Sir Frederick Messer Estate, Haringey – BS 5837:2012 Arboricultural Report and Impact Assessment

Oobe Ltd

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Ecus Ltd

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Executive Summary

On behalf of Oobe (the Client), Ecus Limited (Ecus) has carried out a tree survey to BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* in May 2024 at Sir Frederick Messer Estate, Haringey. This survey has formed the basis for an assessment of the impacts that development proposals may have on the existing tree cover and recommends methodologies that will need to be adopted to protect retained trees during development.

The survey recorded all significant trees within the site and those which may be affected by any development proposed within the site boundary, recording several parameters including species, crown spread and Root Protection Area (RPA).

The RPA of any given tree is calculated in accordance with BS 5837:2012 and is generally a circular plot centred on its stem. This area around each tree should not be disturbed by excavation, compaction, contamination or other related demolition and construction activities. Minor encroachment into the RPA may be possible if specific methodologies are put in place that reduce the likelihood of the tree being negatively impacted.

The survey recorded 54 individual trees. The surveyed trees consisted predominantly of Sycamore and Norway maple with common ash, Raywood ash and two offsite Amelanchier were also surveyed. The surveyed trees are planted ornamentals of generally good condition.

None of the trees surveyed on the Site are protected by Haringey Council Tree Preservation Order (TPO) and the Site is not located within a Conservation Area.

An online search using the Multi Agency Geographical Information for the Countryside (MAGIC) website for statutory conservation sites was undertaken (where appropriate) to determine the presence of Ancient Woodland within 15.0 m of the site boundary.

The Client proposes to construct two multi story residential apartment blocks with associated off-road parking alongside hard and soft landscape improvements. This will require the removal of 22 trees, and may also have an impact on the roots, stems and canopies of retained trees unless suitable protection measures are put in place.

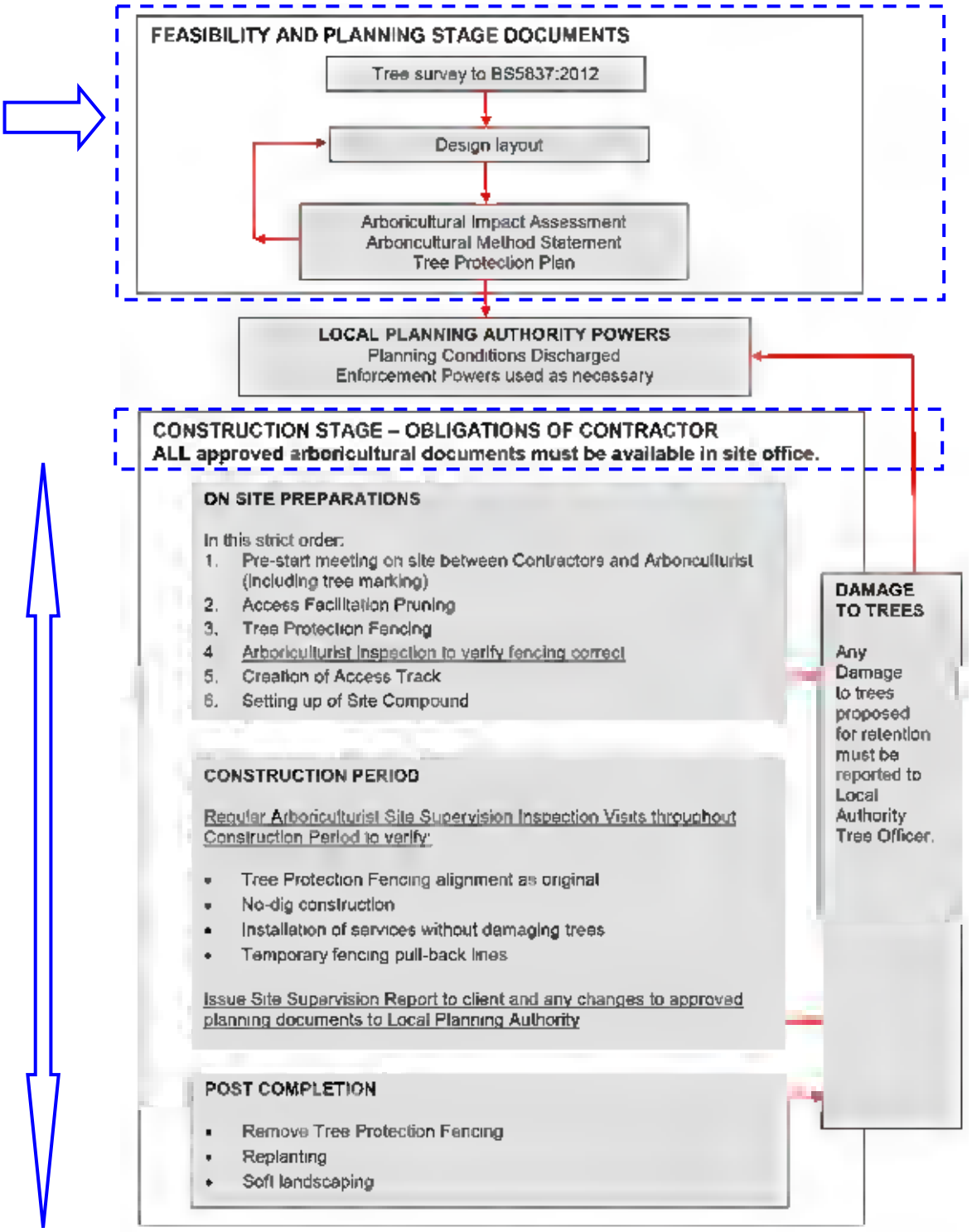
This report details the potential Arboricultural impacts of development at the site and offers protection measures and construction methodologies which may need to be adopted to protect the retained trees. These measures aim to prevent accidental damage and other adverse effects on the health of retained trees.

An Arboricultural Method Statement is included with this report which demonstrates how the retained trees will be adequately protected throughout the development.

1. Introduction

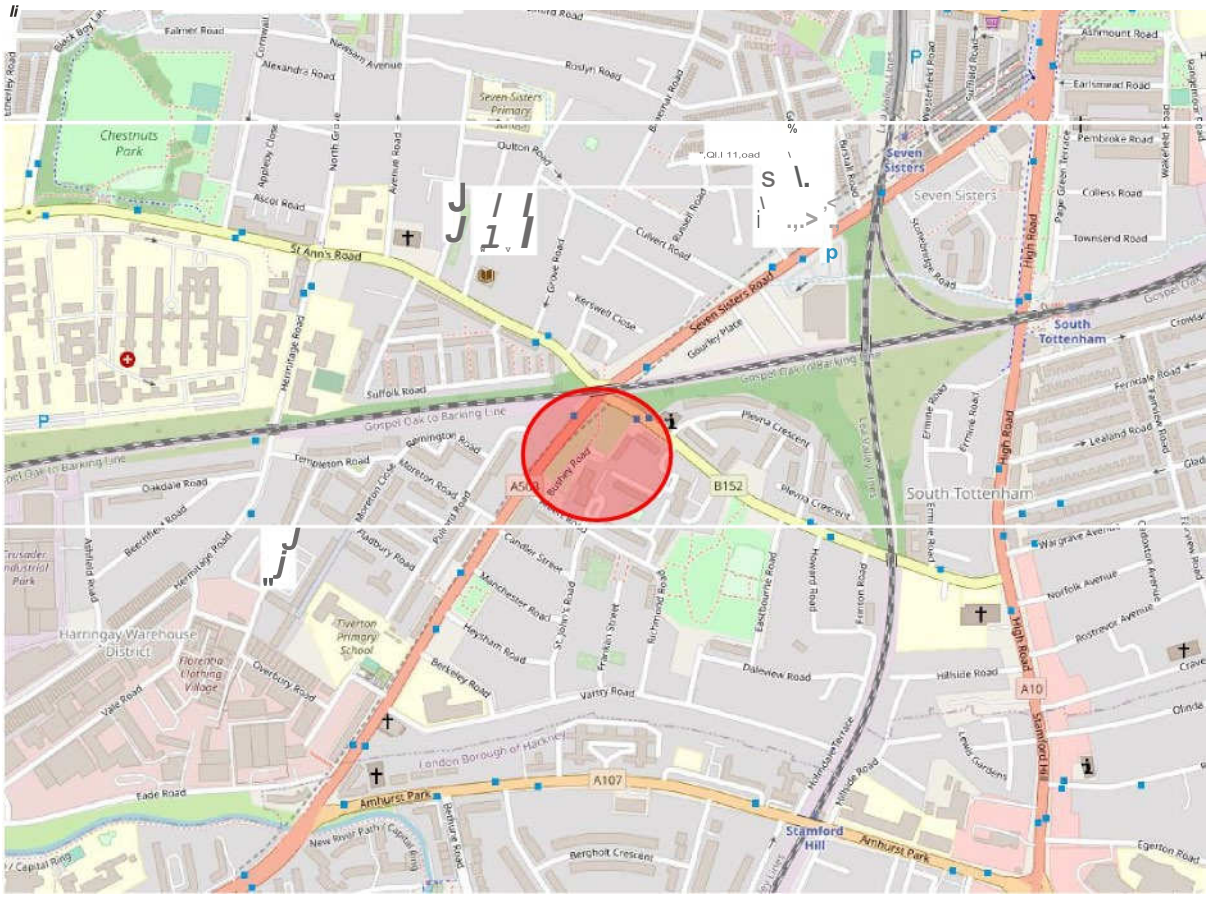
1.1 Context of this Report in the Planning System

Figure 1: The Design and Construction Process and Tree Care



1.2 Location Ecus Limited was commissioned by the Client to undertake a tree survey of land adjacent to Sir Frederick Messer Estate, Haringey, London. Grid Reference (NGR) TQ 33076 88416. The Site location is shown on Figure 2.

Figure 2: Location Map



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1.3 Tree Designations

1.3.1 The survey was carried out in accordance with BS 5837:2012 'Trees in Relation to Design, Demolition and Construction- Recommendations'. This report sets out the findings of the survey and recommendations have been made for preliminary tree work that may be required.

1.3.2 The survey included identification of any existing designations affecting trees on site such as Tree Preservation Orders (TPO) and Conservation Area status by checking the map information available on the Haringey Council website www.haringey.gov.uk

1.3.3 This check confirmed that there are no TPOs on any of the trees surveyed. The Site is Conservation Area.

1.3.4 The permission of the local planning authority must be sought before any works are carried out to protected trees. Potentially unlimited fines can be imposed for illegally carrying out any works to protected trees.

1.3.5 Reference to the Multi Agency Geographical Information for the Countryside (MAGIC)

website indicates that the Site is not listed in the Ancient Woodland Inventory, this is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

1.3.1 The Site does not contain any recorded veteran trees as shown on the Ancient Tree Inventory maintained by the Woodland Trust (ati.woodlandtrust.org.uk).

