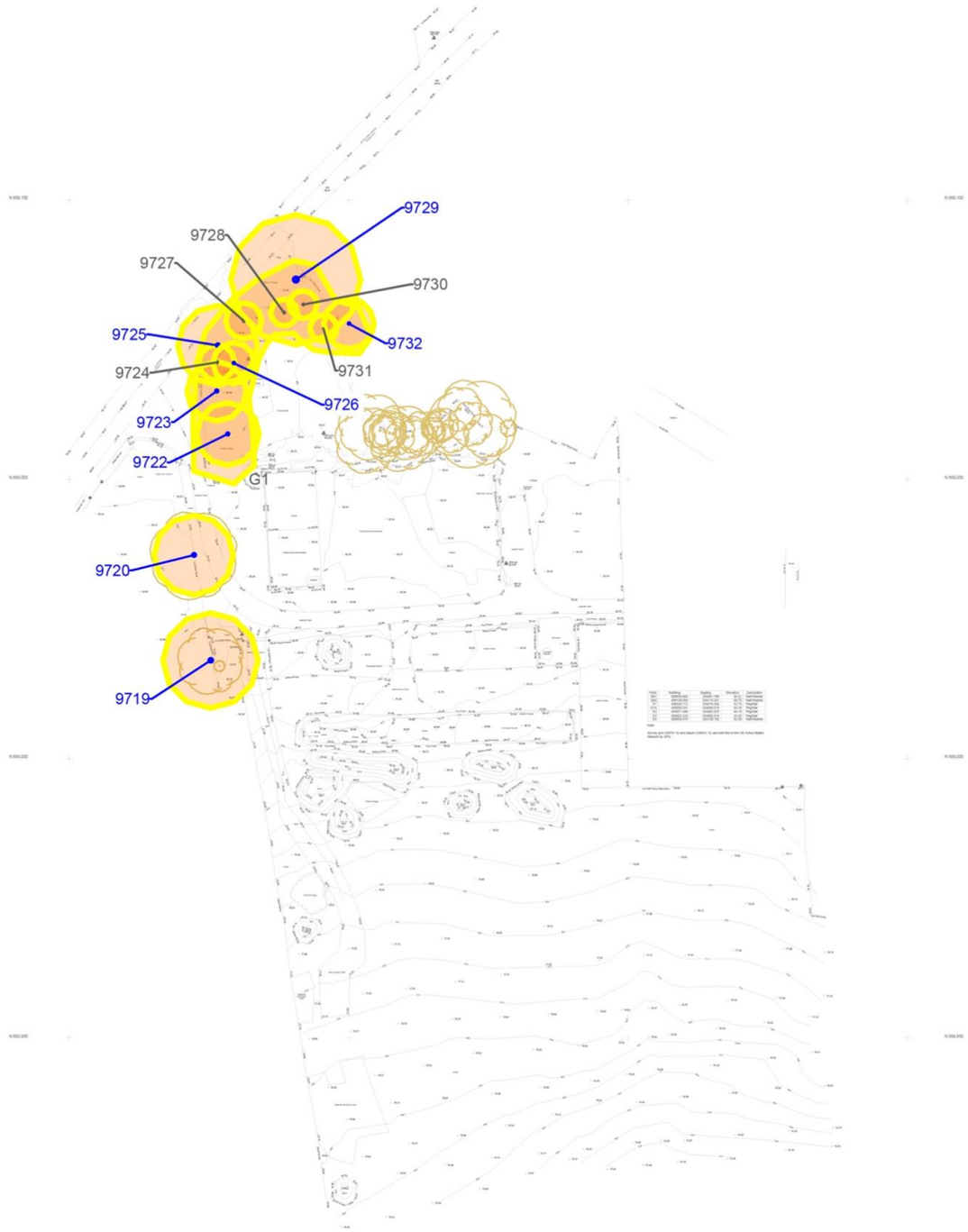
Background Map Source:
Client Supplied Mapping Data

Legend

Category 'A'
Category 'B'
Category 'C'
Category 'U'

1000
Trees with Recommended Works

A2.2 Tree Constraints Plan -Below ground



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Tree Groups No G1

Scale: 1:1000 @ A3

Survey Date: 22/12/2023

Survey Reference:

BS_231206

N

Background Map Source:

