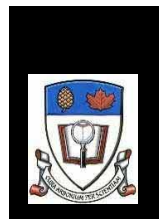


Arboricultural Assessment

Zone 4

Taymouth Castle



Prepared for: **Discovery Land Company**
14605 N. 73rd Ave.
Scottsdale
Arizona
85255
United States of America

Prepared by: **Paul Hanson**
Arboretum Internationale Ltd.
Ochil Cottage
Main Road
Guildtown
Perth
PH2 6BS

Tel: 01821 640 555 E-mail: paul@arboretum-intl.com

Signed



6th November 2023

Version 5.0	Issued 6 th November 2023
Last reviewed	02/11/2023
Next review	TBC
Author	Paul Hanson
Approved by	

CONTENTS

Summary

Introduction

Part 1 - Tree Assessment

- 1 Scope and Limitations of Assessment
- 2 Assessment Method
- 3 The Site
- 4 Tree Assessment
- 5 Recommended Tree Works

Part 2 – Proposed Development in Relation to Trees

- 6 Tree Constraints
- 7 Development Appraisal
- 8 Scotland’s National Planning Framework 4

Part 3 – Arboricultural Method Statement

- 9 Tree Protection – General Measures
- 10 Site Specific Tree Protection Measures
- 11 New Hard Surfaces within RPAs
- 12 Underground Services
- 13 Arboricultural Supervision

Conclusions

Development Recommendations

Appendices

- 1 Schedule of Trees
- 2 Cascade Chart for Tree Quality Assessment BS5837:2012)
- 3 Protective Barriers (BS 5837:2012 Figure 2)
- 4 Principles of ‘No Dig’ Construction Close to Trees
- 5 Removal of Debris Near Trees
- 6 Further Information
- 7 Site Plans
 - Location Plan
 - LMP compartment designation
 - Proposed Development Masterplan

SUMMARY

Taymouth Castle and its designed landscape are amongst the most important cultural and heritage features in Scotland, elements of the landscape are in a condition that makes them vulnerable. Action to conserve these original arboricultural and horticultural features is urgently required if they are not to be lost.

This report considers in detail 293 significant trees that constitute the important heritage tree plantings in 2 areas of the estate known in the available records as 'South Terrace (including Ladies Mount) and 'Tom More' (surrounding the Dairy) located as a component of Compartments 5 and 11 as defined in the 2004 Taymouth Castle Landscape Management Plan (LMP). This report is confined to those parts of the 2 compartments located to the south of the Tay, between Ladies Mount and east of Tom More.

The arboricultural assessment considers the potential impact of building and development and the introduction of associated infrastructure on the tree population as found within the site.

The trees in Zone 4 are variable in age, condition, size, and species. The original planting is said to date from the late part of the 18th Century, with occasional planting events and self-set tree establishment occurring since. The trees in Zone 4 have sustained damage in adverse climatic events over the years, storm Arwen in late November 2021 saw several trees fall and others lose significant limbs. There is much careful work required to address safety and promote conservation in this group of important trees.

INTRODUCTION

This report provides information on the trees in line with the provisions of the British Standard document, BS 5837: 2012 'Recommendations for Trees in relation to design, demolition and construction' to support any future building development and to promote the delivery of the 2004 LMP as agreed with the local authority planning department.

This report, consisting of pages (including the cover), is the result of site investigations conducted by Arboretum Internationale Ltd. in January, April and September 2023, notes were made regarding the size and condition of the trees that form Zone 4, identifying the suitability of trees for retention and providing recommendations for remedial works where necessary. These notes form appendix 1 of this report. The information provided on the trees in appendix 1 places particular emphasis on their physical dimensions and condition, which will determine their suitability for retention and, the extent of the protection zone required around retained trees to minimise the potential tree damage during any future construction works.

This report is prepared on the basis that Arboretum Internationale Ltd. has taken all reasonable steps to meet the requirements of its clients and that this report should only be considered valid at the time of inspection.

Instructions:

This tree survey and report was commissioned by Alan Anderson on behalf of the site owners, the Discovery Land Company (DLC).

Terms of Reference:

To inspect the significant trees in accordance with British Standard 5837:2012 'Trees in relation to design, demolition, and construction– Recommendations'

Assess their suitability for safe retention on the site,

Determine the extent of tree root protection for trees identified for retention,

Provide guidance on measures that should be taken to ensure the protection of retained trees.

Documents Provided:

An electronic dwg. topographic plan of the site (incomplete), prepared by WSP, Glasgow.

Two separate, electronic dwg. topographic plans of the site (incomplete), prepared by Cross Civils, Aberfeldy.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Proposed Master Plan,' drawing no. Z4(PL)MP, Revision A, dated June 2023 at a scale of 1:500 @ AO.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Location Plan', drawing no. Z4(PL)LP, Revision A, dated June 2023 at a scale of 1:2500 @ AO.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Proposed Site Plan', drawing no. Z4-1(PL)03, Revision A, dated June 2023 at a scale of 1: 500 @ A1.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Proposed Site Plan', drawing no. Z4-2(PL)03, Revision A, dated June 2023 at a scale of 1: 500 @ A1.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Proposed Site Plan', drawing no. Z4-03(PL)03, Revision A, dated June 2023 at a scale of 1: 500 @ A1.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Proposed Site Plan', drawing no. Z4-04(PL)03, Revision A, dated June 2023 at a scale of 1: 500 @ A1.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Proposed Master Plan', drawing no. Z4(PL)MP, Revision B, dated June 2023 at a scale of 1: 500 @ AO.

Taymouth Castle Landscape Management Plan (2004).

An electronic pdf. Plan of housing proposals for Zone 4, entitled 'Location Plan', drawing no. Z4-1(PL)01, Revision C, dated June 2023 at a scale of 1: 2500 @ AO.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Location Plan', drawing no. Z4-2(PL)01, Revision C, dated June 2023 at a scale of 1: 2500 @ AO.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Location Plan', drawing no. Z4-3(PL)01, Revision C, dated June 2023 at a scale of 1: 2500 @ AO.

An electronic pdf. plan of housing proposals for Zone 4, entitled 'Location Plan', drawing no. Z4-4(PL)01, Revision C, dated June 2023 at a scale of 1: 2500 @ AO.

Part 1 TREE ASSESSMENT

1 Scope and Limitations of Assessment

- 1.1 This assessment and report are concerned with the arboricultural aspects of the Zone 4 site only. The assessment is restricted to trees within the estate and specifically those trees found in Zone 4 across compartments 5 and 11, it is assumed that these trees are in the ownership of the DLC.
- 1.2 The survey was conducted following guidelines detailed in British Standard 5837:2012 'Trees in relation to design, demolition, and construction– Recommendations' (BS5837). It is based on a ground level tree assessment and examination of external features only – described as the 'Visual Tree Assessment' method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994).
- 1.3 293 individual mature trees that are considered to belong to the original 18C planting have been assessed, other trees in Zone 4 have not been individually considered in this assessment. There are

other trees in this area within the compartments generally, the majority, if not all of these other trees, have been introduced to the site after the establishment the original planting that constitutes the arboricultural element of the historic designed landscape.

- 1.4 No plant tissue samples were taken, and no internal investigation of the trees was conducted. No soil samples were taken, or soil analyses conducted.
- 1.5 The risk of tree-related subsidence to structures has not been assessed.
- 1.6 No specific assessment of wildlife habitats has been conducted.
- 1.7 It is assumed that there are underground services within the curtilage of the site, extending from existing structures; their exact positions are not described herein.
- 1.8 This report should be considered in conjunction with the plans at appendix 7 below which include the position of significant man made and boundary features and is based on the plans provided by the client or other instructed professionals.
- 1.9 The recommendations contained in this report may be used to inform, but do not in themselves constitute, a specification for any tree work which the client may wish to have undertaken as a result of those recommendations. Arboretum Internationale Ltd. will be pleased to draw up a tree-work specification for tendering purposes, should this be required.

2 Assessment Method

- 2.1 Trees have been considered individually and recorded as such. The trees are uniquely identified on site with tags, fixed to the tree stems at circa 1.5-2.5m above ground level. These numbers are referred to in the tree schedules, which form appendix 1 of this report. The trees in Zone 4 have been assessed on several occasions historically and there are many tags that remain affixed to trees, where present these have been noted in the tree schedule, all the trees recorded have had new, uniquely numbered, tags introduced.
- 2.2 Whilst the assessment of a tree's condition is a subjective process, Table 1 of BS5837 (see appendix 2) gives clear guidance on the appropriate criteria for categorising trees and, in particular, the factors that would assist the arboriculturist in determining the suitability of a tree for retention. BS 5837 makes a clear distinction between trees on development sites and trees in other situations where the factors that determine the retention and management of trees may be different.
- 2.3 The tree assessment was undertaken from ground level. Measurements recorded are given on the understanding that due to the extent of fallen tree material resulting from storm Arwen, constraints of fencing and other man-made structures, not all are exact. Where reasonably practicable non-critical measurements have been estimated, for some trees it has not been safe to take measurements, for others dense epicormic growth made taking accurate measurements impossible, the missing measurements can be collected as required at a future date.

3 The Site

- 3.1 The site lies within the boundaries of the Taymouth Castle designed landscape, described in the site plans below. Access is taken from the A827 public highway (to the east directly into the estate – to the west from Kenmore village), and over private roads within the estate. Zone 4 extends westwards from the extreme east side of the Tom More compartment where it rises from the internal road uphill towards Ladies Mount, on the south side of the Tay.
- 3.2 Within the Inventory of Gardens and Designed Landscape in Scotland (1987), the Condition and Future Management Potential for Taymouth Castle is described as follows:

“Split into multiple ownership, there is no cohesive management for the policies at Taymouth. In the 18th Century, the Pleasure Grounds, which covered most of the policies were considered as some of the most beautiful. They were one of the earliest examples in Scotland of informal pleasure grounds

and were well cared for until the estate was split up in the 1920s. For the last 50 years at least, there has been no overall management of the landscape and today most of it is in a state of dereliction. It was such a significant designed landscape; every effort should be made to conserve what is left”.

- 3.3 Zone 4 occupies a short stretch of the Tay bank within compartment 5 where it lies to north side of compartment 11 as described in the 2004 LMP. The tree planting in this area is best described as Policy Woodland in nature (predominantly populated by large deciduous trees). Dominant tree species are Oak, Beech, Sycamore and Lime with Birch regeneration at the margins; there are some notable young, tall, exotic conifers towards the centre of Zone 4.

4 Tree Assessment

- 4.1 293 significant, individual trees within Zone 4 have been identified in the assessment and are included herein as they constitute the remaining elements of the historic tree planting.
- 4.2 Housing zone 4 is comprised of 4 smaller zones in which housing development is proposed, this tree report addresses the trees within each discreet zone and across the whole of housing Zone 4. The impact of the development proposals is discussed zone by zone at Part 2 ‘Arboricultural Implications Assessment’, section 6 ‘Tree Constraints’, below.
- 4.3 The trees in Zone 4 are wonderful examples of ancient trees in all manner of aesthetic forms with abundant specialist wildlife habitat and high amenity and ecological value. Each tree has been assessed in terms of its arboricultural, landscape, cultural and conservation values in accordance with BS5837 and placed within one of the four following categories:

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.

Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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.

- 4.4 Twenty-eight individual trees are graded as Category U and should, within the context of tree hazard and risk management, be removed.
- 4.5 Eighty-five of the trees are graded as Category C.
- 4.6 One hundred and twenty-seven trees are graded as Category B, these trees make an important contribution to the landscape and should continue to do so with some remedial works required.
- 4.7 Fifty-three trees remain as remnants of the historic landscape planting in good condition and as such they are graded as category A.
- 4.8 The individually surveyed trees are listed in the tree schedule at appendix one which includes a key with explanatory notes.
- 4.9 It should be understood that even apparently healthy and structurally sound trees can fail under extreme weather conditions and the safety of any tree can never be guaranteed.