1.4 Protected Species

Bats

1.4.1 Mature trees can often contain cavities or hollows which provide potential roosting locations for bats. Bats and the places they use for shelter or protection (i.e. roosts) are protected under *The Conservation of Habitats and Species Regulations* 2017 (Habitats Regulations 2017). They also receive legal protection under the *Wildlife and Countryside Act* (WCA) 1981. Consequently, causing damage to a bat roost constitutes an offence.

1.4.2 Generally, should the presence of a bat roost be suspected whilst completing works on any trees on site then an appropriately licensed bat worker should be consulted for advice.

Birds

1.4.3 Trees and hedgerows can provide habitat for nesting birds which are protected under the *Wildlife and Countryside Act* (WCA) 1981. Some species are further protected by special penalties. This legislation makes it an offence to intentionally or recklessly damage or destroy an active bird nest or part thereof.

1.4.4 As the trees at the site provide potential habitat for nesting birds all tree work should ideally be completed outside the peak nesting bird season (Generally March to August inclusive).

1.4.5 If this is not possible then the vegetation should be subject to a nesting bird inspection by a suitably experienced ecologist prior to commencement of works. If active nests are identified then the vegetation, and a defined buffer zone, will need to remain in place until the young have fully fledged.

2. Tree Survey Methodology

2.1 Site survey

2.1.1 Ecus have undertaken the tree survey in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*, to provide detailed and independent Arboricultural advice in the context of potential development. The survey was a ground based visual inspection carried out by a suitably qualified arboriculturist. No trees were tagged as part of the survey.

2.1.2 The tree inspection was carried out in May 2024 by Andrew Bagshaw FdSc MArborA, Principal Arboricultural Consultant, when the deciduous trees were generally in leaf.

2.1.3 The weather on the day of the survey was dry and cloudy. This allowed for a thorough inspection of all trees included in the survey.

2.1.4 The survey recorded all trees with a stem diameter of 75 mm or more at a height of 1.5 m above ground level within the site boundary. Any significant trees outside the boundary which could be significantly affected by the future development of the site were also recorded.

2.1.2 The following characteristics were recorded:

- Species
- Stem diameter at 1.5 m above ground level (mm)
- Estimated height (m)
- Approximate crown spread (m) in North, East, South and West directions
- Estimate of the number of years that the tree is likely to remain suitable for retention
- Age class
- Condition category in accordance with BS 5837:2012. The categories are defined as:
  - 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
- Value subcategories where appropriate in accordance with BS 5837:2012. These are defined as:
  - 1 = Mainly arboricultural qualities
  - 2 = Mainly landscape qualities
  - 3 = Mainly cultural values, including conservation
- General notes about physiological and structural condition and any management recommendations

2.1.5 All survey data has been based on a topographical survey where possible, supplied by the client. Where topographical information has not identified tree positions or Ordnance Survey mapping has been utilised, trees and hedgerows have been positioned using GPS

and aerial photography to provide approximate locations in relation to existing surrounding features. Further confirmation of tree locations through a topographical survey of the site is recommended to ensure future design accuracy.

2.1.6 Some measurements for trees with limited accessibility may have been estimated. This is highlighted with a hash (#) symbol in the Tree Survey Schedule at Appendix 1.

2.1.7 Where trees formed a contiguous canopy they may have been grouped, in line with the guidance of BS 5837:2012. If densely wooded areas are not expected to be directly affected by development proposals only the significant trees at the woodland perimeter will have been surveyed.

2.1.8 Trees are living organisms that change over time. A re-survey of all trees should be carried out if there have been any significant storm events or more than 12 months have passed since the survey was carried out.

2.2 Calculation of Root Protection Area (RPA)

2.2.1 The Root Protection Area (RPA) is calculated according to the formulae set out in BS 5837:2012. This is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure should be treated as a priority.

2.2.2 Due to the specific topography of the site and the presence of surrounding structures the RPA is likely to be a simplified representation of the actual morphology and disposition of tree roots. Any deviation in the shape of the RPA from the calculated circular shape will largely be based on conjecture and so should generally be avoided. However, where significant site features are present that could clearly influence the disposition of tree root growth (e.g. water courses, building foundations and retaining walls), the RPA may be amended to take these features into account.

3. Tree Survey Results

3.1 General Site Description

3.1.1 The Site is located adjacent to the Sir Frederick Messer Estate, in the borough Haringey, north London.

3.1.2 The Site is bordered by Seven Sisters Road to the north west and St Ann's road to the north east. One brick building, currently a hostel and bar is located immediately adjacent to the Site's southwest boundary (No.8 Seven Sisters). The surrounding area includes residential flats of the Sir Frederick Messer Estate to the south, Seven Sisters Road lined with small commercial terraced buildings bordering the north west of the Site and residential housing off St Ann's road to the east. The wider area is a largely residential urban environment with small parks and playing fields distributed throughout.

3.1.3 Most of the trees surveyed during the site visit are located along the Site boundaries with occasional younger trees situated further within the Site.

3.1.4 The Site is highly accessible to members of the public with formal and informal footpaths throughout. Noticeable public viewpoints of the Site are from adjacent residential multi-story buildings Henrietta House and Oatfield House situated directly to the south of the Site, with partial visibility from Seven Sister's Road and St Ann's Road, which run parallel to the north east and north west of the Site.

3.2 Results of Tree Survey

3.2.1 The Tree Survey Schedule at Appendix 1 details the results of the tree survey and includes any management recommendations. The schedule should be read in conjunction with the tree plans at Appendix 3 which show the location of each tree surveyed and the extent of their canopies and RPA.

3.2.2 54 individual trees have been recorded during the survey. A summary of the tree survey findings is shown in Table 1.

3.2.3 A full survey to BS 5837:2012 was carried out for those trees, including the recording of the stem diameter to determine the RPA of the trees.

3.2.4 Species diversity is fair with the majority of the trees surveyed on Site being of early mature to mature Sycamore *Acer pseudoplatanus* and Norway maples *Acer platanoides* with occasional Common ash *Fraxinus excelsior*, Raywood ash *Fraxinus angustifolia oxycarpa* and serviceberry *Amelanchier sp.*

Table 1: Summary of Tree Survey Findings

Category A	Category B	Category C	Category U
Trees: T022	Trees: T001, T002 T003, T004, T005, T006, T008, T010, T011, T015, T016, T018, T019, T020, T021, T023, T024, T025, T027, T028, T042, T043, T044, T045, T046, T050 & T52-Sycamore T012, T014, T026, T036, T037, T038, T039, T041, T047, T048, T049 & T051-Norway maple	Trees: T009, T029, T030, T031, T033, T034 & T035-Common Ash T013, T040-Norway maple T32-Raywood ash T053, T054-Serviceberry T007, T017-Sycamore	None
Total 1 - Tree	Total – 39 Trees	Total -14 Trees	

3.2.5 The Tree Survey Schedule in Table 3.1 (Appendix 1) describes the results of the tree survey and includes preliminary management recommendations. The table should be read in conjunction with Figure 3.1 Tree Survey and Tree Constraints Plan (Appendix 3). This drawing illustrates the location of the trees surveyed, the extent of their canopies as well as the RPA of each tree and tree group.

3.2.6 A total of 54 individual trees have been recorded during the survey. A full survey to BS 5837:2012 was carried out for those trees, including the recording of the stem diameter to determine the RPA of the trees.

3.2.7 Species diversity is fair with the majority of the trees surveyed on Site being of early mature to mature Sycamore *Acer pseudoplatanus* and Norway maples *Acer platanoides* with occasional Common ash *Fraxinus excelsior*, Raywood ash *Fraxinus angustifolia oxycarpa* and serviceberry *Amelanchier sp.*

High Quality & Value

3.2.8 One tree has been assigned to the high quality and value category (A category). Trees in this category would be expected to make a substantial contribution for a period of at least 40 years.

Moderate Quality & Value

3.2.9 Thirty-nine individually surveyed trees have been assigned to the moderate quality and value category (Category B). Trees in this category have a useful life expectancy of 20 years, though many will contribute well in excess of this. Trees assigned to this category might typically have minor defects, lack form or potential longevity, or do not yet have the maturity and size to qualify for the higher category.

3.2.10 These thirty-nine individually surveyed Category B trees, comprise of 27 early mature to mature sycamore and 12 early mature to mature Norway maples. Their amenity plantings form linear rows on the boundary extents of the site; particularly on the west and northeastern boundaries whereby they are situated adjacent to main roads.

3.2.11 Minor physiological or structural defects were recorded, and the trees looked in overall good form and vigour. These trees are a significant feature within the Site and surrounding area and collectively are of Category 'A' retention value. They provide high visual amenity to the site and surrounding area and provide an overall canopy area that equates to approximately 53% of the site. This is a substantial proportion of high-quality canopy cover, in which will be contributing to local environmental services such as reducing urban heat island effects, caused by hard infrastructure like the main road and pavements and buildings nearby.

Low Quality and Value

3.2.12 Fourteen individual trees have been assigned to the low quality and value category (Category C). These are generally self-set trees that are scrubby in nature, trees of poor form or with severe defects or low vigour, and trees that lack maturity and can easily be replaced.

3.2.13 Notable amongst these trees are mature common ash trees T029 and T030 situated on the north boundary of the Site. Common ash (T030) was showing early signs of ADB (Ash Die Back) within the crown and has been classed as ash health class level one (See Section 2.3 Ash die back *Hymenoscyphus fraxineus* for further detailed information) Although, common ash (T029) which is situated in close proximity with T030 shows no signs of ADB, it is assumed that it will most likely succumb and therefore was awarded low quality and value Category C value.

3.3 Ash Die Back (*Hymenoscyphus fraxineus*)

3.3.1 Ash Die Back (ADB) also known as Chalara or Chalara Dieback of Ash, is a disease of ash trees caused by a fungus called *Hymenoscyphus fraxineus*. ADB causes leaf loss, crown dieback and bark lesions in affected trees. Once a tree is infected the disease is usually fatal, either directly or indirectly by weakening the tree to the point where it succumbs more readily to attacks by other pests or pathogens.

3.3.2 It is difficult to assign ash trees a retention category using the BS5837:2012 standards because of ADB. The general advice from public bodies is to retain ash trees and see how the disease develops within the local population. However, if clear signs of ADB are found on sites, it is highly likely that all the ash trees on that site will succumb in time. It could therefore be unreasonable to consider an ash tree a significant constraint to development.

