Arboricultural Report BS5837:2012

Address:

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APEX Environmental

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Report History					
Version	Date	Author	Checked by	Reason	Status
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Limitations

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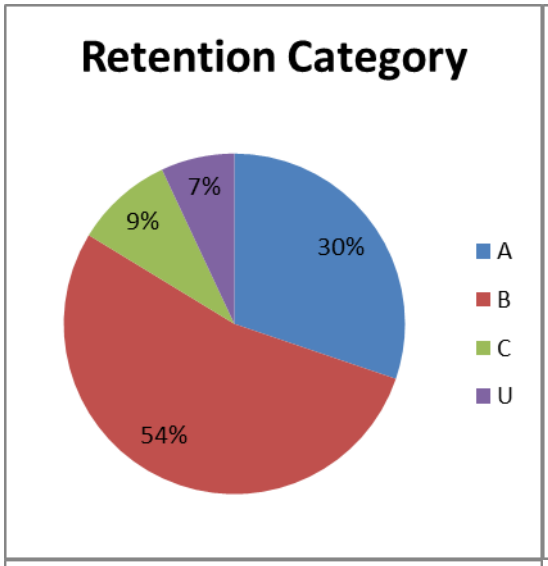
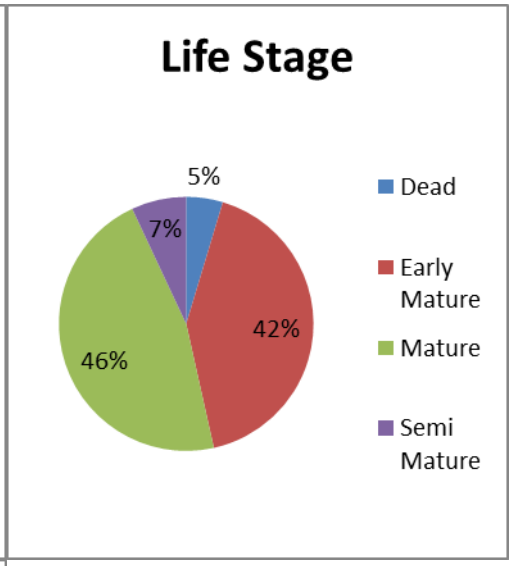
1. Summary

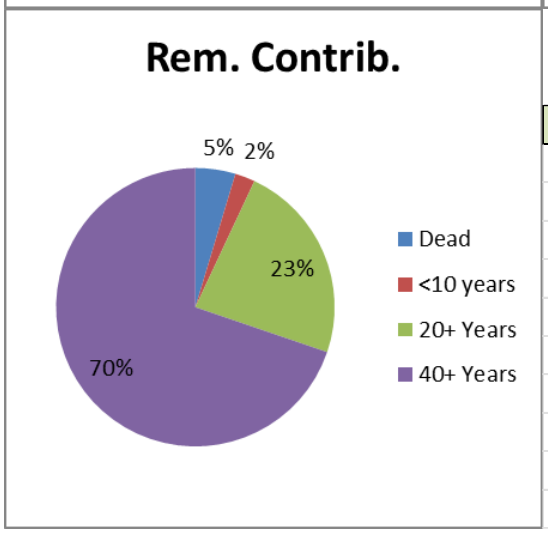
1.1 Outline of proposal

Renovating of existing pitch to include an all-new weather surface and new light and fencing (3G pitch).

1.2 Summary of trees







Common Name	No. trees
Common Ash	2
Common Hawthorn	3
London Plane	2
Norway Maple	6
Pedunculate Oak	1
Rowan	1
Scots Pine	7
Silver Birch	1
Sycamore	16
Wild Cherry	4

1.3 Works required

Tree reference number	Species	Category grading	Works required	For Development	For Arboriculture
T01	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T02	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T03	Rowan *(Sorbus aucuparia)*	U	Remove tree		Yes

2. Particulars of instruction

2.1 This report has been prepared to discharge the instruction of the client, Queen Elizabeth Grammer School 'The Client' in respect of detailed planning permission at Queen Elizabeth Grammar School, West Street, Horncastle, LN9 5AD

2.2 The Client has commissioned a tree survey in compliance with *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations* to prepare a tree survey, Arboricultural Constraints Assessment, Arboricultural Impact Assessment, Tree Protection Plan and heads and terms of a Method Statement for the trees at the site.