5 Recommended Tree Works

- 5.1 In accordance with recommendations in BS5837, this report addresses preliminary recommendations for works that should be conducted in the interests of good arboricultural practice. Appendix 1 below details the minimum recommendations for works to promote the safe retention of individual trees.

- 5.2 The 2004 LMP makes recommendations to ensure the short-term safety of the trees in these compartments including to retain historically important tree specimens; remove vegetation that obscures views and vistas; remove vegetation that threatens valued historic structures and features; and to remove unwanted ground vegetation, tree, and shrub regeneration.
- 5.3 Formal inspection of the trees on site by the property owners and/or managers during summer and winter periods will help to identify any changes in tree condition. Careful consideration of trees following adverse weather will be required to assess tree damage. Once all remedial works recommended herein are complete a formal tree inspection by a suitably qualified tree inspector should be undertaken on a five-yearly cycle as a minimum.
- 5.4 These recommendations are made in the knowledge that the site is the subject of development proposals and that the nature and extent of works would not perhaps be appropriate if the future use of the site were different. For example, BS5837 recommends that any trees 'in such condition that their existing value would be lost within ten years' should be removed, this is not appropriate in sites or areas of the larger site where development is not being considered.
- 5.5 Before authorising these, or any other tree works, the local planning authority should be consulted in accordance with the current version of the Town and Country Planning (Scotland) Act.
- 5.6 All tree works should be conducted in accordance with the current version of British Standard 3998: 'Tree work - Recommendations' and by a suitably qualified and insured tree contractor.

Part 2 ARBORICULTURAL IMPLICATIONS ASSESSMENT

6 Tree Constraints

- 6.1 Arboretum Internationale is aware of potential development in Zone 4 (see the proposed Masterplan at appendix 7), the design of that development should rely on the information on root protection contained herein. Where possible building footprints, utility services, new pedestrian and vehicular access routes and any other new structures or major landscape alterations should be restricted to ground out with the root protection areas (RPAs) identified.
- 6.2
 - 6.2.1 Zone Z4-01. Sixteen category U trees are identified for removal. The development proposals require the removal of a further five category A trees, twenty-six category B trees and fourteen category C trees.
 - 6.2.2 Zone Z4-02. Four category U trees are identified for removal. The development proposals require the removal of a further eight category A trees, twenty-four category B trees and nine category C trees.
 - 6.2.3 Zone Z4-03. Eight category U trees are identified for removal. The development proposals require the removal of a further three category A trees, four category B trees and two category C trees.
 - 6.2.4 Zone Z4-04. The development proposals require the removal of a one category A tree, six category B trees and two category C trees.
- 6.3 Across housing Zone 4, in relation to the development proposals only, at total of twenty-eight category U trees are identified for removal. The development proposals over the whole of Zone 4 require the removal of a further seventeen category A trees, sixty category B trees and twenty-seven category C trees.
- 6.4 Potential damage to structures by the future growth of trees is not considered here. (See BS5837:2012 Annex A, and NHBC Standards Chapter 4.2)

7 Development Appraisal

- 7.1 Some development of the Zone 4 site is feasible arboriculturally, the loss of self-set, dead, dying and or diseased trees, and the pruning of others should not be prohibitive. The loss of any tree is always regrettable, on this site the trees identified for removal to date described as Category U are those of poor quality and/or are hazardous, where there is a clear conflict with safety, and/or the trees have a short safe useful life expectancy. The development proposals require the removal of 104 trees that would otherwise be retained. The site has sufficient ground to accommodate appropriate replacement tree planting to provide a sustainable arboricultural amenity for the long term.
- 7.2 The primary arboricultural objective of this assessment is the analysis of the woody plants growing on the site and to determine the extent, number, and type of trees and shrubs, which can be removed, or retained, as appropriate. Quite apart from the requirement to retain some of the existing character, the presence of trees is generally accepted as being beneficial to the environment.
- 7.3 The construction phase of any development will require careful protection of the RPAs of the trees out with the area proposed for development.

7.4 Encroachment within RPAs

7.4.1 Within housing Zone 4 the identified sub zones Z4-01, Z4-02, Z4-03 and Z4-04 show low impact pedestrian and garage facilities, vehicular access, and small portions of building footprints which overlap the RPAs of some adjacent trees.

7.4.2 Discreet areas of conflict with RPAs can be managed through careful manual excavation to install surfacing and structures with the adoption of 'no-dig' systems to facilitate the formation of lightweight pedestrian and vehicle access routes. Footpath formation will require the removal of surface vegetation through a combination of herbicide treatment and manual hand tools before developing the sub-surface of the structure/new surface on top.

7.4.3 Works to prepare the existing ground for construction within or close to tree RPAs could, potentially, cause damage to trees and it is essential that this is carried out in a manner that prevents materials spilling onto unprotected soils and avoids excessive excavation or other forms of damage to underlying soils such as compaction.

7.4.4 In all circumstances tree RPAs should be considered as sacrosanct and no works or materials storage should be permitted in these areas, notwithstanding paragraph 9.4 and sections 11 and 12 below.

8 Scotland's National Planning Framework 4, Policy 6 Forestry, woodland and trees

- 8.1 Policy 6a) the development proposals are not detrimental to this policy.
- 8.2 Policy 6b) the proposals will not result in:
- i. Conflict with Restocking Direction, Remedial Notice or Registered Notice to Comply issued by Scottish Forestry.
- Policy 6b) the proposals will result in:
- ii. Loss of ancient and veteran trees or will have an adverse impact on their ecological condition.
 - iii. Impacts on individual trees of high biodiversity value.
 - iii. Fragmenting of woodland habitats,
- 8.3 Policy 6c) the proposals do not require woodland removal.
- 8.4.1 Policy 6d) the proposals do not affect land identified in the Forestry and Woodland Strategy as being suitable for woodland creation.

8.4.2 Policy 6d) the proposals do affect existing woodland.

Part 3 ARBORICULTURAL METHOD STATEMENT

9 Tree Protection - General Measures

- 9.1 Where development is to take place BS5837 requires that the RPA of all retained trees is protected from the effects of development by the installation of protective barriers. It should be noted however, that the position of these barriers may also be influenced by the presence of any tree canopies that extend beyond the RPA and that could be damaged by construction works or where it is desirable to protect areas for future tree planting. BS 5837 recommends that areas of the site in which new or replacement tree planting is proposed should also be protected from the effects of construction.
- 9.2 Protective barriers demarcate the 'Construction Exclusion Zone', they should be installed prior to the commencement of any construction works, including clearance or demolition. They should be maintained for the duration of the works. All weather notices should be erected on the barriers with words such as 'Construction exclusion zone – Keep out.' Protective barriers should be in accordance with Figure 2 of BS5837: 2012 (or similar accepted), a copy is included as appendix 3.
- 9.3 The position of protective barriers should extend to cover all RPAs; the area within them should be regarded as sacrosanct and protective fences and barriers should not be taken down without the written approval of the local planning authority, or where present, the supervising arboricultural engineer.
- 9.4 **Ground Protection**
- 9.4.1 Where it is necessary, for the construction operation, to permit vehicular or pedestrian access within tree RPAs, for example to erect scaffolding, retained trees should be further protected by a combination of barriers and ground protection.
- 9.4.2 Ground protection should be of sufficient strength and rigidity to prevent disturbance or compaction to the soil underneath. In areas of heavy and/or continued usage it is advised that the protection plates or mats are linked or connected and that they are placed over a bed of bark or wood chippings (100 to 150mm depth).
- 9.5 Contamination of the soil by any substances should be prevented by the use of geotextile fabric. Do not raise or lower soil levels or strip topsoil around trees – even temporarily.
- 9.6 Avoid disturbing the natural water table level.
- 9.7 Do not light fires near trees.
- 9.8 Do not attach notice boards, telecoms cables or other services to any part of a tree. No construction materials should be stored within root protection areas. Toxins such as diesel, petrol, or cement should be suitably stored to prevent such substances leaching into the soil.
- 9.9 Care and planning are necessary to accommodate the operational arcs of excavation, unloading and lifting machinery, including their loads, especially large building components such as beams and roof trusses. Operations like these have the potential to cause incidental damage to trees and logistical planning is essential to avoid conflicts. Any movement of plant and materials in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.

10 Site Specific Tree Protection Measures

- 10.1 Prior to the commencement of any other works, any tree pruning, or removal works recommended herein, should be carried out by an appropriately qualified and insured tree work contractor and in

accordance with British Standard 3998: 2010 'Tree work - Recommendations'.

- 10.2 Following all preparatory tree and vegetation clearance works, tree protection barriers and any ground protection in accordance with BS5837:2012, Figure 2 (appendix 3) shall be installed in the permanent positions and shall remain in place for the duration of the construction works.
- 10.3 The position of any site huts, materials storage, and any on site car parking for contractors should be clearly identified. These should be outside RPAs unless special arboricultural advice is obtained, and any recommended additional tree protection measures implemented.
- 10.4 Where any works within RPAs are necessary, great care shall be taken to remove just that length of protective fencing required to facilitate the works and to ensure that it is re-installed immediately upon completion. Works required, within RPAs, to safeguard tree roots ahead of forming any permanent hard landscaping features will be undertaken before protective fencing is permanently removed. When new surfaces are completed these may be used for access purposes however precautions to prevent the spillage or leaching of materials into underlying soils shall be implemented. Under no circumstances shall vehicles travel across, or materials be stored upon unprotected soils within the RPAs.
- 10.5 Tree protection measures shall remain in place until completion of the development; they may only be removed to facilitate post development landscaping.

11 New Hard Surfaces Within RPAs

- 11.1 Where temporary access within an RPA may be required for construction purposes, these surfaces should either be formed at the beginning of the construction period or robust ground protection must be installed that has sufficient strength and rigidity to withstand any expected loading without causing compaction or other damage to the ground below. Under no circumstances should construction traffic be permitted to travel across unprotected ground within RPAs.
- 11.2 The principles of 'no dig' construction close to trees are explained in appendix 4 and in APN 12 'Through the Trees to Development' published by the Arboricultural Advisory and Information Service (APN 12). The final specification shall be determined by a suitably qualified engineer in conjunction with the arboriculturist.

12 Underground Services

- 12.1 Where possible all new underground services shall be routed to avoid passing through the RPAs of retained trees.
- 12.2 If the installation or upgrading of underground services within RPAs is unavoidable it shall be conducted in accordance with National Joint Utilities Group Guidelines (2007) Volume 4 'Guidance for the Planning, Installation, and maintenance of Utility Apparatus in Proximity to Trees' (NJUG) and under the supervision of the arboricultural engineer.

13 Arboricultural Supervision

- 13.1 The arboricultural engineer (AE) shall attend an initial site meeting with the project manager and the site manager prior to the commencement of ANY works on site that may affect trees. At this meeting, the programme of works will be reviewed and an outline schedule of visits by the AE will be determined and agreed.
- 13.2 Site visits by the AE should coincide with key stages of the development and in particular:

- Any preliminary arboricultural works or site clearance
- The installation of tree protection measures
- Any works within RPAs such as the removal of hard surfaces or installation of underground services or new hard surfaces.
- Any change in site or project manager personnel

- 13.3 This schedule may be subject to later review and may be influenced by unforeseen events or where there has been a failure in the maintenance of approved tree protection measures.
- 13.4 A copy of the outline schedule of visits by the AE will be submitted on request to the LPA for their records who will be informed by phone, email or in writing of any changes, variations, or amendments.
- 13.5 Particular attention must be given to any works of any nature that have to be undertaken within RPAs. These must be performed under the direct supervision of the AE.
- 13.6 The AE should be available to attend any site meetings at the request of the Local Planning Authority (LPA). In addition, the AE should be available in the event that any unexpected conflicts with trees arise.
- 13.7 The AE should keep a written log of the results of all site inspections and note any changes to the schedule of site visits. Any contraventions of the tree protection measures or other incident that may prejudice the wellbeing of retained trees shall be brought to the attention of the site manager in the form of a written report. Copies of the inspection log and any contravention reports will be available at the site for inspection by the local planning authority at all times.