3.3.3 The Tree Council has produced a document giving guidance to tree owners and managers on how to deal with ADB. *Ash dieback: an Action Plan Toolkit* (Summer 2019)[1]. This gives guidance on assessing the danger posed by trees infected with ADB. Ecus have adopted the Suffolk County Council Ash Health Assessment System (Appendix 4). The system categorises ash trees with ADB symptoms into 4 classes:

- Ash Health Class (AHC) 1 – 100% - 75% Live Canopy (Vitality Class 0)
- Ash Health Class (AHC) 2 – 75% - 50% Live Canopy (Vitality Class 1)
- Ash Health Class (AHC) 3 – 50% - 25% Live Canopy (Vitality Class 2)
- Ash Health Class (AHC) 4 – 25% - 0% Live Canopy (Vitality Class 3)

3.3.4 Many local authorities have concluded that any trees which fall within AHC 3 and 4 require management and it seems reasonable to follow a similar system. The priority of that management depends on the severity of the tree's condition, with trees declining from AHC 2 into AHC 3 requiring work as part of a program of regular works. As the trees decline towards AHC 4, action becomes more urgent to abate any hazard, assuming the tree is in a high risk area.

[1] https://treecouncil.org.uk/wp-content/uploads/2019/11/Tree-Council-Ash-Dieback-Toolkit-2.0.pdf

4. Arboricultural Impact Assessment (AIA)

4.1 Introduction

4.1.1 A BS 5837:2012 Arboricultural Impact Assessment (AIA) has been carried out for all trees included in the survey. The AIA methodology evaluates the potential direct and indirect impacts the proposed development could have on the trees at the site. Where necessary mitigation measures are recommended.

4.1.2 BS 5837:2012 paragraph 5.4.2 states:

> *"The assessment should take account of the effects of any tree loss required to implement the design, and any potentially damaging activities proposed in the vicinity of retained trees. Such activities might include the removal of existing structures and hard surfacing, the installation of new hard surfacing, the installation of services, and the location and dimensions of all proposed excavations or changes in ground level, including any that might arise from the implementation of the recommended mitigation measures. In addition to the impact of the permanent works, account should be taken of the buildability of the scheme in terms of access, adequate working space and provision for the storage of materials, including topsoil."*

4.2 Development Proposals

4.2.1 The client proposes the construction of two multi story residential apartment blocks with associated access, landscaping and facilities.

4.2.2 This AIA is based on the development layout provided by the Client (ref: 5447-SFMA_GA_240531* dated May 2024).

4.3 Tree Retention and Removal

4.3.1 The development proposals indicate that 22 trees (T005, T012, T013, T014, T031 to T040, T042 to T046 and T050 to T052) within the site boundary will need to be removed to facilitate the new development, as they are situated in the footprint of new structures or their retention and protection throughout the development is not suitable.

4.3.2 The trees that need to be removed are detailed in the Tree Survey Schedule at Appendix 1 and located on the Tree Impacts Plan at Appendix 3. A summary of the required tree removals is shown in Table 2.

Table 2: Summary of Required Tree Removals

Trees to be Removed			Trees to be Retained		
Category A	**Category B**	**Category C**	**Category A**	**Category B**	**Category C**
Trees: 0	Trees: 15	Trees: 7	Trees: 1	Trees: 20	Trees: 11
Groups: 0	Groups: 0	Groups: 0	Groups: 0	Groups: 0	Groups: 0
Woodlands: 0	Woodlands: 0	Woodlands: 0	Woodlands: 0	Woodlands: 0	Woodlands: 0
Hedgerows: 0	Hedgerows: 0	Hedgerows: 0	Hedgerows: 0	Hedgerows: 0	Hedgerows: 0
Total: 0	**Total: 15**	**Total: 7**	**Total: 1**	**Total: 24**	**Total: 7**

4.3.3 While there will be some loss of amenity value from the removals, retention of the early mature/mature trees bordering Seven Sisters Road will maintain significant visual amenity and provide screening from the proposal along the northwestern boundary, retaining a lot of the current landscape value offered by the site. This loss can be mitigated through the planting of suitable species, particularly in the central open area to the southeast of the site.

4.3.4 The development proposals have allowed space for the planting of replacement trees throughout the site once construction is complete. The planting of diverse tree species that are in keeping with the surrounding landscape character and tolerant of climate change can mitigate for the required removals and, in the longer term, increase the amenity value and ecosystem service benefits that the site's trees provide.

4.4 Tree Pruning

4.4.1 The pruning of trees should only be undertaken where essential, to prevent open wounds that can lead to bacterial or fungal infection. Pruning works should generally be undertaken during the winter months when the tree is dormant or during the summer months when the tree is fully active.

4.4.2 Any pruning works that are required to facilitate the development are detailed in the Tree Survey Schedule at Appendix 1.

4.4.3 Tree pruning should be carried out by a suitably qualified and insured Arboricultural contractor and in accordance with the recommendations of BS 3998:2010 *Tree work – Recommendations.*

4.5 Impacts from Construction Operations

4.5.1 Where proposed operations encroach beneath the canopy or into the RPA of retained trees there is the potential for damage to occur.

4.5.2 Construction of the two new residential buildings is proposed within proximity to the RPA of the retained trees T004, T011, T016, T024, T026 to T029 and T041 with shoring/excavation works required at a 3 metre stand off from the proposed building elevations as detailed on the Tree Impacts Plan at Appendix 3.

4.5.3 In this instance the encroachment is relatively minor with most of the RPA incursions being under 10% of the total RPA coverage. It is my opinion that the trees are unlikely to be significantly affected by these works due to the high vigour/vitality exhibited by the trees. Excavations at the edge of the RPA can often be carried out without significantly impacting the tree through careful pruning of minor roots that become exposed. As an added precaution these works should be supervised by the project arboriculturist.

4.5.4 A new footpath is proposed linking the development to Seven Sisters Road between trees T022 and T023. Use of a minimally invasive cellular confinement system is recommended to reduce potential damage to tree roots in this area. The works should be carried out in accordance with the Arboricultural Method Statement at Appendix 3.

4.5.5 All works within the RPA or beneath the canopy of retained trees have been detailed as part of the Arboricultural Method Statement at Appendix 3, to ensure that these works are carried out in a manner that minimises the likelihood of any damage occurring.

4.6 Shading

4.6.1 The shade from trees can be considered both a constraint and an opportunity. Some shade from trees can be beneficial. In particular, deciduous trees provide shade in summer but allow access to sunlight in winter. However, the design proposals should avoid excessive shading, and give adequate provision for future tree growth. The development should be fully considered to ensure a harmonious and sustainable relationship can be achieved.

4.6.2 When considering the position and orientation of new residential buildings in relation to existing trees, primary living areas should receive the largest proportion of natural sunlight. BRE guidelines recommend “at least half of the garden or open space should receive at least two hours sunlight on March 21 (Spring Equinox)”.

4.7 Mitigation and Protection

4.7.1 The retained trees will need protecting from development operations to ensure that they are not negatively impacted during the development. This should be detailed as part of an Arboricultural Method Statement. The primary method to achieve this is through the use of temporary protection fencing which encloses the RPA of retained trees, creating a sacrosanct Construction Exclusion Zone (CEZ) where no works can take place.

4.7.2 In areas where protection fencing is not practicable or would cause an excessive constraint to development operations, further protective methods can be employed such as ground protection measures to avoid soil compaction or stem boxes to protect tree stems from physical damage.

4.7.3 Where existing hard surfaces are present within the RPA of retained trees they should be kept in place, even if they are not part of the design proposals. These hard surfaces will provide ground protection for any roots present beneath the hard surface during development works.

4.7.4 Any works that are proposed beneath the canopy or within the RPA of retained trees must be carried out as specified in an Arboricultural Method Statement. It is likely that these works will need to be supervised by the project arboriculturist so that any tree related issues that occur can be suitably dealt with.

4.7.5 To compensate for potential root damage and stress caused by construction activities, retained trees onsite should be mulched. The materials that may be used include wood chip, pulverized bark, or leaf mould. The mulched area should extend throughout the open ground within the RPA. The depth of an organic mulch should not be so much as to inhibit aeration of the root system or to cause overheating (Approximately 50 mm to 100 mm).

4.7.6 Where the removal of trees is required to facilitate the development, the planting of suitable replacement trees will be required as part of a wider landscaping scheme. It is recommended that tree planting follows a 5 – 10 – 20 - 30 formula (i.e. No more than 5% of any one cultivar, no more than 10% of any one species, no more than 20% of any one genus, and no more than 30% of any one family.) This gives any new tree population maximum resilience against pests and diseases.

4.7.7 Tree planting and establishment should be carried out in accordance with BS 8545:2014 *Trees: from nursery to independence in the landscape – Recommendations*.

5. References

BS 3998:2010 *Tree work – Recommendations*. ISBN 978 0 580 53777 6

BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. ISBN 978 0 580 69917 7

BS 8545:2014 *Trees: from nursery to independence in the landscape – Recommendations.* ISBN 978 0 580 713170

Littlefair P. (2011). *Site layout planning for daylight and sunlight: a guide to good practice (BR 209).* ISBN 978 1 84806 178 1.

Volume 4 National Joint Utilities Group (NJUG) *Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*, Volume 4: Issue 2: 16/11/2007, www.njug.org.uk

Appendix 1: Tree Survey Schedule

Table 3: Tree Survey Schedule

Key:	Symbols Used	Age Class	SLE	Comments	Management	Category
	< = less than ~ = approximately > = greater than # = estimated	Young, Semi mature, Early mature, Mature or Over mature	Estimate of Safe Life Expectancy (<10 Years, 10+ Years, 20+ Years or 40+ Years)	AGL - Above Ground Level MS - Multi-Stemmed TD - Trunk Division (height in m) DED - Dutch Elm Disease ADB - Ash Die Back AHC (1, 2, 3 or 4) - Ash Health Class	*Tree works that are recommended regardless of future development are in Italics* **Tree works that are required to facilitate the proposed development are in Bold**	**BS 5837:2012 Retention Categories:** U - Unsuitable for retention A - High B - Moderate C - Low **Sub-categories:** 1 - Mainly arboricultural qualities 2 - Mainly landscape qualities 3 - mainly cultural value

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T001	Sycamore *(Acer pseudoplatanus)*	15	1	460	6	7	6	8	3	Early Mature	40+ Years	Good	-soil compaction with limited rooting area to south and west. Dead north facing lateral branch at 2m above ground level. Canopy overhanging buildings to west, currently with approximately 1.5m clearance.		B1,2	5.5	95
T002	Sycamore *(Acer pseudoplatanus)*	16	1	310	3	6	5	3	4	Early Mature	40+ Years	Good	-limited rooting south with soil compaction. Small crown with minor stem damage exhibiting good wound closure. Minor deadwood to lower crown presents low risk. Low branches (5.2) obstruct vehicle access.		B1	3.7	43