Client Supplied Mapping Data

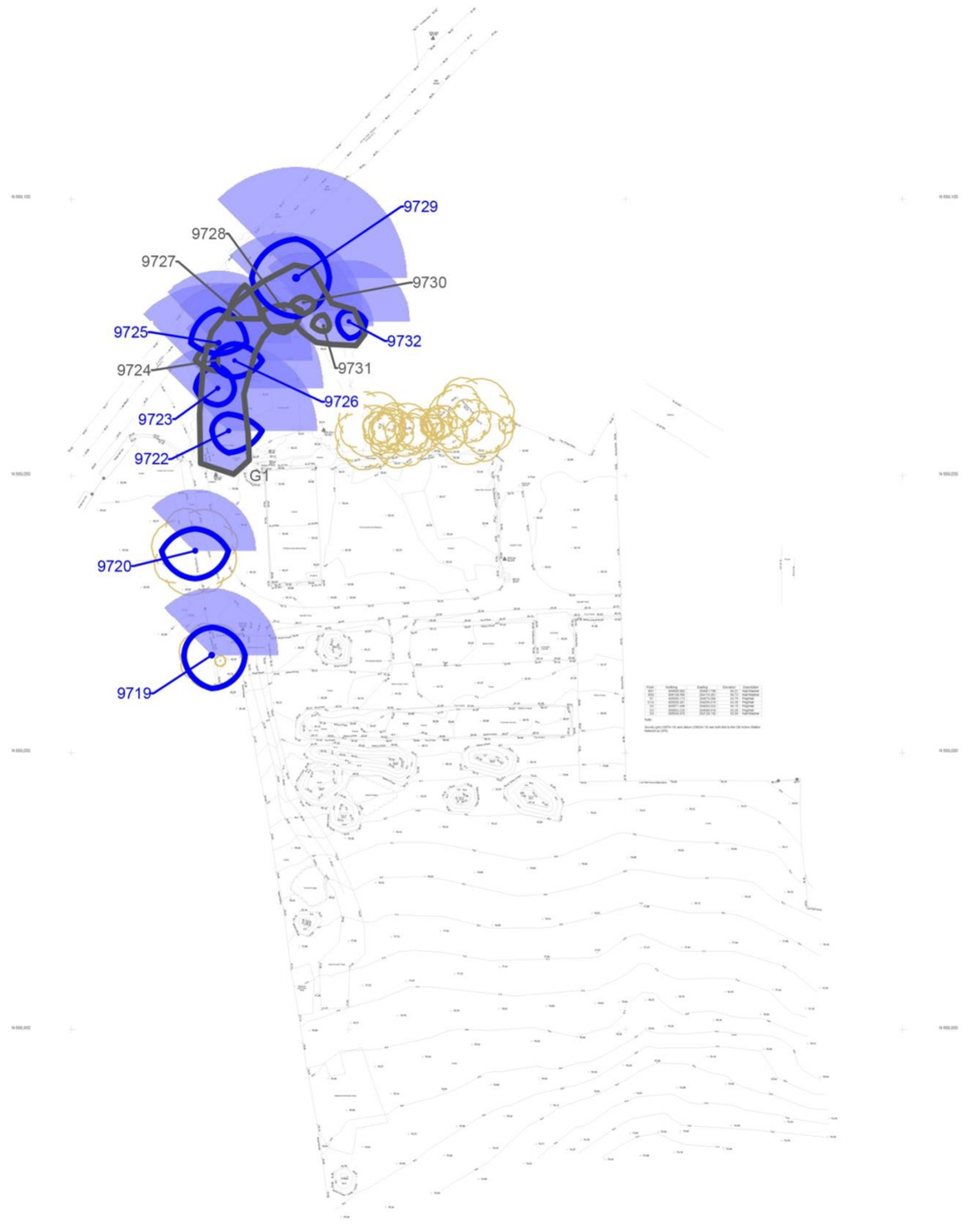
Legend

Root Protection Area

1000

Trees with Recommended Works

A2.3 Tree Constraints Plan -Above ground -Current shading profiles



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Scale: 1:1000 @ A3

Survey Date: 22/12/2023

Survey Reference:
BS_231206

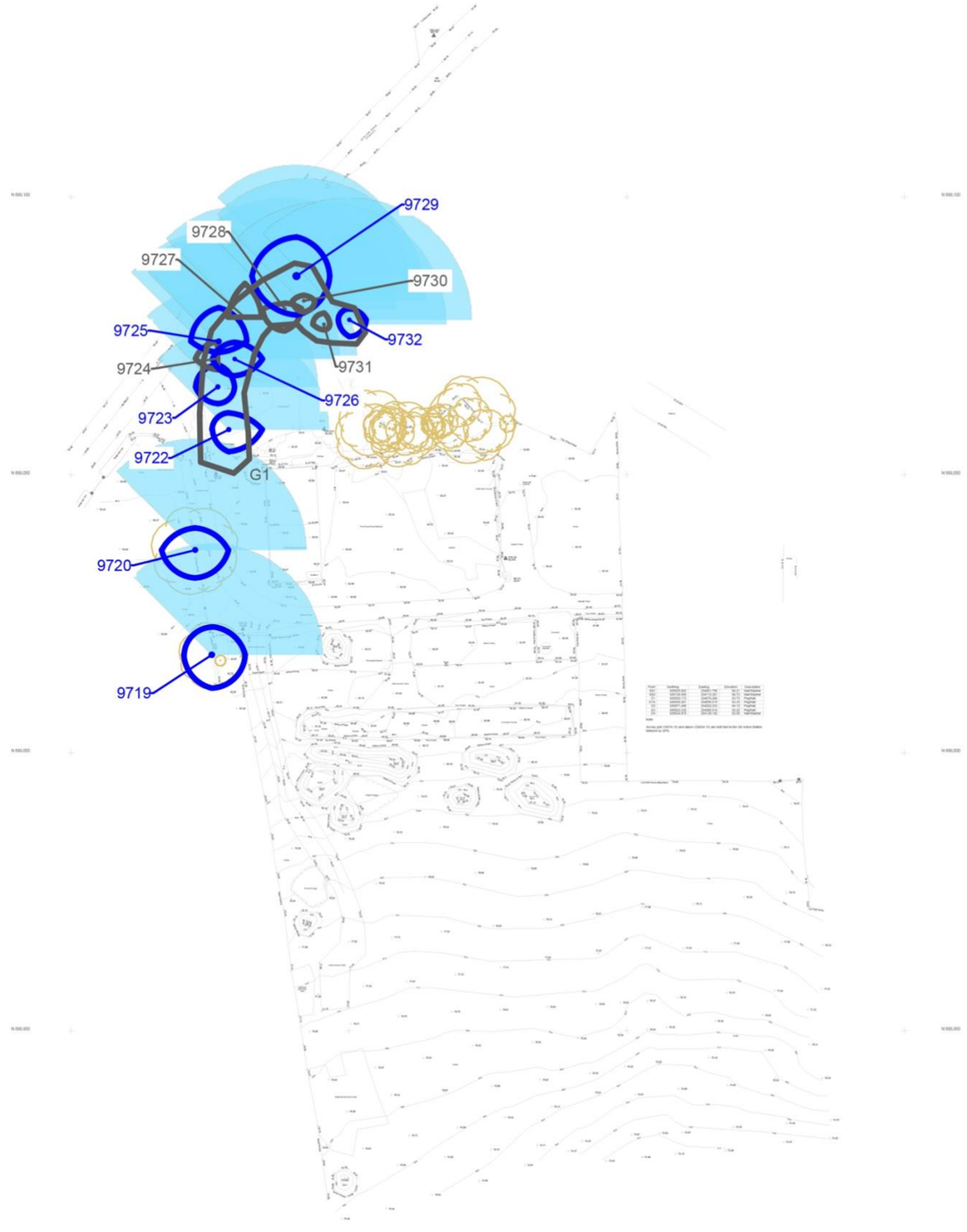
N

Background Map Source:
Client Supplied Mapping Data

Legend

Category 'A'
Category 'B'
Category 'C'
Category 'U'
1000
Trees with Recommended Works
Shading Arc

A2.4 Tree Constraints Plan -Above ground - Projected future shading profiles



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Survey Reference:

BS_231206

N

Background Map Source:

Client Supplied Mapping Data

Legend

Category 'A'

Category 'B'

Category 'C'

Category 'U'