CONCLUSIONS

The trees that constitute Zone 4 have been assessed in accordance with British Standard 5837: 2012 'Trees in relation to design, demolition, and construction– Recommendations' (BS5837). The retention of the historic trees within the Zone is both desirable and feasible albeit with a significant commitment to delivering technical arboricultural solutions in the management of the veteran trees.

Retained trees will be protected from the effects of development by means of appropriate protective barriers and ground protection throughout the duration of the works.

The strict observance of the arboricultural method statement, together with any additional guidance from the AE will ensure the successful integration of these proposals with retained trees.

The statements in this report do not take account of the effects of accidents, biological events, chemical contamination, extremes of climate, fire, or vandalism. Arboretum Internationale cannot therefore accept any liability in connection with these factors, nor where prescribed work is not conducted in a correct and professional manner in accordance with current good practice. The authority of this report ceases at any stated time limit within it, or if none stated after one year from the date of the report or when any site conditions change or pruning or other works unspecified in the report are applied to, or affecting, the subject tree(s), whichever is the sooner.

DEVELOPMENT RECOMMENDATIONS

Once any development proposals have been approved all remedial tree works (see appendix 1 below) should be undertaken before any construction work begins. All tree works should be delivered in accordance with British Standard 3998: 2010 'Tree work - Recommendations' and by a suitably qualified and insured tree contractor. The tree protection measures detailed in this report should be implemented and supervised by an appropriately experienced arboricultural engineer.

Appendix 1 Schedule of Trees

'Tree no.' Reflects the numbers detailed in appendix 1 and affixed to trees on site.

'Species' Trees are described with common names.

'Age Class' may have been recorded in the Tree Schedule in the following terms: NP (newly planted) – tree still supported by staking or other support, Y (young) - less than one-third life expectancy, EM (early-mature) – one- third to two-thirds life expectancy; M (mature) – more than two-thirds life expectancy, OM (over-mature) – beyond the normal life expectancy, V (veteran) - veteran tree or legacy tree is a tree which, because of its great age, size or condition, is of exceptional cultural, landscape or nature conservation value.

'Tree height' (Height) is given in metres; heights have been estimated to the nearest 1m.

'Diameter at Breast Height' (single DBH): this measurement, recorded in millimetres, has been taken with a girthing tape at 1.5m above ground level except. Where an * appears in this column the figures have not been calculated, the trees have been accorded the maximum root protection until an accurate measurement can be taken. Where ** appears in this column it was not considered safe to take an accurate measurement. Where *** appears, the tree fell in storm Arwen and has been left as a severed stump. Where parts of this column are 'greyed out' there is no requirement for any information.

'General observations': the 'health' or 'vitality' of the tree (assessed by comparison of the number, size and colour of the leaves and the length of annual twig extension growth with what would be expected for an average tree of equivalent age, of the same species) may be described as Good - Showing correct leaf colour / density and / or expected twig extension growth. Any wound wood present is seen to be forming well. Very few and minor pathogens and / or pests present (if any) which should only affect visual amenity. Fair - Meets the expected average in terms of leaf colour/density and/or twig extension growth. Host to more numerous minor pests and pathogens present; minor die back in areas of the canopy; a history of repeated and significant pruning; evidence of frequent, minor, and moderate, naturally occurring branch loss. Poor - Small and sparse leaf cover of an abnormal colour for the species; small increments in twig extension growth; host to significant pathogens and/or infestations of pests; significant crown die-back; a history of severe over-pruning with poor wound-wood development. Where technical terms are used to describe the cause of the defect, a definition, or further information will be found in the Glossary. Defects may be described as: Minor – Where the defect is small, shows no sign of instability and there is little concern with regard to safety or tree health and form; Moderate – Where the defect is likely to fail with some risk in relation to safety and/or tree health or form, or where the defect significantly affects tree form; Major – Where the defect is likely to fail with significant risk to persons and/or property. Severe damage, whole tree failure and/or tree death may occur, or where the defect dramatically affects tree form.

'Management Recommendations': generally, where practical tree-work operations are recommended, it is expected that these will be conducted to the British Standard BS 3998:2010 'Recommendations for tree work' as a minimum.

'Contribution': this is the estimated minimum number of years for which the tree can be expected to make a safe, useful contribution to the tree cover on the site.

'Retention Category': the code letter in this column reflects the general desirability of the tree for retention on a development site, based on species, form, age, and condition. A: trees of high quality and value (the suffixed number after the code letter indicates the particular sub-category – 1 being mainly arboricultural values, 2: mainly landscape values, 3 Mainly cultural values, including conservation.

'Root Protection Area Radius': This figure (recorded in metres) is that to be used to determine the correct location for the erection of protective fencing based on a circular Root Protection Area.

Housing Zone 4 sub-zones 1 to 3

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius		
				Crown height	Direction					Retention category			
49	Lime	EM	N 4	20	3	>	1250	Minor die-back in upper canopy, minor dead wood throughout.	Crown clean.	>20	15		
			S 4							2		SW	B2, B3
			E 5										
			W 5										
50	Horse chestnut	M	N 7	27	2	720	640	0	928000	Moderate decay in west side stem at circa 1m. Moderate storm damage in east stem.	Crown reduce to circa 20m	>10	11.4
			S 9									1	
			E 7										
			W 6										
51	Beech	M	N 9	20	7	1010	Minor die-back throughout. Minor bark damage to stem - north side. Historic storm damage in upper canopy.	Crown clean and prune to improve symmetry.	>20	12			
			S 7						2		W	B1	
			E 6										
			W 8										
52	Beech	EM	N 3	23	6	570	Major asymmetry to southwest. Moderate storm damage throughout.	Fell.	5	6.9			
			S 9						4		W	U	
			E 2										
			W 7										
53	Noble fir	M	N 4	35	13	1110	Minor dead wood throughout.	Crown clean.	>40	13.2			
			S 6						11		W	A1, A2	
			E 5										
			W 5										
54	Beech	M	N 13	20	4	750	Moderate asymmetry and lean north. Moderate storm damage in upper canopy.	Crown clean and prune to improve symmetry.	>20	9			
			S 3						3		W	B1	
			E 9										
			W 7										
55	Larch	EM	N 5	23	12	530	Historic loss of leader.	No work required.	>20	6.3			
			S 3						8		N	B1	
			E 4										
			W 4										
56	Sycamore	EM	N 8	17	7	520	Moderate asymmetry to north.	Prune to improve symmetry.	>10	6.3			
			S 1						8		W	C1	
			E 6										
			W 3										
57	Beech	EM	N 5	26	1.5	530	420	0	457300	Moderate asymmetry and leaning to southwest. Include bark union from 3m.	Inspect included bark union.	>20	8.1
			S 9									4	
			E 5										
			W 8										
58	Beech	M	N / 9	22	4	1210	<i>Kretzschmaria deusta</i> present.	Fell or pollard at 5m.	>10	14.4			
			S 6						1		N	C1	
			E 8										
			W 8										
59	Beech	M	N 14	23	3	1190	Moderate asymmetry to north.	Prune to improve symmetry.	>20	14.1			
			S 7						2		N	B1	
			E 9										
			W 10										
60	Beech	EM	N 14	21	3	670	Moderate asymmetry to north. Numerous cavities throughout. Major dead wood on north side.	Fell or pollard at 5m.	>10	8.1			
			S 4						2		N	C1	
			E 6										
			W 6										
61	Beech	M	N 15	23	5	700	800	0	1130000	Major fork falling at 1m. Major dead wood throughout.	Fell.	5	12.6
			S 8									7	
			E 12										
			W 6										
62	Beech	M	N 10	27	3	780	1000	0	1608400	Major decay in stem to south side. Suspicious branch unions at 1.5m and at 10m.	Picus fork at 1.5m, then aerially inspect fork at 10m.	TBC	15
			S 12									3	
			E 9										
			W 12										

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple		General condition/observations	Management Recommendations	Contribution	RPA Radius				
				Crown height	Direction						Retention category					
63	Beech	M	N 12	22	2	1160			Multiple wounds / cavities north, potential for column of decay, some black staining to north. Multi stemmed from 8m.	Pollard to 8m.	>10	13.8				
			S 14								C1					
			E 10													
			W 12													
64	Beech	EM	N 12	25	3	570			Multi-stemmed above 14m. Leaning north.	No work required.	>10	6.9				
			S 4								C1					
			E 6													
			W 10													
65	Western red cedar	EM	N 8	33	3	550	0	1110	2789000	1120	0	3S	Minor root damage on north side.	No work required.	>40	15
			S 6												A1, A2	
			E 8													
			W 8													
66	Beech	M	N 8	29	3	1260			Previously storm damaged, minor dead, wood some broken and hanging on north side. Moderate included bark unions from 1-2m and at 8m.	Crown clean.	>20	15				
			S 11								B1					
			E 10													
			W 4													
67	Beech	M	N 8	28	3	1100			Unidentifiable fungus at root collar on southeast side.	Return in autumn 2024 to identify fungus.	TBC	13.2				
			S 14								B1					
			E 10													
			W 11													
68	Oak	EM	N 9	19	8	620			Unidentifiable fungus at root collar on east side. Leaning north.	Return in autumn 2024 to identify fungus.	>10	7.5				
			S 2								C1					
			E 4													
			W 5													
69	Sycamore	EM	N 7	20	2	550			Canopy biased to north, 2 stems above 10m .	Prune to improve symmetry.	>20	6.6				
			S 6								C1					
			E 4													
			W 5													
70	Oak	EM	N 9	14	3	590			Canopy biased to north. Minor damage on stem south east and on 2 branches north and northeast. Minor dead wood throughout.	Crown clean, prune to improve symmetry.	>20	7.2				
			S 1								C1					
			E 8													
			W 4													
71	Beech	EM	N 9	24	1	770			Twin stem at circa 11m, minor dead wood throughout.	Crown clean.	>20	9.3				
			S 11								C1					
			E 10													
			W 9													
72	Beech	EM	N 10	26	4	400			Leaning north at circa 10°. Minor dead wood throughout.	Crown clean, prune to improve symmetry.	>10	4.8				
			S 9								C1					
			E 7													
			W 4													
73	Beech	EM	N 10	27	2	400			2 stems above 14m. Minor dead wood throughout.	Crown clean.	>10	4.8				
			S 10								C1					
			E 6													
			W 9													
74	Oak	M	N 6	22	3	400			Major damage and decay throughout.	Fell or pollard at 6m.	5	4.8				
			S 5								U					
			E 2													
			W 9													
75	Beech	M	N 16	31	6	400			Minor dead wood throughout. 2 stems from 13m. Major asymmetry lean to north.	Crown reduce to 15m, crown clean, prune to improve symmetry.	>20	4.8				
			S 5								B1					
			E 8													
			W 8													
76	Beech	M	N 9	29	11	400			Several major compression forks throughout. Minor deadwood throughout.	Crown reduce to 15m, crown clean, prune to improve symmetry.	>20	4.8				
			S 7								C1					
			E 9													
			W 7													