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T003	Sycamore *(Acer pseudoplatanus)*	16	1	420	5	5	7	6	3	Early Mature	40+ Years	Good	Codominant stems at 3m. Soil compaction with limited rooting to southeast. Old pruning wounds and minor to moderate deadwood within lower crown presents a low risk. Canopy to southeast overhanging road currently with adequate ground clearance.		B1,2	5	79
T004	Sycamore *(Acer pseudoplatanus)*	15	1	330	3	6	6	5	3	Early Mature	40+ Years	Good	Soil compaction with limited rooting to southeast. Old pruning wounds and minor to moderate deadwood to lower crown presents a low risk. Canopy to southeast overhanging road currently with adequate ground clearance.	Prune to reduce lateral spread to Northeast by 2 metres to facilitate development.	B1,2	4	50
T005	Sycamore *(Acer pseudoplatanus)*	17	1	430	4	6	6	7	3	Early Mature	40+ Years	Good	Soil compaction with limited rooting to southeast and some exposed lateral surface roots. Old pruning wounds exhibiting good closure and minor to moderate deadwood to lower crown. Currently adequate ground clearance over road.	Fell to ground level to facilitate the development.	B1,2	5.2	85

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T006	Sycamore *(Acer pseudoplatanus)*	18	1	450	7	5.5	5	6	4	Early Mature	40+ Years	Good	Minor soil compaction to north east from footpath with limited rooting to southwest and some exposed structural roots. Old pruning wounds some completely occluded and minor to moderate deadwood to lower crown. Codominant stems at 3m above ground level. Canopy to southwest overhanging buildings currently with approx. 1m clearance.	Prune to reduce lateral spread by 2 metres to south western canopy.	B1,2	5.4	92
T007	Sycamore *(Acer pseudoplatanus)*	12	1	160	3.5	2	2	2	6	Semi Mature	10+ Years	Fair	-small sparse crown as shaded by surrounding trees. Growth suppressed by adjacent trees. Acceptable condition at present.		C1	1.9	11
T008	Sycamore *(Acer pseudoplatanus)*	17	1	460	8	6	2	6	2	Early Mature	40+ Years	Good	Slight lean north. Trifurcated stemsat 2m. Old pruning wounds, some fully occluded and minor deadwood within lower crown presents a low risk. Canopy to south encroaching onto adjacent buildings. Currently adequate ground clearance over adjacent road.	Prune to reduce lateral spread by 2 metres to southern canopy.	B1,2	5.5	95
T009	Sycamore *(Acer pseudoplatanus)*	16	1	320	5	3	4	6	5	Early Mature	20+ Years	Fair	Old pruning wounds exhibiting good closure and minor deadwood presents a low risk. Some crown dieback evident. Soil compaction and exposed roots to west from footpath.		C1	3.8	45

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T010	Sycamore *(Acer pseudoplatanus)*	15	1	320	6	5	3	4	4	Early Mature	20+ Years	Fair	Slight lean north. Old pruning wounds exhibiting closure and minor deadwood to lower crown. Minor pocket cavities throughout stem.Limited rooting area to north from footpath. Acceptable condition at present.		B2	3.8	45
T011	Sycamore *(Acer pseudoplatanus)*	16	1	400	6	5	3	6	3	Early Mature	20+ Years	Good	Slight lean north. Old pruning wounds exhibiting good closure and minor deadwood presents a low risk. Limited rooting area to north from footpath with exposed structural roots.	Prune to reduce lateral spread to Northeast by 2 metres to facilitate development.	B2	4.8	72
T012	Norway maple *(Acer platanoides)*	17#	1	420	7	5	5.5	7	3	Early Mature	40+ Years	Good	Soil erosion at base with some exposed surface roots. Minor to moderate deadwood to lower crown. Currently adequate ground clearance over footpath.	Fell to ground level to facilitate the development.	B2	5	79
T013	Norway maple *(Acer platanoides)*	16	1	450	6	6	6	6	2.5	Early Mature	20+ Years	Fair	Longitudinal cavity on northwest side of stem from historical branch tear showing moderated decay and good wound closure. Soil erosion at base with exposed surface roots. Minor to moderate deadwood currently presents a low risk. Ground clearance over road currently 2 metres.	Fell to ground level to facilitate the development.	C1	5.4	92

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T014	Norway maple *(Acer platanoides)*	16	1	490	8	7	6.5	7	2.5	Mature	40+ Years	Good	Soil erosion at base with exposed surface roots. Minor deadwood to lower crown presents a low risk. Currently 3 metres ground clearance over road.	Fell to ground level to facilitate the development.	B2	5.9	109
T015	Sycamore *(Acer pseudoplatanus)*	14	1	370	6	5	2	6	3	Early Mature	20+ Years	Good	Slight lean northwest. Minor cavity to southern side of stem at approximately 1.5m exhibiting good closure. Old pruning wounds fully occluded and minor deadwood presents a low risk. Foliage covering streetlight	Prune to obtain 1 metre clearance around street light.	B2	4.4	61
T016	Sycamore *(Acer pseudoplatanus)*	17	1	510	7	5	6	7	5	Mature	20+ Years	Good	Cavity on south eastern stem at approximately 1.5m with partial decay 10cm deep when probed although exhibiting good closure. Slight lean northwest. Old pruning wounds fully occluded and minor deadwood. Canopy appears slightly sparse in localised areas.	Resurvey in May 2025. Prune to reduce lateral spread to Northeast by 2 metres to facilitate development.	B2	6.1	117
T017	Sycamore *(Acer pseudoplatanus)*	15	1	290	5	1	4	5	2	Early Mature	20+ Years	Fair	Small sparse crown with minor and moderate deadwood. Canopy obscuring street light. Slightly sparse crown.	Prune to obtain 3m ground clearance over footpath and 1m clearance around street light.	C2	3.5	38
T018	Sycamore *(Acer pseudoplatanus)*	18	1	430	7	5	3	6	5	Early Mature	20+ Years	Good	Slight lean north. Old pruning wounds mostly fully occluded and minor deadwood presenting a low risk. Trifurcated stem at 3m.		B2	5.2	85

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T019	Sycamore *(Acer pseudoplatanus)*	17	1	400	7	4	2.5	7	5	Mature	20+ Years	Good	Slight lean north. Old pruning wounds exhibiting closure and minor deadwood presenting a low risk. Trifurcated stem at 3m.		B2	4.8	72
T020	Sycamore *(Acer pseudoplatanus)*	17	1	350	7	4	1	6	5	Early Mature	20+ Years	Good	Slight lean north. Old pruning wounds mostly fully occluded and minor to moderate deadwood presenting a low risk.		B2	4.2	55
T021	Sycamore *(Acer pseudoplatanus)*	16	1	400	7	6	6	6	5	Early Mature	20+ Years	Good	Slight lean northwest. Old pruning wounds mostly fully occluded and minor deadwood presenting a low risk. Canopy to west obscuring street light.	Prune to obtain 1m clearance around street light.	B2	4.8	72
T022	Sycamore *(Acer pseudoplatanus)*	20	1	570	8	7	7	8	5	Mature	40+ Years	Good	Old pruning wounds fully occluded and minor deadwood presenting a low risk. Overall good form and example of species.		A1	6.8	145
T023	Sycamore *(Acer pseudoplatanus)*	18	1	480	8	3	7	8	5	Early Mature	20+ Years	Good	Old pruning wounds exhibing closure and minor deadwood. Overall good form and example of species. Soil levels changed in northern rooting area concrete compression has formed dip.		B2	5.8	106

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T024	Sycamore *(Acer pseudoplatanus)*	19	1	670	8	9	9	5	1.5	Mature	20+ Years	Fair	Twin stem at 2.5m. Old pruning wounds exhibiting good closure, minor to moderate deadwood. Overall good form and example of species. Moderated size pocket cavity on northern stem at approximately 2.5m from historical pruning wound, healing well. Fungi at base see pics. No evidence of fungi at resurvey (24/05/24). Slightly sparse crown.	Prune to obtain 3m minimum ground clearance over footpath and to reduce lateral spread to Southeast by 3 metres.	B2	8	201
T025	Sycamore *(Acer pseudoplatanus)*	18	1	510	8	6	6	8	4	Early Mature	40+ Years	Good	-twin stemmed at 4m with minor deadwood to lower crown. Old pruning wounds appear fully occluded. Currently adequate clearance over footpath and road. Low branches (5.2) obstruct vehicle access.		B2	6.1	117
T026	Norway maple *(Acer platanoides)*	18	1	470	6	9	7	6	2.5	Early Mature	20+ Years	Fair	Exposed surface roots at base with mower damage. Minor crown retrenchment to north. Minor to moderate deadwood throughout. Pruning wounds to lower crown exhibiting mostly full occlusion.	Prune to reduce lateral spread to Southeast by 5 metres to facilitate development.	B2	5.6	99
T027	Sycamore *(Acer pseudoplatanus)*	18	1	400	5	5	6.5	4	2.5	Early Mature	20+ Years	Good	Old pruning wounds mostly occluded and minor deadwood presenting a low risk.	Prune to reduce lateral spread to Southeast by 3 metres to facilitate development.	B2	4.8	72

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T028	Sycamore *(Acer pseudoplatanus)*	20	1	470	5	5	7	6	3	Early Mature	20+ Years	Good	Old pruning wounds exhibiting good closure with minor and moderate deadwood presenting a low risk.	Prune to reduce lateral spread to Southeast by 3 metres to facilitate development.	B2	5.6	99
T029	Common ash *(Fraxinus excelsior)*	15	1	450	7	5	7	4	2.5	Early Mature	10+ Years	Fair	Minor symptoms of likely infection with Ash die back. LEVEL 1. Localised minor deadwood throughout crown. Currently adequate clearance over footpath and road.	Resurvey in May 2025. Prune to reduce lateral spread to Southeast by 1 metre to facilitate development.	C1	5.4	92
T030	Common ash *(Fraxinus excelsior)*	16	1	390	6	4	5	6	2	Early Mature	<10 years	Fair	Slight lean northwest with historical branch tear on lowest southwest branch. Crown die ADB AHC LEVEL 1. Currently adequate clearance over footpath and road.	Resurvey in May 2025	C1	4.7	69
T031	Common ash *(Fraxinus excelsior)*	6	1	150	3	3	3.5	2	1	Semi Mature	10+ Years	Good	No ash die back recorded. Currently adequate clearance from adjacent footpath.	Fell to ground level to facilitate the development.	C2	1.8	10
T032	Raywood ash *(Fraxinus angustifolia oxycarpa)*	7.5	1	190	1	4	4	3	1.5	Semi Mature	10+ Years	Fair	Stem tear with wound at approximately 2.5m exhibiting good wound closure. Currently adequate clearance from adjacent footpath.	Fell to ground level to facilitate the development.	C1	2.3	17
T033	Common ash *(Fraxinus excelsior)*	7.5	1	150	2	3	3	3	1.5	Semi Mature	10+ Years	Good	No ash die back recorded. Currently adequate clearance from adjacent footpath.	Fell to ground level to facilitate the development.	C1	1.8	10
T034	Common ash *(Fraxinus excelsior)*	6	1	120	2	2	2	2	1.5	Semi Mature	10+ Years	Good	No ash die back currently recorded. Currently adequate clearance from adjacent footpath.	Fell to ground level to facilitate the development.	C1	1.4	6