2.3 The site survey was carried out on the 8th July 2023. The relevant qualitative and quantitative tree data and information was recorded to assess the condition of the trees and their constraints upon the proposed development and to provide a summary of any proposed protection and construction specification required.

2.4 I have based this report on my site observations and the information I have been provided with, and I have come to conclusions in the light of my experience as an arboriculturist. I include a summary of my experience and qualifications in Appendix V.

2.5 All information given is in accordance with *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations*.

I. Identification of tree by number value (collates with the associated plans)

II. Common tree species

III. Height (m)

IV. Stem diameter (mm) at 1.5m above ground using a DBH tape (or as per BS5837 fig C.1)

V. Branch spread to the four cardinal points (m)

VI. Existing height above ground of first branch and direction (m)

VII. Existing height above ground of canopy (m)

VIII. Life stage (Young, Semi Mature, Early Mature, Mature, Over Mature)

IX. Estimated remaining contribution (yrs) <10, 10+, 20+, 40+

X. General observations, condition and preliminary management recommendations, physical condition and structural defects

XI. Category (as per BS5837 Table 1)

XII. Root Protection Area (RPA) radius (m)

XIII. Root Protection Area (RPA) m²

3. Caveats

This advice and all appendices are subject to the following caveats:

3.1. This report is nullified if any remedial works are undertaken on any area of the site, on or after the date of study/survey.

3.2. The report is only valid on the date on inspection and any deletion, editing or alteration will void it in its entirety.

3.3. Apex Environmental Ltd does not assume responsibility for any works undertaken on the basis of the recommendations in this report or for any legal matters that may arise as a consequence.

3.4. The report is not valid in adverse or unpredictable weather conditions or for any failure due to *force majeure*.

3.5. Apex Environmental Ltd does not assume liability for any misuse, misinterpretation or misrepresentation of information contained in this report.

3.6. This report has been compiled using only the information made available to the author at the date of inspection.

3.7. Unless described as 'detailed', this assessment is of a preliminary nature. It was conducted from ground only, the tree(s) were not climbed or inspected below ground level (including roots). There was no use of decay detection equipment, and only basic surveying instruments were used.

3.8. At the time of writing, the author did not have any information as to the integrity of the main structure, its annexes or the drainage system.

3.9. Water supply/drainage systems, if damaged, can allow roots to penetrate. However, if the system is sound, or after repair, roots have little capacity to access/damage underground services.

3.10. Any doubt as to the structural condition of properties on site would require the advice of a structural engineer.

4. Scope of report

4.1 The aim of this report is to give guidance under *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations*. This will help to facilitate a harmonious and sustainable situation and long-term development.

4.2 The report will identify the value and quality of the woody vegetation on and within impacting distance of the site. All data gathered will be used to identify and address the impact that vegetation will have on the proposed development and the impact the development will have on the vegetation.

5. Documents supplied

Document title	Document Ref	Format	By whom	Date given
Topographical survey	25919Y_01	DWG	Architect	26/06/2023
Proposed Layout		DWG	Architect	21/07/2023

6. Legal and policy information

6.1. Tree Protection

Protection	Status	Comments
Tree Preservation Order	No	Online confirmation on East Lindsey mapping site on the 23/07/2023
Conservation Area	No	Online confirmation on East Lindsey mapping site on the 23/07/2023

6.2. Wildlife protection

Under the Wildlife & Countryside Act 1981 and the Countryside and Rights of Way Act 2000, it is a criminal offence under normal circumstances to disturb or destroy – whether intentional or unintentional - the nesting sites of wild birds or the roost sites of bats. You should therefore avoid carrying out significant tree works during the bird nesting season [mid- March to end of July], and you should ensure that trees are professionally surveyed for signs of bat roosts and/or bat activity

before starting any tree work. Further advice on protected species can be obtained from the local office of Natural England.