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius	
				Crown height	Direction					Retention category		
77	Horse chestnut	M	N	10		660		Minor deadwood throughout. Leaning northwest. Cracking on large lateral branch to northwest.	Reduce large lateral on northwest to 6m.	>20	7.8	
			S	5	20					5		
			E	5	1					S		
78	Beech	M	N	13		1010		<i>Kretzschmaria deusta</i> present.	Fell.	<5	12	
			S	6	23					4		
			E	9	1					N		
79	Beech	M	N	15		780		Major asymmetry to north and northwest. Minor decay, minor storm damage throughout. Multi-stemmed above 7m.	Crown clean, prune to improve symmetry.	20	9.3	
			S	4	25					3		
			E	101	3					N		
80	Beech	M	N			1140		Major defects throughout.	Crown reduce to circa 20m.	>10	13.8	
			S		>30					2		
			E		3					W		
81	Beech	M	N			590		Major decay from ground level to >0.5m.	Fell.	<5	7.2	
			S		>25					4		
			E		4					W		
82	Beech	M	N			1170		Major decay from ground level to 4m.	Fell.	<5	14.1	
			S		>25					10		
			E		10					N		
83	Oak	EM	N			930		Major dieback throughout.	Fell.	<5	11.1	
			S		>20					2		
			E		3					W		
84	Beech	M	N			700		Moderate cavity at ground level to east rising to a hollow stem. 2 stems from 7m.	Undertake at Picus test at 2.5m.	TBC	8.4	
			S		>25					2		
			E		1					N		
85	Beech	EM	N			290 440 0 0	0 277700	2 stems from ground level.	No work required.	>20	6.3	
			S		>25					2		
			E		2					N		2S
86	Oak	M	N			930		Leaning northwest at 5°. Minor to moderate dead wood throughout.	Crown clean.	>40	11.1	
			S		>30					6		
			E		8					NW		
87	Oak	M	N			840		Leaning northwest at 5°. Minor to moderate dead wood throughout.	Crown clean.	>40	9.9	
			S		>30					1.5		
			E		7					W		
88	Beech	OM	N			1130		Minor asymmetry to northwest. Evidence of internal decay in stem.	Perform Picus tomogram at 1m.	TBC	13.5	
			S		>30					3		
			E		1					W		
89	Beech	OM	N			860		Minor asymmetry to west.	No work required.	>20	10.2	
			S		>30					3		
			E		1					W		
90	Beech	M	N			870		No significant defects.	No work required.	>20	10.5	
			S		>30					5		
			E		2					N		

Tree no.	Species	Age class	Crown spread	Height		DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution		RPA Radius
				Crown height	Lowest branch Direction					Retention category		
91	Beech	M	N	>30	5	580		No significant defects.	No work required.	>20	6.9	
			S							B1		
			W							6		N
92	Beech	M	N	>30	3	570		Minor asymmetry to south. 2 stems from 6m.	No work required.	>20	6.9	
			S							B1		
			W							1		S
93	Beech	M	N	>30	10	820		Small canopy above 10m.	No work required.	>20	9.9	
			S							B1		
			W							12		W
94	Beech	M	N	>25	1	870		Minor asymmetry to southwest.	No work required.	>20	10.5	
			S							B1		
			W							1		SW
95	Oak	M	N	>30	2	1140		Moderate asymmetry to west.	No work required.	>40	13.8	
			S							A1		
			W							1		W
96	Oak	M	N	>25	3	960		Moderate asymmetry to west. Minor to moderate dead wood throughout.	Crown clean and prune to improve symmetry.	>20	11.4	
			S							B1		
			W							1		N
97	Oak	M	N	>30	3.5	930		Moderate asymmetry to west.	Crown clean and prune to improve symmetry.	>20	11.1	
			S							B1		
			W							2		W
98	Oak	M	N	>30	2	1160		Moderate asymmetry to west.	Crown clean and prune to improve symmetry.	>20	13.8	
			S							B1		
			W							1.5		W
99	Beech	OM	N	>30	2	1140		Leaning east at 7°, moderate asymmetry to east. <i>Kretzschmaria deusta</i> present.	Fell.	<5	13.8	
			S							U		
			W							1		W
100	Beech	OM	N	>30	2	950		Moderate cavity from 0.25 to 1m on north side. Moderate asymmetry to west.	Pollard at 10m	>10	11.4	
			S							C1		
			W							1		W
101	Oak	Y	N	>20	2	480		No significant defects.	No work required.	>40	5.7	
			S							B1		
			W							2.5		SW
102	Beech	OM	N	>30	3	1250		Major decay from 4-6m. <i>Kretzschmaria deusta</i> present.	Pollard at 8m.	>20	15	
			S							B3		
			W							1		W
103	Beech	M	N	>30	3	400		Major wounds on stem at southeast to 4m.	Perform Picus tomogram at 1.75m.	TBC	4.8	
			S							C		
			W							1		W
104	Beech	M	N	>30	2.5	400		Moderate asymmetry to south.	Prune to improve symmetry.	>20	4.8	
			S							B1		
			W							0.5		S

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
105	Oak	M	N	>30	2	1250		Major, failing compression fork from ground level to 1m.	Crown reduce to 15m and cable brace.	>40	15
			S							B1	
			E								
106	Oak	Y	N	>20	3	560		Moderate symmetry to west.	Prune to improve symmetry.	>20	6.6
			S							B1	
			E								
107	Sweet chestnut	OM	N	17	N/a	270;250;450; 0 440 193600 0 0		Multi-stemmed from ground level. Moderate asymmetry to west.	Prune to improve symmetry.	>40	5.1
			S							A1, A2, A3	
			E								
108	Beech	EM	N	>25	1	730		No significant defects.	No work required.	>40	8.7
			S							B1	
			E								
109	Oak	EM	N	>20	4	560		Major asymmetry to west.	Prune to improve symmetry.	>20	6.6
			S							C1	
			E								
110	Beech	M	N	>30	2	850		Major decay from ground level to 1m on southeast. Major asymmetry to west.	Perform Picus tomogram at 0.5m.	TBC	10.2
			S							C1	
			E								
111	Oak	EM	N	>30	2	750		Minor dead wood throughout. Long lateral to west overhanging Scottish Water pump station.	Reduce long lateral on west to circa 10m.	>40	9
			S							A1	
			E								
112	Beech	M	N	>30	1	1100		Minor dead wood and storm damage throughout.	Crown clean.	>20	13.2
			S							C1	
			E								
113	Oak	Y	N	>15	1.75	460		Moderate die-back in upper canopy.	Crown reduce to circa 10m.	>20	5.4
			S							B1	
			E								
114	Oak	M	N	>35	1.5	1250		Moderate asymmetry to west. Major dead wood present, some broken and hanging.	Crown clean and prune to improve symmetry.	>40	15
			S							A1	
			E								
115	Beech	OM	N	>30	1	1250		Major basal decay.	Crown reduce to 8m or fell.	<5	15
			S							C1	
			E								
116	Beech	M	N	17	3.5	960		Major cavities throughout scaffold limbs at 6, 8 and 12m. Moderate compression forks present.	Crown reduce to 15m.	>20	11.4
			S							B1	
			E								
117	Beech	M	N	18	3.5	750		Minor dead wood throughout.	Crown clean.	>40	9
			S							B1	
			E								
118	Japanese red cedar		N	18	2	400		No significant defects.	No work required.	>40	4.8
			S							A1	
			E								

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius		
				Crown height	Direction					Retention category			
119	Beech	Y	N	16	2.5	370		No significant defects.	No work required.	>40	4.5		
			S							1		E	A1
			E										
120	Noble fir	M	N	>30	2	1050		Minor dead wood throughout.	Crown clean.	>40	12.6		
			S							1		W	A1
			E										
121	Noble fir	M	N	>25	6	400		Minor dead wood throughout.	Crown clean.	>40	4.8		
			S							2.5		E	B1
			E										
122	Douglas fir	Y	N	>25	2	1010		Minor dead wood throughout.	Crown clean.	>40	12		
			S							2		W	B1
			E										
123	Beech	M	N	>25	2	830		Minor asymmetry to southwest.	No work required.	>40	9.9		
			S							1		W	B1
			E										
124	Douglas fir	Y	N	>35	14	940		Minor dead wood throughout.	Crown clean.	>40	11.4		
			S							12		W	B1
			E										
125	Douglas fir	Y	N	>25	8	850		Minor dead wood throughout.	Crown clean.	>40	10.2		
			S							8		E	C1
			E										
126	Oak	Y	N	18	4	660		Leaning southwards at 15°.	Prune to improve symmetry.	>20	7.8		
			S							3		W	C1
			E										
127	Beech	M	N	18	4	1080		Minor to moderate dead wood throughout. Moderate cavities at 3m to west and 6m to east.	Crown clean.	>40	12.9		
			S							2		NW	C1
			E										
128	Oak	Y	N	16	7	720		Minor to moderate dead wood throughout.	Crown clean.	>20	8.7		
			S							7		E	C1
			E										
129	Oak	EM	N	22	5	960		Moderate asymmetry to south. Minor to moderate dead wood throughout.	Crown clean and prune to improve symmetry.	>40	11.4		
			S							4		SW	C1
			E										
130	Holly	OM	N	15	0.25	470 660 420 190	4S	Major decay throughout.	Crown reduce to circa 6m.	>10	11.1		
			S							1		W	C1
			E										
131	Beech	M	N	>30	5	760		Major decay to northwest from ground level to 3m.	Fell.	<5	9		
			S							4		SW	U
			E										
132	Oak	Y	N	>25	SW	540		Major die-back throughout. Major asymmetry to southeast.	Fell.	<5	6.3		
			S							12		9	U
			E										

Tree no.	Species	Age class	Crown spread	Height		DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution		RPA Radius
				Crown height	Lowest branch Direction					Retention category		
133	Oak	M	N	>30	5	1250		Minor to major dead wood throughout.	Crown clean.	>40	15	
			S							A1		
			E									
134	Holly	OM	N	11	1	330	280 0	Major basal decay.	Crown reduce to circa 6m.	>20	7.5	
			S							B1		
			E									
135	Beech	EM	N	>30	2.5	670		No significant defects.	No work required.	>40	8.1	
			S							A1		
			E									
136	Beech	OM	N	>30	0.5	1350		Moderate asymmetry to west.	Prune to improve symmetry.	>40	15	
			S							A1		
			E									
137	Oak	Y	N	18	1	350	520 0	Minor to moderate dead wood present, some broken and hanging.	Crown clean.	>20	7.5	
			S							C1		
			E									
138	Oak	EM	N	>30	6	730		Minor to moderate dead wood present, some broken and hanging.	Crown clean.	>40	8.7	
			S							A1		
			E									
139	Oak	EM	N	>25	5	810		Major dead wood, some broken and hanging.	Crown clean.	>40	9.6	
			S							B1		
			E									
140	Douglas fir	EM	N	>30	10	780		Minor dead wood throughout.	Crown clean.	>40	9.3	
			S							B1		
			E									
141	Holly	OM	N	12	1	410	320 0	Major basal decay.	Crown reduce to circa 6m.	>20	6.3	
			S							B1		
			E									
142	Douglas fir	Y	N	>30		780		Minor dead wood throughout.	Crown clean.	>40	9.3	
			S							B1		
			E									
143	Douglas fir	Y	N	>30		400		Minor dead wood throughout.	Crown clean.	>40	4.8	
			S							B1		
			E									
144	Beech	M	N	>30	7	770		No significant defects.	No work required.	>40	9.3	
			S							A1		
			E									
145	Beech	M	N	>30	7	750		Leaning to south at 5°. Moderate cracking in stem from ground level to 5m.	Crown reduce to 15m.	>20	9	
			S							B1		
			E									
146	Beech	M	N	>30	4.5	940		Minor asymmetry to south.	Prune to improve symmetry.	>40	11.4	
			S							A1		
			E									