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T035	Common ash *(Fraxinus excelsior)*	4	1	120	1.5	1.5	1.5	1.5	2	Semi Mature	10+ Years	Fair	Slight lean north with bark strimmer damage at base exhibiting good closure. Currently adequate clearance from adjacent footpath.	Fell to ground level to facilitate the development.	C2	1.4	6
T036	Norway maple *(Acer platanoides)*	16	1	420	5	2	7	5	2	Early Mature	20+ Years	Good	5 norway maples with 5m spacings. High amenity group with higher collective value. Minor localised die back and south eastern crown showing minor decline.	Fell to ground level to facilitate the development.	B2	5	79
T037	Norway maple *(Acer platanoides)*	17	1	460	7	6	2	5	5	Mature	20+ Years	Good	5 norway maples with 5m spacings. High amenity group with higher collective value. Unbalanced crown biased to north. Tree exhibiting good buttress development.	Fell to ground level to facilitate the development.	B1,2	5.5	95
T038	Norway maple *(Acer platanoides)*	17	1	440	5	5	7	4.5	5	Early Mature	20+ Years	Good	5 norway maples with 5m spacings. High amenity group with higher collective value. cavity at approximately 3m on eastern stem 400m in length x 50mm across. Good occlusion forming.	Fell to ground level to facilitate the development.	B1,2	5.3	88

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T039	Norway maple *(Acer platanoides)*	16	1	480	7	6	7	5	4	Early Mature	20+ Years	Good	5 norway maples with 5m spacings. High amenity group with higher collective value. Old pruning wound and stubs to north east. Minor bark damage on southwest stem at approximately 1.5, occluding well. Tree exhibiting good buttress development. Currently adequate ground clearance over footpath and road.	Fell to ground level to facilitate the development.	B1,2	5.8	106
T040	Norway maple *(Acer platanoides)*	17	1	410	6	6	5	2.5	5	Early Mature	10+ Years	Fair	5 norway maples with 5m spacings. High amenity group with higher collective value. Major deadwood throughout crown with localised dieback throughout canopy.	Fell to ground level to facilitate the development.	C1	4.9	75
T041	Norway maple *(Acer platanoides)*	14	1	360	7	6	6	4	1.5	Early Mature	20+ Years	Good	Historical surface root damage from mowing. Low hanging canopy over footpath. Trifurcated stem with healthy union.	Prune to obtain 3m minimum ground clearance over footpath and to reduce lateral spread to Southwest by 2.5 metres.	B2	4.3	58
T042	Sycamore *(Acer pseudoplatanus)*	16	1	460	7	7	6	6	2.5	Early Mature	40+ Years	Good	Historical surface root damage from mowing. Old pruning wounds and stubs mostly fully occluded. Minor to moderate deadwood presenting a low risk (low footfall).	Fell to ground level to facilitate the development.	B1,2	5.5	95

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T043	Sycamore *(Acer pseudoplatanus)*	17	1	390	6	5	5	5	3	Early Mature	40+ Years	Good	Historical surface root damage from mowing. Old pruning wounds and stubs exhibiting mostly full closure. Minor to moderate deadwood presents a low risk due to low footfall.	Fell to ground level to facilitate the development.	B1,2	4.7	69
T044	Sycamore *(Acer pseudoplatanus)*	18	1	420	5	6	7	5	2	Early Mature	20+ Years	Good	Historical bark damage to the south western side of stem exhibiting some closure. Canopy to southeast overhanging residential gardens. Currently adequate ground clearance over footpath.	Fell to ground level to facilitate the development.	B1,2	5	79
T045	Sycamore *(Acer pseudoplatanus)*	16	1	470	7	6.5	5.5	5	3	Early Mature	20+ Years	Good	Overall good form. Minor deadwood. Canopy encroaching onto residential properties to southeast. Currently adequate ground clearance over footpath.	Fell to ground level to facilitate the development.	B1,2	5.6	99
T046	Sycamore *(Acer pseudoplatanus)*	16	1	390	5	5	4	5	2.5	Early Mature	20+ Years	Fair	Overall good form. Minor to moderate deadwood located to north west away from footpath. Trifurcated stem exhibiting a good union. Currently adequate clearance over footpath. Slightly sparse crown.	Fell to ground level to facilitate the development.	B2	4.7	69

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T047	Norway maple *(Acer platanoides)*	16	1	340	6	6	5	6	4	Early Mature	40+ Years	Good	Historical surface root damage with root gurgling at base. Limited rooting area to southeast. Canopy encroaching onto residential buildings to southeast. Currently adequate clearance over footpath. Pruned in the past to remove low hanging lateral branches and exhibiting good closure.	Prune to reduce lateral spread by 2m away from residential properties.	B1,2	4.1	53
T048	Norway maple *(Acer platanoides)*	17	1	420	6	5	6	4	5	Early Mature	40+ Years	Good	Historical surface root damage with root gurgling at base. Limited rooting area to southeast. Currently approximately 2m clearance from adjacent residential buildings. Adequate clearance over footpath.		B1,2	5	79
T049	Norway maple *(Acer platanoides)*	17	1	410	6	2	6.5	6	3	Early Mature	40+ Years	Good	Twin stem at 3.5m with minor compression fork. Old pruning wounds exhibiting full occlusion. Currently adequate ground clearance over access road.	Fell to ground level to facilitate the development.	B1,2	4.9	75

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T050	Sycamore *(Acer pseudoplatanus)*	13	1	370	5	5	4	5	5	Early Mature	20+ Years	Good	Limited rooting area to north due to pavement. Slight lean northeast with historical pruning wounds exhibiting some closure. Minor stem cavity to lowest western branch exhibiting some closure. Currently adequate ground clearance over footpath and road.	Fell to ground level to facilitate the development.	B1,2	4.4	61
T051	Norway maple *(Acer platanoides)*	14	1	350	6	5	5	5	5	Early Mature	20+ Years	Good	Limited rooting area to north due to pavement. Twin stem with minor compression at approximately 4m. Manhole cover 1.5m to southwest. Pruned in the past to remove low hanging lateral branches and exhibiting good closure. Shallow cavity at pruning point 3m above ground level, exhibiting some closure.	Fell to ground level to facilitate the development.	B1,2	4.2	55
T052	Sycamore *(Acer pseudoplatanus)*	15	1	460	6	6	5	5	5	Early Mature	20+ Years	Good	Slightly raised rooting area. Old pruning wounds exhibiting full occlusion. Major dead branch on south side of stem at approximately 7m presents a low risk (would fall onto grass verge). Currently adequate ground clearance over footpath.	Fell to ground level to facilitate the development.	B1,2	5.5	95

Tree No.	Species	Height (m)	No. of Stems	Stem Dia. @ 1.5m (mm)	Crown Spreads (m)				Height of Crown Clearance (m)	Age Class	SLE	Overall Condition	Comments	Management	Cate-gory	RPA Radius (m)	RPA Area (m^2)
					N	E	S	W									
T053	Amelanchier *(Amelanchier sp.)*	4	1	140	2	2	2	2	2	Semi Mature	20+ Years	Fair	Amenity trees situated in engineered planting. Slight stem lean to east although does not compromise structural integrity at present time.		C1,2	1.7	9
T054	Amelanchier *(Amelanchier sp.)*	4	1	120	2	2	2	1.5	2	Semi Mature	20+ Years	Fair	Amenity trees situated in engineered planting. Slight stem lean to north east although this does not compromise structural integrity at this point.		C1,2	1.4	6

Appendix 2: Site Photographs

Plate 1: **T047 to T054 looking east.**

Plate 2: **Looking northeast – T035 to the left, T036 to T046 beyond**

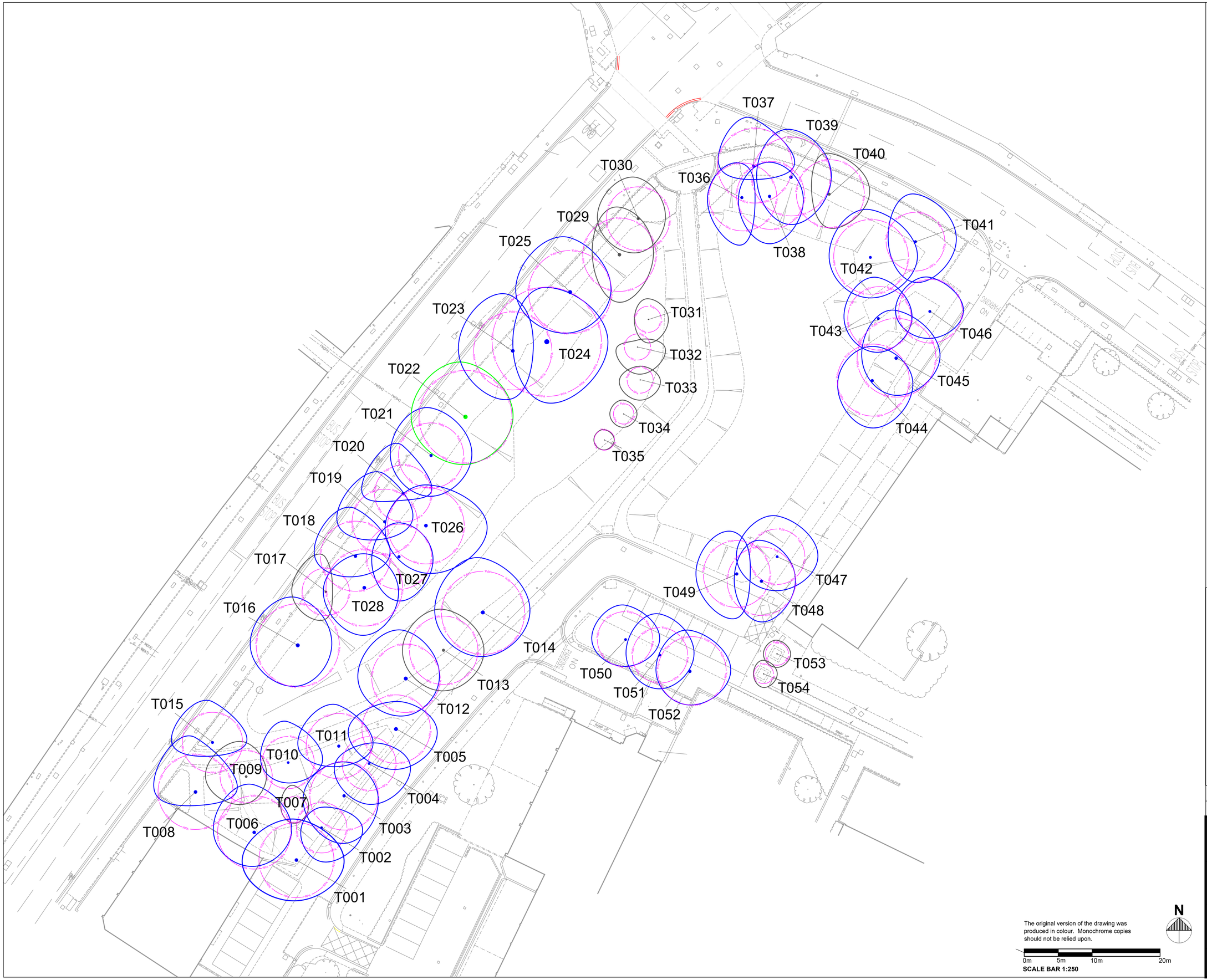
Plate 3: **Looking north – T023 to T035**

Plate 4: **Looking west – T020 to T022**

Plate 5: **Looking northeast – T005, T012 to T014**

Plate 6: **Looking west, T008 to T010 & T015**

Appendix 3: Figures



The original version of the drawing was produced in colour. Monochrome copies should not be relied upon.