1000

Trees with Recommended Works

Shading Arc

Appendix 3. Survey Schedule

Tree Reference Number	Grid Reference	Species, Taxa	Age Class	Height (m)	Stem Diameter (mm)	Crown Spread (m)	Height (m) and Direction of Lowest Branch	Crown Clearance (m)	Root Protection Area	Physiological Condition	Structural Condition	Condition Notes	Preliminary Management Recommendations	Timeframe for Recommended Works	Estimated Remaining Contribution	BS5837 Retention Category	Photo Reference
9719	NS 54075.25 89017.58	Pedunculate Oak, *Quercus robur*	Mature	12	710	N:5 E:6 S:6 W:5	2(S)	2	Radius: 8.5m. Area: 227 sq m.	Fair to Good	Fair to Good	Mature specimen emerging from W side of stone perimeter wall Site of mechanical bark damage 0.0-1.8m NW with vigorous wound wood developing over some decaying tissue Multiple minor deadwoods and historic branch fracture points	—	—	20+ Years	B2	Images No 01 & 02
9720	NS 54072.25 89036.42	Pedunculate Oak, *Quercus robur*	Mature	11	590	N:4 E:6 S:5 W:6	3(NW)	1	Radius: 7.1m. Area: 158 sq m.	Fair to Good	Fair to Good	Specimen sited on W side of site perimeter fence Multiple points of coarse lopping to branch extensions in E sector of lower crown Minor deadwoods and historic branch fracture points	—	—	40+ Years	B2	Image No 02
9722	NS 54078.33 89058.11	Norway Spruce, *Picea abies*	Mature	16	470	N:3 E:6 S:4 W:3	4(SE)	1	Radius: 5.6m. Area: 99 sq m.	Fair to Good	Fair to Good	Mature specimen at entrance to site 2 co-dominant stems from 5.0m via tension union Crown structure substantially offset to W	—	—	20+ Years	B2	Image No 03
9723	NS 54076.36 89065.76	Norway Spruce, *Picea abies*	Mature	19	440	N:4 E:3 S:3 W:4	10(N)	10	Radius: 5.3m. Area: 88 sq m.	Good	Fair to Good	Mature upright specimen at entrance to site with low crown to stem ratio	—	—	20+ Years	B2	—
9724	NS 54076.36 89070.90	Sycamore, *Acer pseudoplatanus*	Early Mature	8	270	N:3 E:0 S:2 W:4	2(NE)	2	Radius: 3.2m. Area: 32 sq m.	Fair to Good	Fair	Minor specimen growing against adjacent tree No 9724 to N Crown development substantially suppressed from NE	—	—	10+ Years	C2	—
9725	NS 54076.52 89073.98	Pedunculate Oak, *Quercus robur*	Mature	13	590	N:6 E:5 S:2 W:5	3(SE)	3	Radius: 7.1m. Area: 158 sq m.	Fair to Good	Fair	Mature roadside specimen at entrance to site Crown development suppressed from S 2 co-dominant stems from 3.5m via tension union Minor deadwoods and historic branch fracture points Multiple minor decay cavities on stem and scaffold limb with vigorous wound-wood developing Adjacent tree No 9724 growing in close proximity with points of contact between stems	—	—	20+ Years	B2	Image No 04
9726	NS 54079.41 89070.78	Sycamore, *Acer pseudoplatanus*	Early Mature	14	310	N:3 E:5 S:3 W:4	2(N)	2	Radius: 3.7m. Area: 43 sq m.	Fair to Good	Fair to Good	Young tree in linear roadside grouping Crown development slightly suppressed from S S sector of lower crown presenting slightly depleted vigour	—	—	20+ Years	B2	—
9727	NS 54081.21 89078.37	Common Beech, *Fagus sylvatica*	Early Mature	6	270	N:6 E:3 S:0 W:3	1(S)	1	Radius: 3.2m. Area: 32 sq m.	Fair to Good	Fair	Minor roadside specimen Crown development substantially suppressed from S with upper stem acutely bowed and crown structure heavily offset to N	—	—	10+ Years	C2	—
9728	NS 54088.42 89079.84	Common Beech, *Fagus sylvatica*	Mature	14	200	N:1 E:3 S:4 W:4	2(N)	2	Radius: 2.4m. Area: 18 sq m.	Fair to Good	Fair to Good	Young tree on S edge of linear roadside grouping Crown development suppressed from N Minor deadwoods Specimen indicating generally depleted vigour	—	—	10+ Years	C2	—
9729	NS 54090.49 89085.72	Pedunculate Oak, *Quercus robur*	Mature	20	970	N:7 E:6 S:7 W:8	5(SW)	5	Radius: 11.6m. Area: 423 sq m.	Fair to Good	Fair	Substantial mature roadside specimen SE co-leader fractured at 4.0m leaving open tear wound on stump Multiple deadwoods and historic branch fracture points	—	—	20+ Years	B2	Image No 05
9730	NS 54091.81 89081.28	Sycamore, *Acer pseudoplatanus*	Early Mature	9	210	N:1 E:2 S:2 W:2	2(NW)	2	Radius: 2.5m. Area: 20 sq m.	Fair	Fair	Minor specimen on S side of roadside grouping Crown development substantially suppressed from N Specimen indicating generally depleted vigour	—	—	10+ Years	C2	—