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
147	Sweet chestnut	M	N	19	1	950		Major die-back and dead wood throughout.	Crown reduce to 8m.	>20	11.4
			S							B1	
			E								
148	Beech	M	N	>25	6	780		Douglas fir windblown into and hanging in canopy.	Remove Douglas fir.	>20	9.3
			S							A1	
			E								
149	Douglas fir	Y	N	>30	7	850		Minor dead wood throughout.	Crown clean.	>40	10.2
			S							B1	
			E								
150	Oak	Y	N	15	5	470		Minor dead wood present, minor asymmetry to west. Cracking in stem from ground level to 3m on east.	Prune to improve symmetry, crown clean.	>20	5.7
			S							B1	
			E								
151	Oak	Y	N	17	2	700		Minor dead wood throughout.	Crown clean.	>40	8.4
			S							B1	
			E								
152	Oak	EM	N	>25	2.5	970		Minor to moderate dead wood present. Major cracking in stem from ground level to 15m.	Crown reduce to 20m.	>40	11.7
			S							A1	
			E								
153	Oak	Y	N	18	7	640		Leaning northwest at 12°.	No work required.	>20	7.5
			S							B1	
			E								
154	Oak	Y	N	20	6	640		Minor to moderate dead wood throughout.	Crown clean.	>40	7.5
			S							B1	
			E								
155	Beech	OM	N	>30	9	1150		Major basal decay.	Fell or crown reduce to 6m.	<5	13.8
			S							U	
			E								
156	Douglas fir	Y	N	>35	9	810		Minor asymmetry to south. Minor dead wood throughout.	Crown clean.	>40	9.6
			S							B1	
			E								
157	Oak	Y	N	>30	10	580		Suppressed by adjacent trees, minor to major dead wood present.	Pollard at 8m.	>10	6.9
			S							C1	
			E								
158	Beech	M	N	>30	8	940		Decay and bark necrosis from ground level to 2m.	Perform Picus tomogram at 1m.	TBC	11.4
			S							B1	
			E								
159	Beech	M	N	>30	1.5	720		Major decay from ground level to 0.75m on east	Perform Picus tomogram at 0.25m.	TBC	8.7
			S							A1	
			E								
160	Beech	M	N	>30	2	780		No significant defects.	No work required.	>40	9.3
			S							A1	
			E								

Tree no.	Species	Age class	Crown spread	Height		DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution		RPA Radius	
				Crown height	Lowest branch Direction					Retention category			
161	Beech	M	N	>30	3	620		No significant defects.	No work required.	>40	7.5		
			S							1		N	A1
			E										
162	Holly	OM	N	10	3.5	430		Major decay to 4m.	Crown reduce to 5m.	>20	5.1		
			S							1		W	B1
			E										
163	Oak	EM	N	>25	3	880		Minor to major dead wood present. Moderate asymmetry to south.	Prune to improve symmetry, crown clean.	>20	10.5		
			S							8		SE	B1
			E										
164	Beech	EM	N	>25	3.5	550		Large lateral branch from 3.5m on south side supported by a failing union.	Reduce large lateral to 6m from union.	>20	6.6		
			S							1		S	C1
			E										
165	Holly	OM	N	10	2	260 310 0 0	0 163700	Major decay to 1.25m.	Pollard or fell.	<10	4.8		
			S							2		S	C1
			E										
166	Sweet chestnut	EM	N	15	3	670		Major decay in stem from ground level to upper canopy.	Pollard or fell.	<10	8.1		
			S							2		W	C1
			E										
167	Beech	M	N	>30	4	640		Moderate asymmetry to southeast.	Prune to improve symmetry.	>40	7.5		
			S							2		S	B1
			E										
168	Beech	Y	N	>25	1	460		Moderate asymmetry to west.	Prune to improve symmetry.	>20	5.4		
			S							1		NE	C1
			E										
169	Beech	M	N	>30	11	1000		No significant defects.	No work required.	>40	12		
			S							5		W	A1
			E										
170	Beech	OM	N	>30	3.5	1300		<i>Kretzschmaria deusta</i> present.	Pollard or fell.	<5	15		
			S							1		W	U
			E										
171	Oak	Y	N	>25	2	530		Very small canopy above 20m. Minor to moderate dead wood present.	Pollard at 8m	>20	6.3		
			S							4		W	C1
			E										
172	Oak	Y	N	>25	2.5	570		Major asymmetry to southwest.	Pollard at 8m	>20	6.9		
			S							2.5		W	C1
			E										
173	Beech	Y	N	>30	3.5	530		Moderate asymmetry to east.	Prune to improve symmetry.	>40	6.3		
			S							2		SE	A1
			E										
174	Sweet chestnut	M	N	>25		690		Moderate decay throughout from ground level. Minor to moderate dead wood present.	Perform Picus tomogram at 1m.	>20	8.1		
			S										C1
			E										

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius		
				Crown height	Direction					Retention category			
175	Beech	OM	N	>30	2.5	1640		<i>Kretzschmaria deusta</i> present with major defects.	Pollard or fell.	<5	15		
			S							3		NE	U
			E										
176	Beech	OM	N	>30	4	1330		<i>Kretzschmaria deusta</i> present with major defects.	Pollard or fell.	<5	15		
			S							1		W	U
			E										
177	Beech	OM	N	>30	2	1110		2 Stems from 2.5m.	No work required.	>20	13.2		
			S							1		E	B1
			E										
178	Beech	OM	N	>30	2.5	1250		<i>Armillaria sp.</i> fruiting bodies on root collar to south east.	Perform Picus tomogram at 0.25m.	TBC	15		
			S							1.5		S	A1
			E										
179	Beech	OM	N	>25	2.5	1020		Minor to major dead wood throughout. Moderate asymmetry to south and southeast.	Prune to improve symmetry, crown clean.	>20	12.3		
			S							2		W	B1
			E										
180	Beech	OM	N	>30	3	1350		<i>Kretzschmaria deusta</i> present with many major defects.	Fell.	<5	15		
			S							2		E	U
			E										
181	Holly	OM	N	9	3.5	410		Two stems from 1.75m.	No work required.	>20	4.8		
			S							52		SW	B1
			E										
182	Beech	M	N	>25	3	1090		Major decay from ground level to 5m.	Fell or pollard at 5m.	<5	13.2		
			S							1		NW	U
			E										
183	Beech	M	N	>30	4	1160		Evidence of decay from ground level to 3m.	Perform Picus tomogram at 0.25m.	TBC	13.8		
			S							1		W	C1
			E										
184	Beech	M	N	8	6	930		Standing stump.	No work required.	>10	11.1		
			S							2.5		NE	B1
			E										
185	Douglas fir	Y	N	>35	6	770		Leaning East at circa 15°.	No work required.	>10	9.3		
			S							6		W	C1
			E										
186	Beech	M	N	>30	1.5	1120		Two stems from 1.5m Major decay on northwest at 1m.	Perform Picus tomogram test at 1m.	TBC	13.5		
			S							1		W	C1
			E										
187	Beech	M	N	>20	0.75	580		Moderate decay from 1.4 to 2m to northwest.	No work required.	>10	6.9		
			S							1		NW	C1
			E										
188	Douglas fir	Y	N	>35	10	900		No significant defects.	No work required.	>20	10.8		
			S							9		W	B1
			E										

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
189	Douglas fir	Y	N	>25	>15	880		Lost leader above 25m.	No work required.	>10	10.5
			S							>12	
			E	W							
190	Douglas fir	Y	N	>35	6	740		Two stems from 6m with a moderate compression fork.	Brace above 20m, or fell.	>10	8.7
			S							1.5	
			E	W							
191	Sweet chestnut	M	N	>15	1.75	620		75% dead.	Pollard at 6m.	>10	7.5
			S							2	
			E	W							
192	Beech	OM	N	>30	3.5	1260		Minor to moderate dead wood.	Crown clean, crown thin by circa 10%.	>20	15
			S							2	
			E	W							
193	Beech	M	N	>30	4.5	760		No significant defects.	No work required.	>20	9
			S							3	
			E	W							
194	Oak	Y	N	>30	>15	560		Small canopy, all above 25m.	No work required.	>10	6.6
			S							>25	
			E	W							
195	Beech	OM	N	>30	3	1550		Minor to moderate dead wood.	Crown clean.	>20	15
			S							1.5	
			E	W							
196	Beech	OM	N	>30	3	1110		Major cavity on north side from ground level to 2.5m	Perform Picus tomogram at 1m.	TBC	13.2
			S							1.5	
			E	W							
197	Beech	OM	N	>30	4	1330		<i>Kretzschmaria deusta</i> present.	Fell.	<5	15
			S							1.5	
			E	W							
198	Beech	OM	N	>30	3	1060		Minor to moderate dead wood throughout, some broken and hanging. Moderate storm damage in upper canopy.	Crown clean, crown thin by circa 10%.	>10	12.6
			S							2	
			E	W							
199	Sweet chestnut	OM	N	>20	1	880		Minor to major dead wood throughout.	Crown reduce to circa 8m and crown clean	>20	10.5
			S							1.5	
			E	W							
200	Oak	Y	N	>25	8	670		Minor dead wood throughout, minor storm damage in upper canopy.	Crown clean and formative prune.	>20	8.1
			S							9	
			E	W							
201	Oak	M	N	>35	8	1250		Two stems from 4m. Minor to moderate dead wood throughout, some broken and hanging. Moderate storm damage throughout.	Crown clean and formative prune.	>40	15
			S							>10	
			E	W							
202	Common lime	M	N	>25	0.25	710		Minor to moderate dead wood throughout. Broken branch from adjacent oak hung up in canopy.	Crown clean and formative prune.	>20	8.4
			S							2	
			E	W							

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius		
				Crown height	Direction					Retention category			
203	Sweet chestnut	M	N	>10	1.5	800		Major dead wood present, 75% of canopy dead.	Pollard at 3.5m.	>20	9.6		
			S							2		SE	B1
			E										
204	Beech	OM	N	>30	3	1100		Major decay to 3m.	Pollard at 4.5m.	>10	13.2		
			S							1		SE	C1
			E										
205	Oak	M	N	>35	4	880		Three stems above 12m. Minor dead wood throughout.	Crown clean and crown thin by 10%.	>40	10.5		
			S							3		SE	A1
			E										
206	Oak	M	N	>20	7	870		Two stems from 6m. Broken top at 10m on west.	Prune to improve symmetry.	>20	10.5		
			S							3		NE	B1
			E										
207	Sycamore	EM	N	>30	7	720		No significant defects.	No work required.	>40	8.7		
			S							6		N	B1
			E										
208	Douglas fir	EM	N	>30	8	750		Broken top above 30m. Moderate asymmetry to southeast.	No work required.	>20	9		
			S							3		W	C1
			E										
209	Douglas fir	EM	N	>35	9	870		No significant defects.	No work required.	>40	10.5		
			S							6		N	B1
			E										
210	Douglas fir	EM	N	>35	10	1140		Minor dead wood throughout, some broken/hanging.	Crown clean and crown thin by 10%.	>20	13.8		
			S							4		W	B1
			E										
211	Douglas fir	EM	N	>35	>15	1130		Minor dead wood throughout, some broken/hanging.	Crown clean and crown thin by 10%.	>20	13.5		
			S							>15		SE	B1
			E										
212	Beech	OM	N	>25	3.5	920		Major decay from ground level to 2.4m on west side.	Crown reduce to 15m.	>10	11.1		
			S							1.5		NW	C1
			E										
213	Beech	OM	N	>30	3.5	1140		Major decay/cavity from ground level to 3m on southeast side. Major storm damage in upper canopy.	Fell or pollard at 6m.	>10	13.8		
			S							2		SE	C1
			E										
214	Beech	OM	N	>35	5	1290		Two stems from 4m with a failing compression fork.	Fell.	<5	15		
			S							1.5		SW	U
			E										
215	Oak	Y	N	>30	>15	560		Moderate asymmetry to west.	No work required.	>20	6.6		
			S							>15		SE	B1
			E										
216	Beech	Y	N	>30	4	530		Two stems from 6m.	No work required.	>20	6.3		
			S							2		S	B1
			E										