GENERAL NOTES

- Drawing for Planning purposes only
- Refer to arboricultural report produced by Ecus Ltd titled 'Sir Frederick Messer Estate BS 5837:2012 Arboricultural Report, Impact Assessment and Method Statement'.
- Based on topographic survey provided by the client.
- Check all dimensions on site.
- Do not scale from this drawing.
- Report any discrepancies and omissions to Ecus Ltd.
- This drawing is Copyright.

3RD-PARTY INFORMATION

NB This drawing includes information provided by independent surveyors and / or consultants, to whom all queries shall be made. Ecus Ltd can accept no liability for its context or accuracy.

KEY

Stem Location

Location Estimated

Tree Categories (BS 5837:2012)

Category A Trees

Category B Trees

Category C Trees

Category U Trees

Root Protection Area (RPA)

KEY PLAN (not to scale)

REV	DATE	DRAWN BY	CHECKED BY	REVISION COMMENT

Brook Holt
Blackburn Road
Sheffield S61 2DW
Tel. (0114) 2669292
www.ecusltd.co.uk

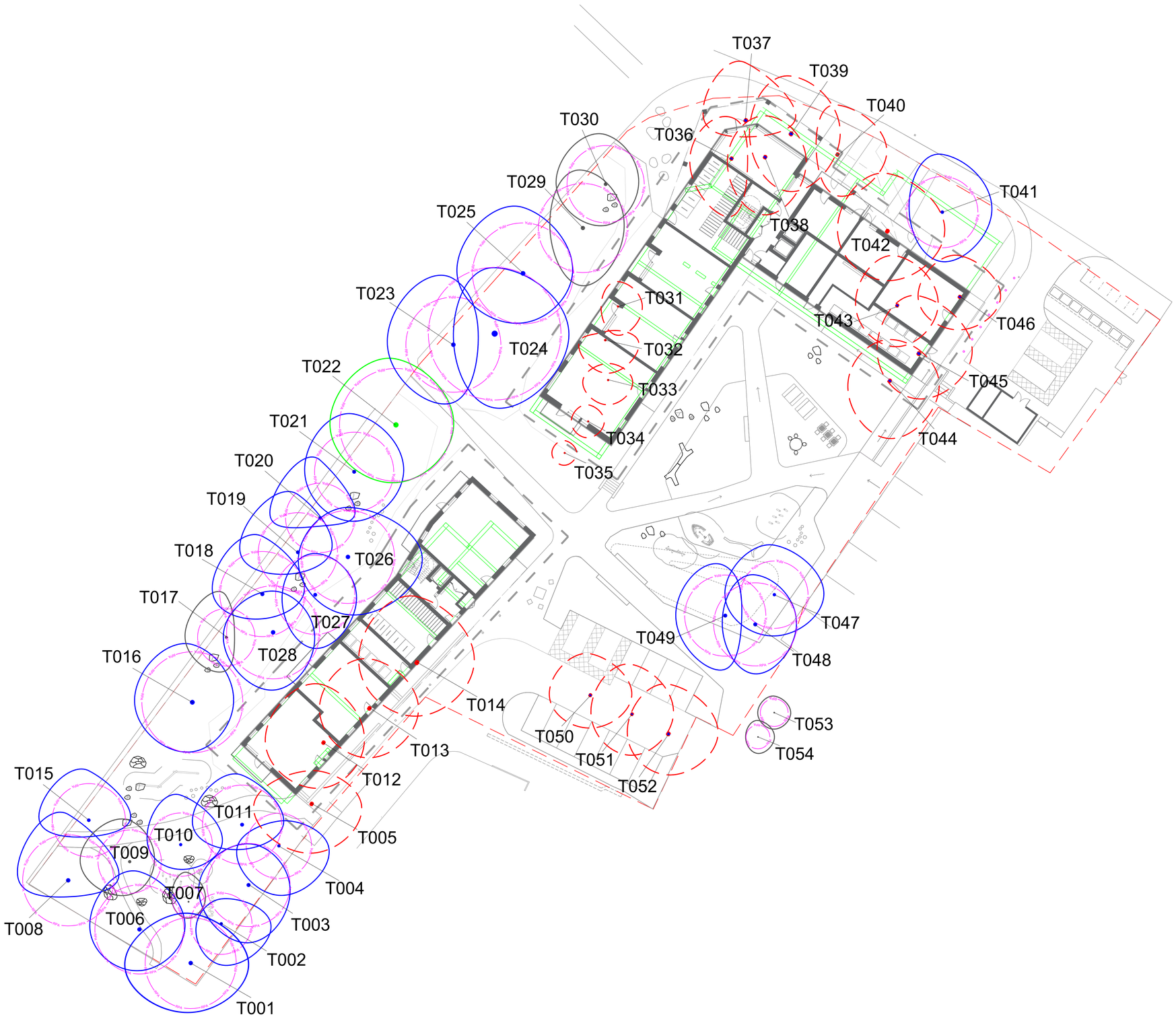
Job

23609 - Sir Frederick Messer Estate

Title

Figure 3 - Tree Constraints Plan

By	Date	Scale @ A1	Drg. no.
AB	May 2024	1:250	23609-ARB-02



The original version of the drawing was produced in colour. Monochrome copies should not be relied upon.

0m 5m 10m 20m

SCALE BAR 1:250

N

GENERAL NOTES

- Refer to arboricultural report produced by Ecus Ltd titled 'Sir Frederick Messer Estate – BS 5837:2012 Arboricultural Report, Impact Assessment and Method Statement'.
- Based on topographic survey provided by the client.
- Building layout and masterplan provided by the client.
- Refer to Engineer's details for level and drainage information.
- Check all dimensions on site.
- Do not scale from this drawing.
- Report any discrepancies and omissions to Ecus Ltd
- This drawing is Copyright.

3RD-PARTY INFORMATION

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KEY

Stem Location

Location Estimated

Tree Categories (BS 5837:2012)

Category A Trees

Category B Trees

Category C Trees

Tree to be Removed

Root Protection Area (RPA)

KEY PLAN (not to scale)

REV	DATE	DRAWN BY	CHECKED BY	REVISION COMMENT

ecus

Brook Holt
Blackburn Road
Sheffield S61 2DW
Tel. (0114) 2669292
www.ecusltd.co.uk

Job

23609 - Sir Frederick Messer Estate

Title

Figure 4 - Tree Impacts Plan

By	Date	Scale @ A1	Drg. no.
AB	May 2024	1:250	23609-ARB-02

General

This Arboricultural Method Statement (AMS) details the specific measures to be adopted to ensure that the retained trees are suitably protected for the duration of the proposed development.

No equipment, machinery or materials shall be brought onto the site in connection with the development until this AMS has been submitted to and approved in writing by the Local Planning Authority.

Sequence of Events

For the purpose of protecting the retained trees, the development works on site should be completed in line with the following sequence of events:

- Pre-commencement site meeting
- Tree works
- Installation of tree protection measures
- Construction operations including the *removal of hard surfaces / upgrading of existing hard surfaces / excavations / installation of hard surfaces*
- Removal of tree protection measures

Pre-Commencement Site Meeting

A pre-commencement site meeting should take place prior to any works being started, to finalise plans for the layout of the tree protection measures and to ensure that all potential issues are adequately considered.

The site developer and the project arboriculturist should be in attendance for the meeting. It may also be a requirement for the LPA tree officer to attend and so prior notification of the meeting should be provided to the LPA.

Tree Works

Prior to the commencement of any development operations and the storage of plant, machinery and materials on site, any required tree works should be carried out. The trees to be removed and any pruning works that are required to facilitate the development are detailed in the Tree Survey Schedule at Appendix 1 of the associated arboricultural report.

All tree works should be carried out by a suitably qualified and insured arboricultural contractor and in accordance with the recommendations of BS 3998:2010 Tree work – Recommendations.

It is recommended that trees should be checked in advance of any works by a suitably qualified ecologist to ensure there is no disturbance to nesting birds or roosting bats.

Tree Protection Fencing

Prior to the commencement of any development operations and the storage of plant, machinery and materials on site the tree protective fencing should be located as shown. Where possible this fencing should exclude all site activities from the RPA of retained trees, creating a sacrosanct Construction Exclusion Zone (CEZ).

It should be confirmed by the project arboriculturist that the fencing has been correctly set out on site, prior to the commencement of any other operations.

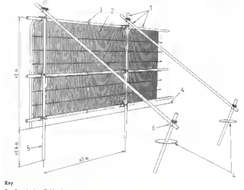
The default specification for tree protection fencing is shown here. However, where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority.

An example of an alternative specification is 2 m tall welded mesh panels on rubber or concrete feet. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate secured with ground pins or mounted on a block tray.

All-weather notices should be attached to the fencing to indicate that operations are not permitted within the CEZ, with words such as "CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

Once the tree protection fencing has been installed it should not be altered or removed without prior consultation with the project arboriculturist. If the tree protection fencing needs to be re-positioned to allow for development operations to continue, this must be carried out under the supervision of the project arboriculturist and with prior consent from the LPA.

The tree protective fencing must remain in place until all construction operations on site have been completed and all plant and machinery has been removed.



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground and secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Installation of Utilities and Services

Where possible all above and below ground utilities and services are to be directed away from the retained trees. Above ground services should be routed away from tree canopies, allowing sufficient space to allow for likely future crown growth. Below ground services should be grouped together and routed away from the RPA of retained trees.