6.3. Felling licence

Tree felling can also be restricted under the Forestry Act 1967. Under this act, there is an exemption from the need for a felling licence for 'Felling necessary for the prevention of danger or the prevention or abatement of a nuisance'.

If full planning consent is granted for the current proposal, then any trees that need to be felled in order to implement the approved plans are exempt from this statutory protection. It should also be considered that any proposed tree works detailed in the tree schedule are also implemented as part of the planning decision consent.

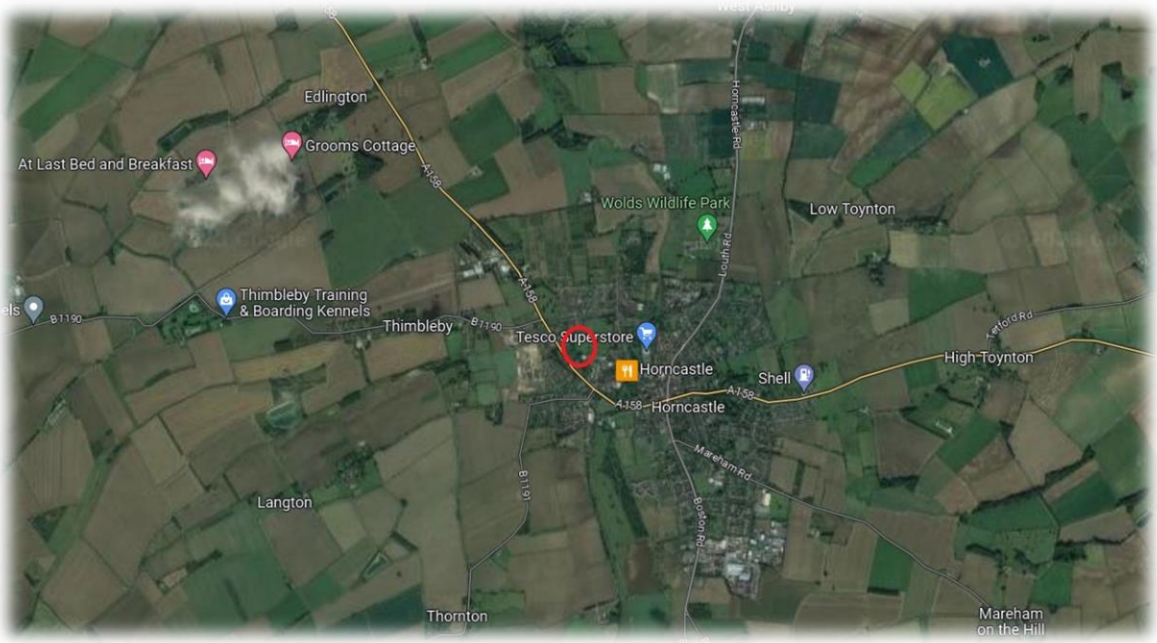
7. Site description

7.1 The site is a large playing field area to the rear of Queen Elizabeth Grammer school. The site is 17.5 miles east of Lincoln.

7.2 Currently the land is used as a playing field for the school. The land is relatively flat and contained within a fence.

7.3 The property is accessed via the main entrance which leads from the public road, West Street. There is a n internal driveway leading up to the rear of the school. This opens up to a car park area and access to the rear playing field. Access is then required through the playing field to the site area.

7.4 The site location is shown in red.



Source: *www.google.com*

7.5 Soil assessment

The assessment determines whether the soil is shrinkable. If it is, trees and other vegetation have the potential to cause indirect damage to structures. In such cases, further assessments should be carried out and the design of foundations should be considered by a structural engineer.

No information has been supplied on the soil assessment, details of which will need to be obtained and passed to the arboricultural consultant and structural engineer before the submission of any Arboricultural Method Statement.