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
217	Holly	OM	N	>12	4	270		Moderate decay from 0.25 to 1.25m. Leaning northwest at 10°.	Crown reduce to 5m.	>10	3.3
			S							C1	
			E								
218	Beech	EM	N	>25	1.5	590		Moderate asymmetry to northeast.	No work required.	>20	7.2
			S							B1	
			E								
219	Beech	M	N	>30	9	700		Dense canopy.	Crown thin by 10%.	>40	8.4
			S							A1	
			E								
220	Beech	M	N	>30	6	1060		Major decay from ground level to 3.5m.	Perform tomograms at 0.25, 1.5 and 2.5m.	TBC	12.6
			S							C1	
			E								
221	Holly	M	N	12	4	280		Moderate bark wound at 0.25m. Three stems above 4m.	No work required.	>10	3.3
			S							C1	
			E								
222	Holly	M	N	11	1.75	330	0	Moderate decay from ground level to 0.5m to southwest.	No work required.	>10	3.9
			S							C1	
			E								
223	Beech	OM	N	>35	7	1040		<i>Kretzschmaria deusta</i> present.	Fell.	<5	12.3
			S							U	
			E								
224	Beech	OM	N	>35	8	1000		Major decay from 1 to 3.5m to northwest.	Fell.	<5	12
			S							U	
			E								
225	Beech	OM	N	>35	6	1340		Major decay on north side to 7m.	Fell.	<5	15
			S							U	
			E								
226	Beech	EM	N	>35	>15	550		Dense canopy.	Crown thin by 10%.	>40	6.6
			S							A1	
			E								
227	Beech	EM	N	>35	3	510		Minor dead wood throughout, some broken & hanging. Poorly formed canopy.	Crown clean and crown thin by 10%.	>40	6
			S							A1	
			E								
228	Beech	M	N	>35	3.5	760		Minor dead wood throughout, some broken & hanging.	Crown clean and crown thin by 10%.	>40	9
			S							A1	
			E								
229	Beech	OM	N	>35	1.5	1670		Minor dead wood throughout.	Crown clean and crown thin by 10%.	>20	15
			S							B1	
			E								
230	Beech	OM	N	6	2.5	830		Standing stump, top broken at 6m.	Retain as is for wildlife.	>5	9.9
			S							C1	
			E								
			W	2	N						

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
231	Beech	OM	N	>35	1.5	2110		Major decay from ground level to 2m on southeast side.	Crown reduce to 25m and crown clean.	>20	15
			S							B1	
			E								
232	Beech	M	N	>35	3.5	860		Dense canopy.	Crown thin by 10%.	>20	10.2
			S							B1	
			E								
233	Beech	OM	N	>35	6	1250		Major storm damage in upper canopy.	Crown reduce to 20m.	>10	15
			S							C1	
			E								
234	Beech	OM	N	>30	5	1020		Major decay from ground level to 3.5m.	Fell or pollard at circa 4m.	<5	12.3
			S							U	
			E								
235	Beech	OM	N	>35	4.5	1020		Moderate asymmetry to northwest.	Crown clean and crown thin by 10%.	>20	12.3
			S							B1	
			E								
236	Beech	EM	N	>30	5	720		No significant defects.	No work required.	>40	8.7
			S							A1	
			E								
237	Beech	EM	N	>30	7	570		No significant defects.	No work required.	>40	6.9
			S							A1	
			E								
238	Beech	OM	N	>35	5.5	1590		Major compression forks at 2m.	Crown thin by 10%. Install non-invasive cable brace.	>20	15
			S							B1	
			E								
239	Beech	M	N	>30	2	840		Moderate asymmetry to west.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	9.9
			S							B1	
			E								
240	Beech	M	N	>35	8	720		Moderate asymmetry to west.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	8.7
			S							B1	
			E								
241	Beech	Y	N	>35	4	500		Moderate asymmetry to west.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>10	6
			S							C1	
			E								
242	Beech	OM	N	>35	9	1470		Major cavity from ground level to 2.5m. Major asymmetry to southeast.	Fell.	<5	15
			S							U	
			E								
243	Beech	OM	N	>35	3	1370		3 stems from 1.5m. Minor to moderate dead wood throughout.	Crown clean and crown thin by 10%.	>10	15
			S							C1	
			E								
244	Beech	M	N	>35	2	790		2 stems from 2m. Various rubbing scaffold limbs throughout.	Crown clean and crown thin by 10%.	>10	9.3
			S							C1	
			E								
			N							>10	
			S							C1	
			E								
			N							>10	
			S							C1	
			E								
			N							>10	
			S							C1	
			E								
			N							>10	
			S							C1	
			E								
			N							>10	
			S							C1	
			E								

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
245	Beech	M	N	>35	3	940		Major buttress root damage to south and east. Minor bark wound on south side to 1.5m.	Perform Picus tomogram at 1m.	TBC	11.4
			S							C1	
			W							3	
246	Beech	EM	N	>30	2.5	580		Major buttress root damage at root collar.	Perform Picus tomogram at 1m.	TBC	6.9
			S							C1	
			W							2	
247	Sweet chestnut	M	N			930		Major asymmetry to northwest, major dead wood throughout. Major buttress damage to south & east to 0.75m.	Fell.	<5	11.1
			S							U	
			W								
248	Beech	Y	N	>30	2	420		Minor dead wood throughout.	Crown clean.	>20	5.1
			S							C1	
			W							2	
249	Beech	EM	N	>30	8	560		Moderate asymmetry to north, minor dead wood throughout, some broken hanging.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>10	6.6
			S							C1	
			W							>20	
250	Beech	M	N	>30	6	670		Moderate asymmetry to west.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>10	8.1
			S							C1	
			W							9	
251	Beech	M	N	>35	8	720		Moderate asymmetry to west.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	8.7
			S							B1	
			W							7	
252	Beech	M	N	>35	4	900		Major compression fork at 4m. Moderate asymmetry to northwest.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>10	10.8
			S							C1	
			W							6	
253	Beech	EM	N	10	4	600		Broken top at 8m. Major cavity at ground level on south side.	Fell.	<5	7.2
			S							U	
			W							3	
254	Beech	M	N	>30	5	680		Moderate asymmetry to east. Minor storm damage, some broken and hanging.	Crown clean and crown thin by 10%.	>10	8.1
			S							C1	
			W							2	
255	Beech	M	N	>35	5	720		Moderate asymmetry to west.	Crown clean and crown thin by 10%.	>20	8.7
			S							B1	
			W							4	
256	Beech	M	N	>30	4	740		2 stems from 6m. Major external decay all round to 1.75m.	Perform Picus tomogram at 1m.	TBC	8.7
			S							C1	
			W							1	
257	Oak	M	N	>30	3.5	1040		Moderate external decay on west to 1m.	Perform Picus tomogram at 1m.	TBC	12.3
			S							C1	
			W							2.5	
258	Beech	M	N	>30	3.5	850		Moderate asymmetry to northeast. Decay/cavity at root collar on north side. Leaning north at circa 8°.	Perform Picus tomogram at 1m.	TBC	10.2
			S							C1	
			W							1.5	

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
259	Beech	M	N	>30	7	830		Moderate asymmetry to northeast, minor dead wood throughout.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	9.9
			S							B1	
			W								
260	Beech	M	N	>30	2	730		Two stems from 3m.	No work required.	>40	8.7
			S							B1	
			W								
261	Windblown during survey.		N								
262	Beech	EM	N	>30	5	550		Minor asymmetry to north. Small canopy above 15m.	No work required.	>10	6.6
			S							C1	
			W								
263	Beech	EM	N	>25	4	460		Minor asymmetry to north/northwest.	No work required.	>10	5.4
			S							C1	
			W								
264	Beech	M	N	>30	4.5	680		Minor to moderate dead wood throughout.	Crown clean and crown thin by 10%.	>20	8.1
			S							B1	
			W								
265	Beech	M	N	>30	3.5	630		Moderate decay at root collar to south and east sides.	Perform Picus tomogram at 1m.	TBC	7.5
			S							C1	
			W								
266	Beech	M	N	>35	4	400		Minor dead wood throughout.	Crown clean and crown thin by 10%.	>20	4.8
			S							B1	
			W								
267	Beech	M	N	>30	4	700		Minor dead wood throughout, minor asymmetry to south.	Crown clean and crown thin by 10%.	>20	8.4
			S							B1	
			W								
268	Beech	M	N	>30	3	650		Moderate asymmetry to east.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	7.8
			S							B1	
			W								
269	Beech	OM	N	>30	4.5	1220		Two stems from 3.5m. Minor dead wood throughout, some broken and hanging. Moderate asymmetry east.	Crown clean and crown thin by 10%.	>20	14.7
			S							B1	
			W								
270	Beech	M	N	>30	2	950		Minor bark wound to southeast from 0.5m to 1.5m. Moderate asymmetry to east. Minor storm damage in upper canopy.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	11.4
			S							B1	
			W								
271	Common lime	Y	N	>15	4	460		Suppressed by tree no. 270. Minor dead wood throughout, major asymmetry to east.	Crown clean and prune to improve symmetry.	>10	5.4
			S							C1	
			W								
272	Common lime	EM	N	>15	3.5	530		Moderate asymmetry to southeast. Minor dead wood throughout.	Crown clean and prune to improve symmetry.	>10	6.3
			S							C1	
			W								

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
273	Sycamore	EM	N	>25	4	660		Major asymmetry to northwest.	Prune to improve symmetry.	>20	7.8
			S							C1	
			W							2.5	
274	Beech	M	N	>35	7	1160		Minor dead wood throughout.	Crown clean and crown thin by 10%.	>40	13.8
			S							A1	
			W							2	
275	Oak	EM	N	>30	6	710		Minor dead wood throughout.	Crown clean.	>40	8.4
			S							A1	
			W							>25	
276	Oak	Y	N	>20	10	560		Major asymmetry and leaning southeast at 12°. Minor dead wood throughout.	No work required.	>40	6.6
			S							C1	
			W							14	
277	Beech	M	N	>30	4	890		Major internal cavity, honey fungus on exposed roots.	Fell.	<5	10.8
			S							U	
			W							2	
278	Oak	EM	N	>25	3	850		Moderate asymmetry to southeast. Old storm damage in upper canopy.	Crown clean and prune to improve symmetry.	>40	10.2
			S							B1	
			W							1.5	
279		EM	N			510				>40	6
			S							B1	
			W								
280	Yew	Y	N	12	1	800		Minor asymmetry to east.	Crown clean and prune to improve symmetry.	>40	9.6
			S							A1	
			W							GL	
281	Yew	Y	N	12	1	520		Minor storm damage to west.	Crown clean and prune to improve symmetry.	>40	6.3
			S							A1	
			W							1	
282	Oak	Y	N	>25	5	450		Minor dead wood throughout.	Crown clean.	>40	5.4
			S							B1	
			W							6	
283	Oak	Y	N	>25	6	610		Moderate asymmetry to southeast. Minor dead wood throughout, some broken and hanging.	Crown clean and prune to improve symmetry.	>40	7.2
			S							B1	
			W							6	
284	Oak	Y	N	>25	5	650		Moderate asymmetry and leaning south at 5°. Minor to moderate dead wood throughout some broken and hanging.	Crown clean and prune to improve symmetry.	>40	7.8
			S							B1	
			W							3	
285	Oak	Y	N	>25	4	695		Major asymmetry and leaning south at 15°. Minor to moderate dead wood throughout. Fence embedded in root collar.	Crown clean and prune to improve symmetry. Remove fence.	>40	8.4
			S							B1	
			W							3	
286	Oak	EM	N	>25	6	575		Minor dead wood throughout, leaning south at 5°.	Crown clean.	>40	6.9
			S							A1	
			W							6	
287	Oak	EM	N	>30	6	575 700 0 0	0 820625 0 0	Two stems from 1.5m. Minor dead wood throughout.	Crown clean.	>40	10.8
			S							A1	
			W							6	