Tree Reference Number	Grid Reference	Species, Taxa	Age Class	Height (m)	Stem Diameter (mm)	Crown Spread (m)	Height (m) and Direction of Lowest Branch	Crown Clearance (m)	Root Protection Area	Physiological Condition	Structural Condition	Condition Notes	Preliminary Management Recommendations	Timeframe for Recommended Works	Estimated Remaining Contribution	BS5837 Retention Category	Photo Reference
9731	NS 54095.47 89077.04	Sycamore, *Acer pseudoplatanus*	Early Mature	9	200	N:2 E:1 S:1 W:2	4(SW)	2	Radius: 2.4m. Area: 18 sq m.	Fair	Fair	Minor specimen on S side of roadside grouping Low crown to stem ratio	—	—	10+ Years	C2	—
9732	NS 54100.03 89077.84	Sycamore, *Acer pseudoplatanus*	Early Mature	11	280,250	N:2 E:3 S:3 W:2	3(S)	3	Radius: 4.5m. Area: 64 sq m.	Fair to Good	Fair to Good	Minor specimen on S side of roadside grouping 2 co-dominant stems from 0.5m via compression union	—	—	20+ Years	B2	—
Tree Groups																	
G1	NS 54084.04 89071.89	Sycamore, *Acer pseudoplatanus*	Early Mature	10	130	N:1 E:1 S:1 W:1	1(N)	1	Area: 545 sq m.	Fair	Fair	Background canopy of minor self-generated trees within loosely-structured group Compromised predominantly of low-quality stretched Sycamores offering limited development potential	—	—	10+ Years	C2	Image No 06

Appendix 4. BS5837:2012 Tree Retention Categories

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those 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	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 5. Key to Survey Spreadsheets

A5.1 Tree No
Represented on survey tags fixed to bole of tree at approximately 2.0m.

A5.2 Species
Both formal and common nomenclature are given, where appropriate. Where precise species identification is in doubt, genus is given, followed by suffix "spp".

Specimen Height, Crown Spread, Height of First Significant Branch and Height of Canopy

Given in metres. These are measured accurate to a tolerance of 0.5m for values up to 10m and of 1m for values over 10m.

A5.3 Crown Spread
Given on each of the North, East, South and West axes respectively, measured in metres.

A5.4 Stem Diameter
Measured at 1.5m above ground level. Where this is impractical the measurement is taken at the closest appropriate point in line with the guidance outlined in BS5837 (2012). This is taken to be the Effective Stem Diameter for the purpose of calculating the Root Protection Radius.

In instances where more than one stem is present at 1.5m these are recorded as Constituent Stem Diameters. In such cases the Effective Stem Diameter is calculated using the formulae provided by BS5837 (2012).Where accurate measurement of stem diameter is impractical (for example due to the presence if Ivy or dense epicormic growths) the value is estimated and the figure recorded with the suffix ***e***.

A5.5 RPA (Root protection Area)
BS 5837 (2012) provides for the identification of a Root Protection Area around trees to be maintained during and after construction works on site. This is calculated –principally as a function of the bole diameter of the specimen- and given in the survey schedule as the radius of a circle around each tree which should be secured and left undisturbed during site operations. The RPA may additionally be represented graphically on topographical drawings of the site, if available.

A5.6 Age Classification

J	Juvenile
SM	Semi-Mature
EM	Early maturity
M	Mature
OM	Overmature

A5.7 Physiological and Structural Condition

G	Good
F-G	Fair-Good
F	Fair
F-P	Fair-Poor
P	Poor

A5.8 Preliminary Management Recommendations
Action required in the short term in reflection of health and safety considerations, or on any specific criteria outlined in the Terms of Reference (see s1 above). Note that this section is not intended to give comprehensive guidance as to the appropriate long-term management of each specimen.

A5.9 Life Expectancy Classification (Estimated Remaining Contribution)
<10 years
10+ years
20+ years
40+ years

A5.10 British Standard 5837 (2012) Tree Retention Categories
See specification at Appendix 4 (above).

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