Any below ground utilities or services that must be routed through the RPA should be installed in accordance with BS 5837:2012 clause 7.7.2 and NJUG 10: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

Ground Protection-Existing Hard Surfaces

It is not possible to fully enclose all the ground within the RPA of the retained trees T001 to T004, T006, T008, T015 to T025, T029, T030 and T047 toT049 without excessively constraining development and highway operations. These areas are currently covered with existing hard surface which is not proposed to be removed in connection with the proposed development. The existing hard surface will provide adequate ground protection within these theoretical Root Protection Areas.

Excavations

New footings are proposed that encroach into the edge of the RPA of the retained trees T004, T011, T016, T024, T026, T027, T028, T029 and T041. Due to predominantly negligible encroachment into the Root Protection Area (RPA) of less than 10%(T004, T011, T016, T029- 6% encroachment or under, T024 -9.8%, T041 -14.3%, T028 -14.4%, T027 - 14.9%, T026 - 18.7%), there are unlikely to be significant roots in these areas. However, to ensure that any significant roots that may be present are suitably managed, excavations within the RPA must be carried out in line with the following methodology:

All works within the RPA of retained trees must be carried out using an excavator or piling system operating from outside the RPA or on suitable ground protection, and under the supervision of the project arboriculturist. Heavy plant and machinery must not operate on any exposed ground within the RPA at any time.

If any individual roots become exposed that are smaller than 25 mm diameter they may be pruned back, making a clean cut with a suitable sharp tool. Roots occurring in clumps or of 25 mm diameter and over should be retained where possible and worked around. Where severance of these roots is unavoidable, this should only be carried out following consultation with the project arboriculturist, as such roots might be essential to the tree's health and stability.

Installation of Hard Surfaces

New hard surfaces are proposed within the RPA of the retained trees T022 and T023. To ensure any roots that may be present are suitably protected throughout construction, the hard surface must be installed in line with the following no-dig methodology:

Significant excavations shall not occur within the RPA, however the removal of surface vegetation is allowed, to a maximum depth of 50 mm.

If any individual roots become exposed that are smaller than 25 mm diameter they may be pruned back, making a clean cut with a suitable sharp tool. Roots occurring in clumps or of 25 mm diameter and over should be retained where possible and worked around. Where severance of these roots is unavoidable, this should only be carried out following consultation with the project arboriculturist, as such roots might be essential to the tree's health and stability.

The exposed soil must then be covered with a permeable geotextile membrane, laid out in accordance with the manufacturer's recommendations and temporarily held in place with pins, stakes or weights.

A three-dimensional Cellular Confinement System (CCS) will then be laid across the entire area and held in place. The CCS must be specified by the manufacturer or site engineer, and be suitable for the site and the loads that are expected to be applied. Soft soils may require an additional sub-base beneath the CCS for it to be effective.

The CCS will be filled with a 'no fines' aggregate to the manufacturer's specification, and lightly rolled or whacked to ensure cohesion. Any heavy plant or machinery used must be located outside of the RPA and beyond the canopy of any retained trees.

Kerbs and edgings that require excavations should be avoided. Where kerbing is required for light structures, above-ground peg and board edging is likely to be adequate. Where the use of standard kerbs is unavoidable, kerbs must be bridged over all significant roots to avoid the requirement to sever any roots over 25 mm in diameter, leaving space for future root growth.

If the new hard surfacing is not to be installed as the first construction operation on site, any exposed ground within the RPA must be protected until the hard surface is installed. This will generally be through the use of ground protection boards or protective fencing.

Management of Exposed / Damaged Roots

Provided that works in close proximity to retained trees are carried out in line with the specifications detailed within this report the potential for damage to significant roots is low. However, on occasion approved works that are close to or within the RPA of retained trees can result in accidental root damage or roots becoming exposed.

If any exposed roots are smaller than 25 mm diameter they can be pruned back if required, however roots occurring in clumps or of 25 mm diameter and over should be retained where possible and worked around.

Where the severance of larger roots is unavoidable, the advice of the project arboriculturist must be sought, as such roots might be essential to the tree's health and stability. It may be determined that the design layout must be slightly altered to allow for the retention and adequate protection of significant roots.

Roots that are heavily damaged or severed during approved works may need to be pruned back using a suitable sharp tool, such as secateurs or a handsaw. The cut must be made cleanly, leaving the smallest surface area possible, and beyond any obvious damage, towards the tree that the root is likely to have come from. If it is not clear which direction the root has grown from, the root should be pruned back to both sides of the damage/severance.

A health and safety assessment should be carried out or a regular monitoring regime put in place for trees that have incurred damage to roots in close proximity to their stems or where the damaged roots are 100 mm in diameter or greater. Such damage could lead to instability or a decline in health and condition.

Exposed roots or roots that have been pruned should be immediately recovered with earth to prevent desiccation. If this is not possible they should be wrapped in hessian sheets which are dry in winter, wet in summer. These should be removed prior to backfilling.

Landscaping Works

Where soft landscaping is proposed within the RPA of retained trees, excavations should be kept to the minimum required to provide adequate conditions for the establishment of new shrubs and trees. Excavations should be carried out carefully and by hand, avoiding the severance of any roots larger than 25mm diameter.

Ground levels within the RPA should generally not be altered to avoid the potential for damage to tree roots. Roots are considered to be primarily within the top 0.6 m of the soil. Any excavations have the potential to damage or remove part of the root system and could affect the vigour or stability of the tree. Conversely, increasing the ground level can compact the soil, potentially suffocating the roots and causing them to die off. If minor level changes are unavoidable as part of an approved landscaping scheme, the advice of the project arboriculturist should be sought.

Where fencing is to be installed within the RPA of retained trees this must consist of posts and panels or rails only, trenched footings are not acceptable within the RPA. The holes for posts should be kept to the minimum depth required and excavated using hand tools only.

Fence posts should be erected a minimum of 1.0 m from tree stems. The post locations may need adjusting if significant roots are uncovered, so that the roots remain intact. If wet concrete is to be used, post holes should be lined with an impermeable membrane to prevent soil contamination close to tree roots.

The fencing alignment should allow for a minimum distance of 0.5 m between any tree stem and the fence, providing sufficient room for future growth and minimising the risk of potential conflicts between the fence structure and tree stems.

Any landscaping works that are within the RPA of retained trees or will require the tree protection fencing to be temporarily breached should be carried out in consultation with the project arboriculturist.

Additional Precautions

Consideration should be given to site operations outside of the CEZ that could indirectly impact the retained trees, including the provision of adequate space for site cabins, welfare facilities and other temporary structures.

Site operations should take sufficient account of wide or tall loads in order that they can operate without coming into contact with retained trees. The movement of plant in proximity to trees should be supervised by a banksman, to ensure adequate clearance from trees is maintained at all times.

Fires on sites should generally be avoided. Where fires are unavoidable, they should not be lit in a position where heat could affect the foliage or branches of retained trees. The potential size of a fire and the wind direction should be taken into account when determining its location, and it should be attended at all times.

Any materials that could contaminate the ground around tree roots, such as fuels, oils or cement, should be stored and handled well away from the outer edge of the RPA.

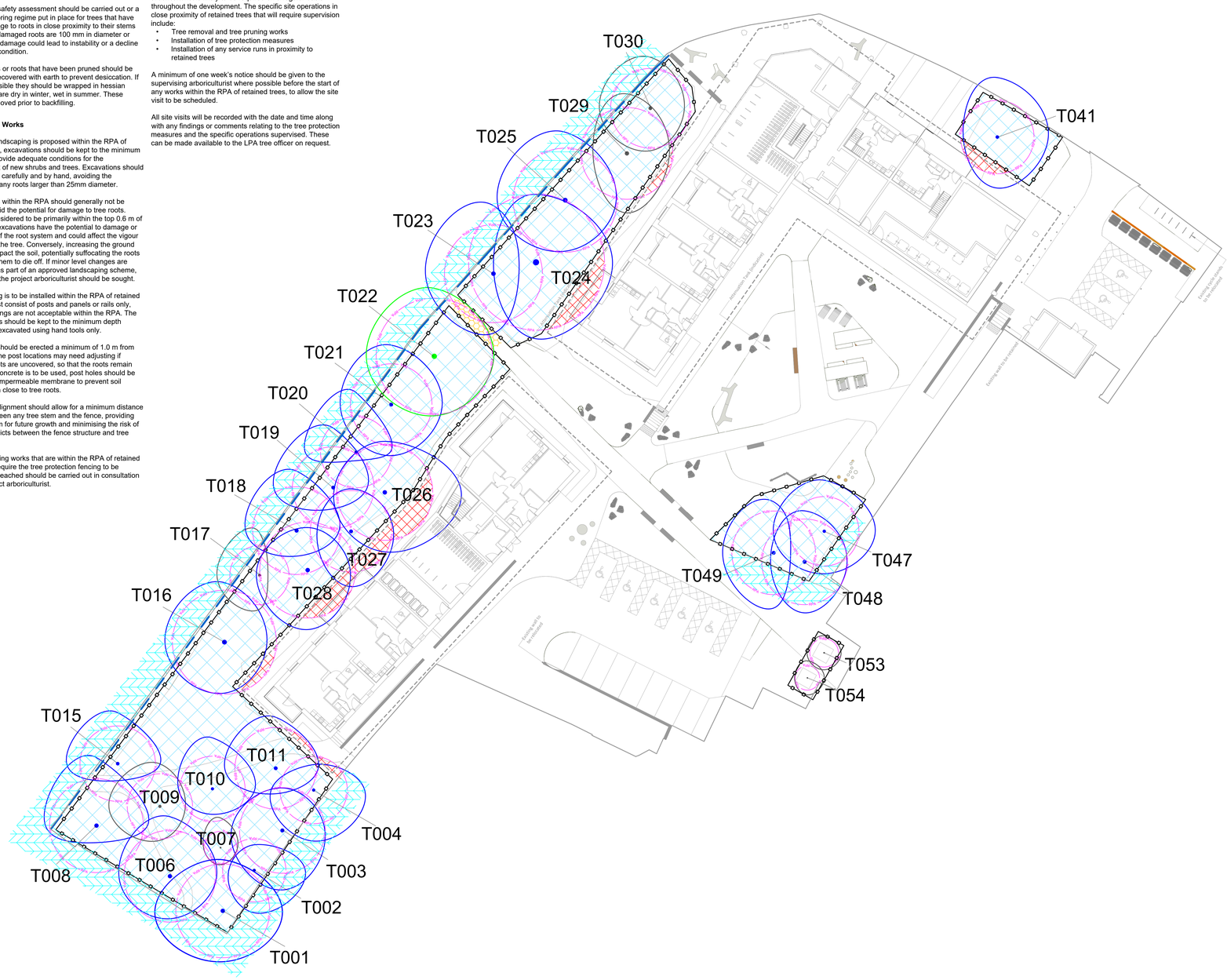
Arboricultural Site Supervision

Site monitoring and supervision by the project arboriculturist is likely to be required on a regular basis throughout the development. The specific site operations in close proximity of retained trees that will require supervision include:

- Tree removal and tree pruning works
- Installation of tree protection measures
- Installation of any service runs in proximity to retained trees

A minimum of one week's notice should be given to the supervising arboriculturist where possible before the start of any works within the RPA of retained trees, to allow the site visit to be scheduled.