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
288	Beech	M	N	>35	6	1060		Wire embedded in root collar. Major asymmetry to southeast. Major timber defects at 15m.	Crown clean and crown thin by 10%. Prune to improve symmetry.	>20	12.6
			S							B1	
			W							6	
289	Sycamore	Y	N	>25	4	530		2 stems from 8m.	No work required.	>40	6.3
			S							B1	
			W							3	
290	Oak	Y	N	>30	10	590		Minor wound at 1m. Minor to moderate dead wood throughout.	Crown clean.	>40	7.2
			S							B1	
			W							10	
291	Oak	Y	N	>20	1.5	590		Major asymmetry and leaning south at 15°. Major stem defect at 6m to 8m.	Crown reduce to 10m.	>20	7.2
			S							C1	
			W							2	
292	Beech	OM	N	>35	6	1380		Major decay to buttress roots.	Perform Picus tomogram at 1m.	TBC	15
			S							B1	
			W							5	
293	Beech	OM	N	>35	5	1000		Major decay throughout.	Crown reduce to 10m.	>5	12
			S							C1	
			W							2	
294	Oak	Y	N	>30	7	600		Minor dead wood throughout.	Crown clean.	>40	7.2
			S							A1	
			W							5	
295	Oak	EM	N	>25	5	780		Minor to moderate dead wood throughout. Major asymmetry to south. Two stems from 5m.	Crown clean and prune to improve symmetry.	>20	9.3
			S							C1	
			W							7	
296	Oak	M	N	>30	5	980		Minor to moderate dead wood throughout. Minor asymmetry to southeast.	Crown clean.	>40	11.7
			S							A1	
			W							3	
297	Oak	EM	N	8	4	740		Major storm damage above 5m. Major asymmetry to southeast. Minor dead wood throughout.	Crown clean.	>20	8.7
			S							C1	
			W							1.5	
298	Oak	M	N	>30	4	960		Minor to moderate dead wood throughout. Two stems from 2m.	Crown clean.	>40	11.4
			S							A1	
			W							1.5	
299	Oak	M	N	>30	3	1220		Minor to moderate dead wood throughout, some broken and hanging. Overlarge limb on south side from 3m.	Crown clean, reduce overlarge limb to 5m length.	>40	14.7
			S							A1	
			W							2.5	
300	Oak	Y	N	>20	1.5	580		Moderate asymmetry to south.	Prune to improve symmetry.	>40	6.9
			S							B1	
			W							0.5	
301	Sweet chestnut	M	N	>30	5	1270		Minor to moderate dead wood throughout, some broken and hanging. Minor die-back in upper canopy.	Crown reduce to 20m and crown clean.	>40	15
			S							A1	
			W							3	

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius
				Crown height	Direction					Retention category	
302	Oak	Y	N	>20	2	650		Minor to moderate dead wood throughout. Minor asymmetry to southeast.	Crown clean and prune to improve symmetry.	>40	7.8
			S							B1	
			E								
303	Common lime	OM	N	>25	1.5	1450		Moderate asymmetry to southeast. Major decay from 2m to 4m. Moderate asymmetry to southeast.	Crown reduce to circa 15m and prune to improve symmetry.	>40	15
			S							A1	
			E								
304	Common lime	OM	N	>35	5	1250		Major decay to 6m. Evidence of major failure in upper canopy historically.	Crown reduce to circa 15m.	>40	15
			S							A1	
			E								
305	Lawson cypress	M	N	>20	2.5	1020		75% dead.	Fell.	<5	12.3
			S							U	
			E								
306	Oak	M	N	>30	4	1160		Minor to moderate dead wood, some broken and hanging. Historic storm damage throughout.	Crown reduce to 25m.	>40	13.8
			S							B1	
			E								
307	Oak	M	N	>30	6	1050		Minor dead wood throughout, minor asymmetry to northwest.	Crown clean and prune to improve symmetry.	>40	12.6
			S							A1	
			E								
308	Beech	M	N	>25	2	790		Wire embedded in root collar to north. Moderate asymmetry to southwest. 2 stems from 4m.	Remove wire and prune to improve symmetry.	>20	9.3
			S							B1	
			E								
309	Oak	EM	N	>30	8	720		Moderate asymmetry to east. Minor to moderate dead wood throughout, some broken and hanging.	Crown clean and prune to improve symmetry.	>40	8.7
			S							A1	
			E								
310	Oak	Y	N	>25	6	590		Moderate asymmetry to northwest. Minor to moderate dead wood throughout, some broken and hanging.	Crown clean and prune to improve symmetry.	>40	7.2
			S							B1	
			E								
311	Oak	Y	N	20	15	640		Moderate asymmetry and leaning south at 10°. Minor dead wood throughout.	Crown clean and prune to improve symmetry.	>20	7.5
			S							B1	
			E								
312	Oak	Y	N	>20	6	610		Minor asymmetry to northwest.	Perform Picus tomogram at 0.25m.	TBC	7.2
			S							B1	
			E								
313	Douglas fir	Y	N	>35	12	960		No significant defects.	No work required.	>40	11.4
			S							B1	
			E								
314	Oak	M	N	>25	4	1410		Major asymmetry to southeast. History of failure throughout.	Prune to improve symmetry.	>40	15
			S							A1	
			E								
315	Beech	M	N	>30	3	1200		Major decay from 7m - 9m.	Crown reduce to 12m.	>20	14.4
			S							A1	
			E								

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius		
				Crown height	Direction					Retention category			
316	Beech	OM	N	>30	3	1200		Major decay at point of historic failure from 1m-5m.	Crown reduce to 8m.	>20	14.4		
			S							2		SW	A1
			E										
317	Beech	OM	N	>30	2	1250		<i>Kretzschmaria deusta</i> present. Numerous compression forks above 8m.	Crown reduce to 10m.	>20	15		
			S							1		S	A1
			E										
318	Beech	OM	N	>30	2	970		Two stems from 3m. Moderate bark damage at root collar. Major cavity to east at 3m.	Perform Picus tomogram at 3m.	TBC	11.7		
			S							1		S	B1
			E										
319	Beech	EM	N	>25	2	500		Poorly pruned recently. Moderate asymmetry.	Correct poor pruning.	>20	6		
			S							1		E	A1
			E										
320	Beech	OM	N	>30	3.5	1460		Multi-stemmed above 3m with failing branch unions.	Crown reduce to 6m.	>20	15		
			S							2		NW	B1
			E										
321	Oak	M	N	>30	1	1460		Many major defects throughout associated with historic failure events.	Crown reduce to circa 25m.	>40	15		
			S							1		S	A1
			E										
			N										
			S										
			E										
			W										
			N										
			S										
			E										
			W										
			N										
			S										
			E										
			W										
			N										
			S										
			E										
			W										
			N										
			S										
			E										
			W										

Housing Zone 4 sub-zone 4

Tree no.	Species	Age class	Crown spread	Height	Lowest branch	DBH Single	DBH Multiple	General condition/observations	Management Recommendations	Contribution	RPA Radius		
				Crown height	Direction					Retention category			
2171	Beech	OM	N 12	23	2	1260		Minor asymmetry to north. 2 stems above 5m.	Undertake Picus testing at 0.5m.	TBC	15		
			S 5							1		SE	B
			E 7	24	3								TBC
			W 11										A
2172	Beech	OM	N 7	24	3	1110		Minor cavities and cracks throughout.	Undertake Picus testing at 0.5m.	TBC	13.2		
			S 9							1		N/a	A
			E 7	1000	Moderate asymmetry to east. Minor defects throughout.								Undertake Picus testing at 0.5m.
2173	Beech	OM	N 10	24	4	1000		Moderate asymmetry to east. Minor defects throughout.	Undertake Picus testing at 0.5m.	TBC	12		
			S 9							1		SW	B
			E 14	23	2								780
2174	Beech	M	N 6			23	2	780		Minor defects throughout.	Undertake Picus testing at 0.5m.	TBC	9.3
			S 9	1	W							B	
			E 7			20	2					860	
W 7	24	2	>10										
N 6			3	W	C1								
2175	Oak	EM	N 6	24	2	860		Moderate asymmetry to west. Major cracking in upper canopy.	Crown reduce to circa 15m.	>10	10.2		
			S 5							3		W	C1
			E 6	23	3.5								990
W 8	3	NW	B										
N 10			25	2.5	840	Moderate asymmetry to west. Cracking in stem to 3.5m on northeast and southwest sides.	Undertake Picus testing at 0.5m.	TBC	9.9				
S 11	1	S						B					
E 6			23	4				1060		Moderate asymmetry to northeast. Twisted and fluted stem.	Undertake Picus testing at 0.5m.	TBC	12.6
W 12	2	S			B								
N 4			19	3.5	990	2 stems from 7m.	Undertake Picus testing at 0.5m.		TBC			12	
S 9	1	W						B					
E 7			9	N/a				1060	Old stump, <i>Kretzschmaria deusta</i> present.	No work required.	>5		12.6
W 8	N/a	N/a			C1								
N 11			24	3	1020	Moderate asymmetry to west.	Undertake Picus testing at 0.5m.				TBC	12.3	
S 5	1	W						B					
E 11			19	3.5				1110	Major cavity from 4 to 6m on east side.	Crown reduce to circa 8m.	>20		13.2
W 7	1	NW			C1								
N 10			19	3	1300	Major damage due to scaffold limb failure on southwest side from ground level to 3m. Moderate cavities throughout the upper canopy.	Crown reduce to 15m.				>40	15	
S 7	2	SW						B1					
E 7			24	3				1110	Moderate cavities in scaffold limbs at mid canopy.	Undertake Picus testing at 0.5m.	TBC		13.2
W 10	1	W			B								
N 8			24	3	1110	Moderate cavities in scaffold limbs at mid canopy.	Undertake Picus testing at 0.5m.				TBC	13.2	
S 9	1	W						B					
E 11													
2184	Beech	OM	N 8	24	3	1110		Moderate cavities in scaffold limbs at mid canopy.	Undertake Picus testing at 0.5m.	TBC	13.2		
			S 9							1		W	B
E 11													
2184	Beech	OM	N 8	24	3	1110		Moderate cavities in scaffold limbs at mid canopy.	Undertake Picus testing at 0.5m.	TBC	13.2		
			S 9							1		W	B
E 11													

Appendix 2 Cascade chart for tree quality assessment

Category and definition Criteria (including subcategories where appropriate)

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.

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).