All site visits will be recorded with the date and time along with any findings or comments relating to the tree protection measures and the specific operations supervised. These can be made available to the LPA tree officer on request.



GENERAL NOTES

- Refer to arboricultural report produced by Ecus Ltd titled 'Sir Frederick Messer Estate – BS 5837:2012 Arboricultural Report, Impact Assessment and Method Statement'.
- Based on topographic survey provided by the client.
- Building layout and masterplan provided by the client.
- Refer to Engineer's details for level and drainage information.
- Check all dimensions on site.
- Do not scale from this drawing.
- Report any discrepancies and omissions to Ecus Ltd
- This drawing is Copyright.

3RD-PARTY INFORMATION
NB This drawing includes information provided by independent surveyors and / or consultants, to whom all queries shall be made. Ecus Ltd can accept no liability for its context or accuracy.

KEY

Stem Location — Location Estimated

Tree Categories (BS 5837:2012)

Category A Trees — Category B Trees — Category C Trees

Root Protection Area (RPA)

Tree Protection Fencing*

Construction Exclusion Zone

Ground Protection - Existing Hard Surface*

No-Dig Construction*

Root Protection Area (RPA) Unprotected

3 Metre Offset - Excavation Zone

***See note on drawing**

The original version of the drawing was produced in colour. Monochrome copies should not be relied upon.

0m 10m 20m
SCALE BAR 1:200

N

KEY PLAN (not to scale)

REV	DATE	DRAWN BY	CHECKED BY	REVISION COMMENT
01	09-09-24	AB	SR	UPDATED SITE PLAN

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Job
23609 - Sir Frederick Messer Estate

Title
Figure 5 - Arboricultural Method Statement

By	Date	Scale @ A0	Drg. no.
AB	May 2024	1:200	23609-ARB-03

Appendix 4: Suffolk County Council Ash Die Back Canopy Description

The Issue

Identifying the symptoms of Ash Dieback in large trees can be difficult, so a sysyem was needed to enable easy description of the current state of as Ash Tree. Tree Canopy assessment has been widely used since the late 1980's across Europe based on work produced in Switzerland in 1986. In 1990 the Forestry Commission produced a book – 'Assessment of Tree Condition' to enable a standard system for describing the condition of a tree based on the percentage of existing canopy remaining.

Using this methodology Suffolk County Council undertook to describe the health of an Ash in Suffolk.

The steps undertaken

During the summer of 2013/14 Suffolk County Council assessed and photographed Ash accross the county. They determined that there were 4 useful categories to describe Ash canopies. The categories chosen were

- 100% full canopy,
- 75% canopy,
- 50% canopy
- and 25% canopy.

These are represented photographically in the pictures at the end of this Case Study.

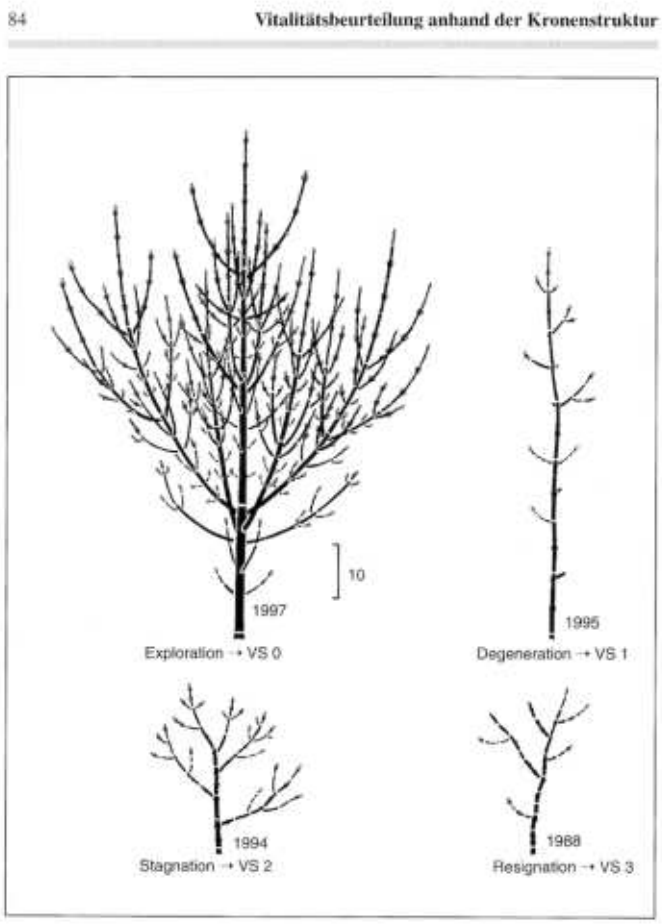
These 4 classes fit with work undertaken in Germany by Professor Andreas Roloff who has been describing the state of vitality of European Trees. He also uses 4 categories – described as

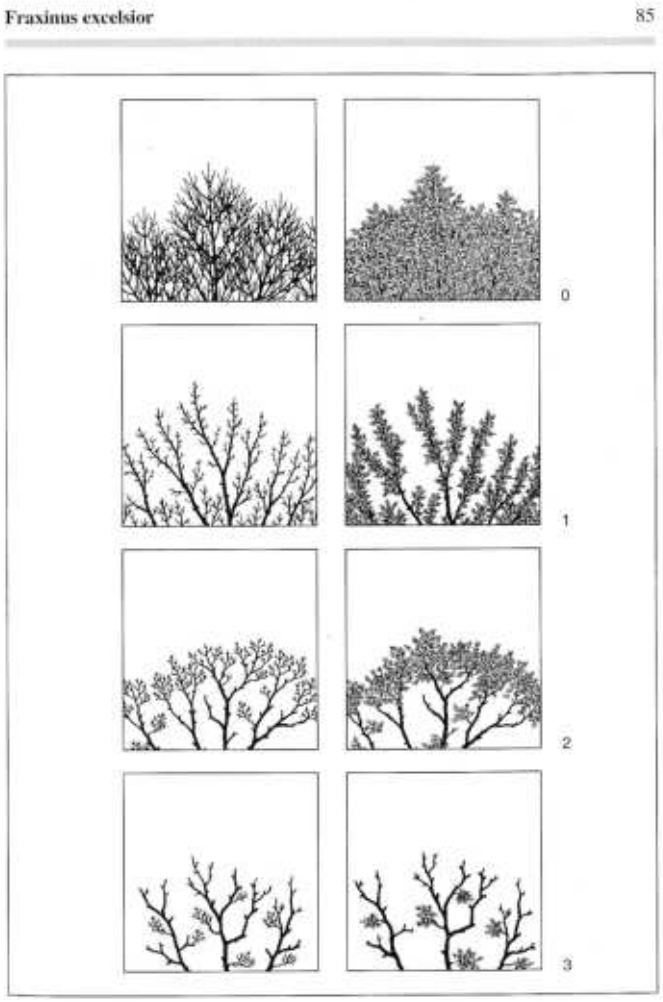
- Vitality Class 0: Healthy vigorous trees showing treetop shoots in the exploration phase: both the main axes and part of the lateral twigs consist of long-shoots. For this reason, a regular net-like branching pattern is developed, which reaches deep into the interior of the crown. The crowns are equally closed and domed, and do not show any greater gap unless a stronger intervention has occurred, such as pruning measures, because such a gap is closed quickly by the intensive ramification. In summer, a dense foliage arises without any greater gap.
- Vitality Class 1: Weakened trees show treetop shoots in the degeneration phase. Thus, spears/"fox tails" are formed, rising above the canopy. The leaves on these spears are dense and grow all around them (at the top of the lateral short-shoots or shortshoot chains). The crowns make a frazzled impression on the outside, and have a fastigiated appearance, because the airspace between the spears is not completely filled by leaves and twigs, and the crown has a spiky outline. Inside the crown, the branching pattern, and hence the foliage, is quite dense. In this vitality class, straight percurrent main axes of the treetop branches are still dominant, but the crowns no longer look as intact as in class 0 because of the spears shooting out of the canopy.
- Vitality Class 2: In obviously less vigorous trees, the treetop shoots begin to build short-shoots in the stagnation phase. The leafless state could be designated as the claw stage, because the short-shoot chains in the outside of the crowns grow longer, are predominant, and stretch claw-like to the light. These short-shoot chains, growing too long, break off in summer in thunderstorms and heavy rains, and strew the forest floor in

declining stands. Under normal circumstances, trees get rid of parts of their unimportant twigs in the inner and lower crown parts in this way. However, if the treetop shoots themselves are declining, the self-pruning of twigs progresses into the outskirts of the crown, and the crowns become thin from the inside outwards. The cause for this occurrence is not premature leaf fall, but broken short-shoot chains, a lack of shoots, and dead buds and twigs. The branching pattern shows a bushy and lumpy accumulation in the periphery of the crown. This accumulation causes summer and winter bushy crown structures and greater gaps. The crown periphery still has hardly any straight percurrent branches.

- Vitality class 3:, In considerably damaged or declining trees of the crowns finally fall apart by the breaking off of larger branches and the dieback of whole crown parts. The tree seems to consist only of more or less surplus sub-crowns, dispersed randomly in the airspace and forming whip-like structures. The treetop is often dying back or is already dead, because the treetop shoots grew in the retraction phase.

These 4 vitality classes are shown below for Ash.





The work in Germany and Suffolk complements each other and establishes the ability to be able to assisgn an ash tree to 1 of 4 categories, which describe the trees current health or vitality. This is a simple and useful method for describing the current state of an Ash's heatlh.

The Outcome

Using this 4 category framework, allows a tree to be assigned to a category, showing its current state of health, enabling data on the tree to be collected. The suggestion going forward is that these 4 classes are used as described as:

Ash Health Class 1 – 100 – 75% Canopy (Vitality Class 0)

Ash Health Class 2 – 75% -50% Canopy (Vitality Class 1)

Ash Health Class 3 – 50% - 25% Canopy (Vitality Class 2)

Ash Health Class 4 – 25% - 0% Canopy (Vitality Class 3)

Figure 1: Photos of Dieback of ash trees

0% Dieback - Healthy Crown

25% Dieback

50% Dieback

75% Dieback

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