Category B

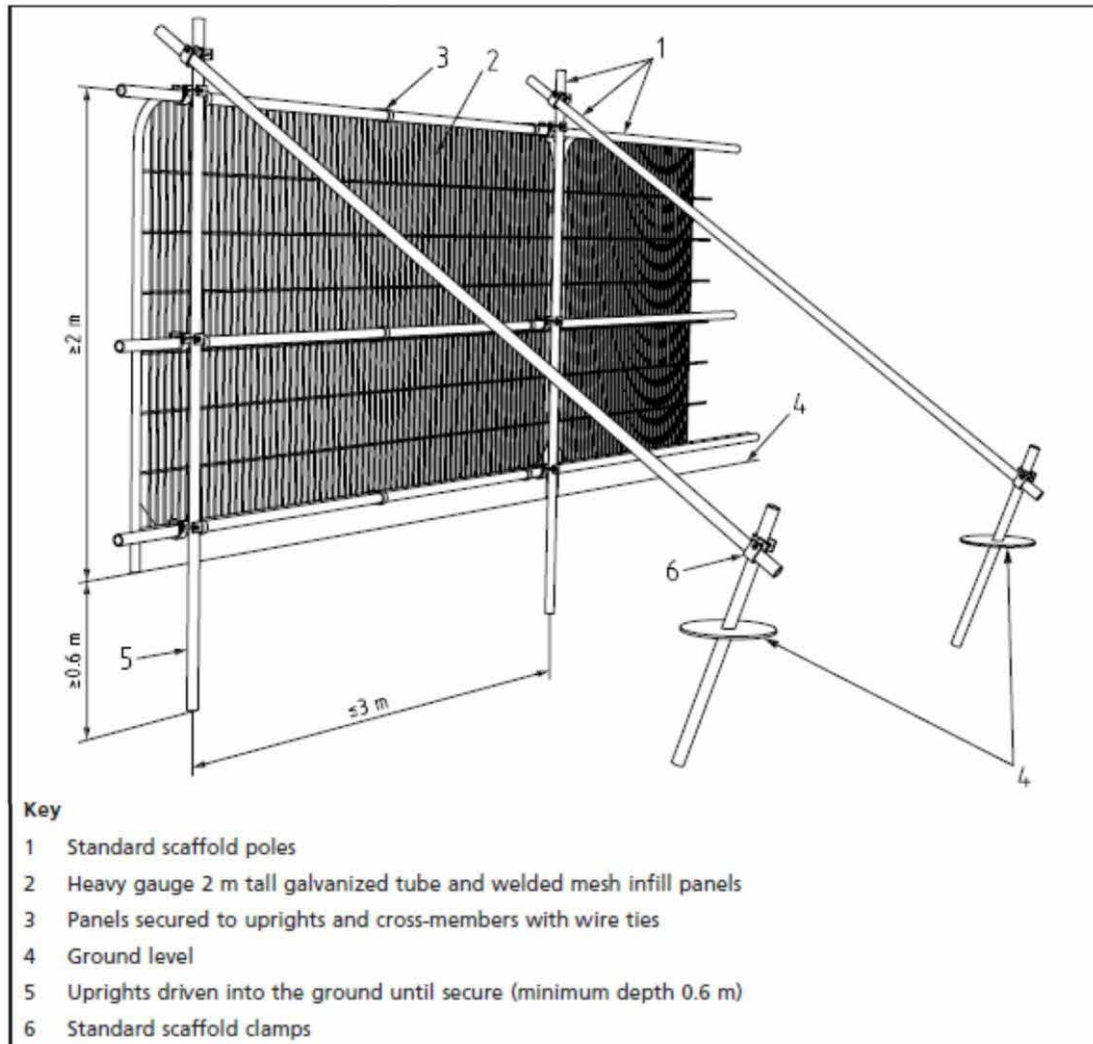
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Trees that might be included in category A, but are downgraded because of impaired condition (e.g., presence of significant though remediable defects, including unsympathetic past management and storm damage), 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.

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 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.

Appendix 3 BS5837: 2012 Figure 2

Figure 2 Default specification for protective barrier



Appendix 4 Construction Principles of 'No Dig' Hard Surfaces Close to Trees

Special construction methods are required for hard surfaces within root protection areas [RPAs] of retained trees. Whilst the following information provides guidance in the principles of such construction, the final specification shall be determined in conjunction with a suitably qualified engineer and guidance from the manufacturers of the products used.

Important points to remember about tree roots:

- most tree roots are in the top 600mm of soil, many are just below the surface,
- very fine, fibrous roots are just as important as large woody roots, they are easily damaged and prone to drying out,
- roots need moisture and oxygen to survive,
- soil compaction kills roots by reducing the soil's capacity to hold water and oxygen,
- 80% of compaction is caused by the first passage of a vehicle over soil,
- non-permeable surfaces and damage to the soil surface such as smearing or panning prevents water penetration and gaseous exchange.

'No dig' hard surfaces near trees should:

- cause minimal disturbance to soils, both during construction and in the long term,
- provide a stable, permanent surface of sufficient strength and durability for its purpose,
- include a three-dimensional cellular confinement system such as 'Geogrid' or 'Cellweb',
- be constructed using porous materials to enable percolation of water and gaseous exchange, e.g., gravel, porous tarmac, or brick paviors with nibbed edges, joints should be filled with 6mm diameter washed aggregate to maintain porosity (not sand).

Construction principles:

- surface vegetation should be removed using an appropriate systemic herbicide that will not harm retained trees or manually, using hand tools,
- minor levelling of the existing surface can be conducted where necessary, but using hand tools only; hollows can be filled with sharp sand,
- any exposed roots should be covered with good quality topsoil immediately to prevent them drying out; any damaged roots should be cut cleanly with a hand saw/secateurs,
- tree stumps shall be removed using a stump grinder rather than by digging to minimise disturbance,
- no vehicles or machinery shall travel over unprotected soil surfaces near trees. Where it is necessary to move materials used in the construction of the surface, they should be transported on the laid subbase as it is 'rolled out' through the RPA,
- the construction of the path or road should be conducted off an already completed section of the surface – not from bare ground,
- the completed surface may require protection if it will be used for access during the construction period, especially where it may see frequent use by heavy machinery.

Appendix 5 Removal of Debris Near Trees

The removal of any material should be conducted from outside the RPA whenever possible and from within the footprint of the existing building or surface where this is within the RPA of a tree.

The excavation of the material must not extend into the soil underneath. In practical terms the bucket of the excavator must be used so that the cutting edge is horizontal so that any disturbance of the underlying soil is kept to an absolute minimum. The cutting edge of the bucket should be flat and without 'teeth' to further reduce the risk of root damage. Where the surfacing is very thin and/or roots are very near the surface, the digging should be done manually.

Any exposed tree roots should be covered with good quality topsoil immediately to prevent them drying out. Any damaged roots should be cut cleanly with a hand saw or secateurs.

Debris and rubble of any type must not be stockpiled within the RPA of the tree and must be exported without crossing the RPA.

Due care and planning must be taken to ensure that the operational arcs of excavators do not damage the crowns of retained trees.

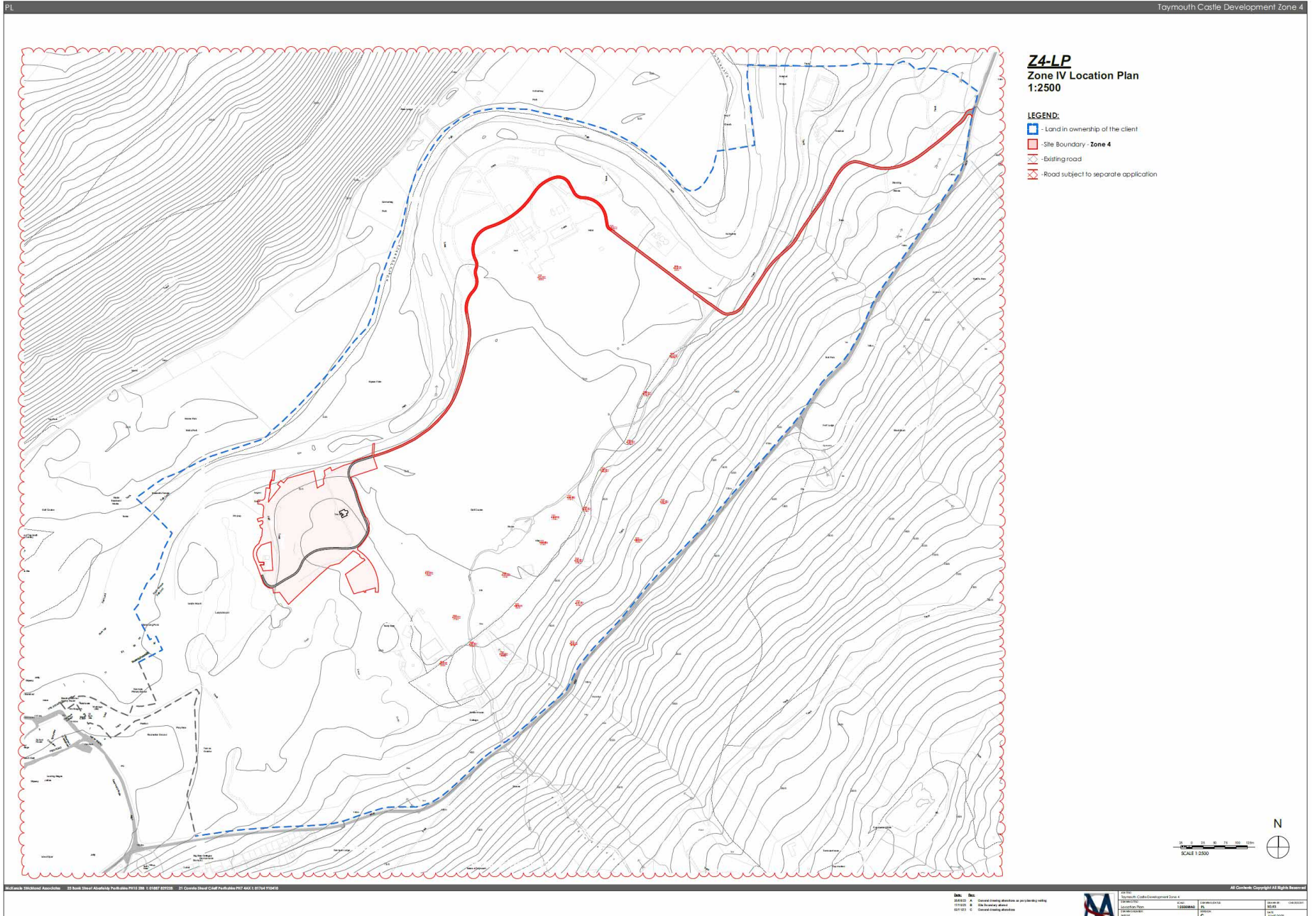
Where new surfacing is to be installed, if the depth of the old surface is insufficient, the wearing surface may need to be higher than existing in order to accommodate the appropriate thickness. There may be a requirement for a geo-textile membrane to be laid on the soil surface, but this is an engineering matter dependent upon soil type. The separation is beneficial for root development.

Where the old surface is taken up and not replaced, the infill should be of good quality topsoil laid without compaction.

Appendix 6 Further Information

- Anon (2010) **British Standard Recommendations for Tree Work BS 3998: 2010**
British Standards Institution, 2 Park Street, London W1A 2BS
- Anon (2012) **British Standard Recommendations for Trees in relation to design, demolition and construction BS 5837: 2012**
British Standards Institution, 2 Park Street, London W1A 2BS
- Lonsdale D. (2013) **Principles of Tree Hazard Assessment & Management**
DETR, Elland House, Bressenden Place, London
- Mattheck C. Breloer H. (1994) **The Body Language of Trees –A Handbook for Failure Analysis.**
DOE Arboricultural Advisory and Information Service Alice Holt Lodge, Farnham, Surrey
- Mitchell A. (1989) **The Trees of Great Britain and Northern Europe**
Collins, Grafton Street, London
- Strouts R. G. Winter T. G. (1994) **Diagnosis of Ill-Health in Trees**
DOE Arboricultural Advisory and Information Service Alice Holt Lodge, Farnham, Surrey
- Anon (2007) **National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees**
One Castle Lane, London, SW1E 6DR
- Anon (2007) **Arboricultural Practice Note 12 'Through the Trees to Development**
Alice Holt Lodge, Wrecclesham, Farnham, Surrey, GU10 4LH
- Wilson S. (2004) **Taymouth Castle Landscape management Plan**
4 Foxcombe Court, Wyndyke Furlong, Abdingdon, Oxfordshire OX14 1D2

Appendix 7 Site Plans





Zone 4 – approximate boundary shown as red line.



Z4-MP
Proposed Masterplan 1:500

- LEGEND:**
- Previously Approved House Locations
 - Existing Track
 - Proposed New Road
 - Previously Consented Development
 - Proposed House Location
 - Existing Trees To Be Retained
 - Proposed Drainage System Network

- Proposed Developable Area**
- Z4-01 (approx. 1.64ha)
 - Z4-02 (approx. 1.94ha)
 - Z4-03 (approx. 1.99ha)
 - Z4-04 (approx. 0.67ha)