7.6 Levels

The development area is relatively flat and is already used as a sports pitch. There are therefore no abrupt changes or hinderance to the RPA of the trees on the site.

7.7 Trees surveyed

There is a total of 40 trees and 3 hedges have been inspected. This report has only listed the trees in connection to the main development on the site. There are other trees on the site which are not affected by the development; these have been excluded.

8. Tree and vegetation findings

8.1 The tree survey has been carried out in accordance with *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations*, Section 4.4.

8.2 Tree categorisation method

The purpose of this method is to identify the quality and value of the existing tree stock, allowing informed decisions to be made about which trees should be removed or retrained in the event of development occurring.

A full tree survey has been included in appendix I.

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 C – Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

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

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

8.3 Any works with regards to the overall application have been listed in this report.

8.4 Findings

Young	Semi Mature	Middle Aged	Early Mature	Mature	Over Mature	Dead	TOTAL
	3		18	20		2	43

A	B	C	U
13	23	4	3

8.5 Review of trees on site

The trees are mainly within groups to the west and north of the site. The more significant trees have been located and picked out.

There are three trees of a category U tree which will need to be removed, which is T01, T02 and T03. The trees T01 and T02 have significant infection level of Ash Dieback. T03 is a dead Rowan tree.

In the southwest corner is a group of 4 trees. These are mainly mature tree and in good condition. The trees are acting well as a group but also have individual merit.

To the west and north west of the site is another group of trees which consists of 22 trees. These are category A and B. The tree area acting well as a group but also have individual merit.

8.6 Tree works due to arboricultural concerns

Tree reference number	Species	Category grading	Works required	For Development	For Arboriculture
T01	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T02	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T03	Rowan *(Sorbus aucuparia)*	U	Remove tree		Yes

9. Constraints posed by existing trees

The RPA and category of the trees retained on site are listed within the Tree Constraints Plan. This information is taken from above-ground site observations. Inspection chambers or other features that may hinder direct root growth have been indicated within the plan, and the indicated RPA has been amended as per *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations,* Section 5.2.1.

Further constraints imposed by trees include:

i. Current and ultimate height and spread of tree(s).
ii. Species characteristic, including canopy type, density of foliage and species susceptibility to external factors such as honey dew, branch drop and fruit fall.
iii. Shading on property and gardens, or excessive light to rooms (as indicated within the Tree Shadow Plan).
iv. The presence of Tree Preservation Orders and the presence of Conservation Areas or other regulatory protection.
v. Potential incompatibilities between the layout and trees.
vi. Working and access space needed for the construction of the proposed development. This might involve assess facilitation pruning, or the use of a height restriction to prohibit tall vehicles accessing a site containing trees with low canopies.
vii. The effect that construction requirements might have on the amenity value of trees, both on and near the site, including the effects of pruning to facilitate access and working space.
viii. The requirement to protect the overhanging canopies of trees where they could be damaged by machinery, vehicles, barriers or scaffolding, where it will be necessary to increase the extent of the tree protection barriers to contain the canopy.
ix. Infrastructure requirements in relation to trees, e.g. easements for underground or above-ground apparatus, highway safety and visibility splays, and other infrastructural provisions, such as substations, refuse stores, lighting, signage, solar collectors, satellite dishes and CCTV sightlines.
x. The proposed end use of the space adjacent to retained trees.
xi. The potential for new planting to provide mitigation for any losses.

10. Arboricultural Impact Assessment

10.1 Amenity value of the trees on site

The trees are not easily seen from a fully public location. However, the trees are mainly overlooked by neighbouring properties. These trees where possible should be retained.

10.2 Facilitation works

There is full and open access to the site and will not require any other facilitation pruning for the importing of materials on to site.

10.3 Storage of materials, siting of welfare units and contractor parking

The Tree Protection Plan (TPP) has indicated the most suitable location for the contractors parking and the storage of materials while the main development takes place.

10.4 Background to incursions between layout (foundations) and the trees for retention

The default position should be that structures are located outside of the RPA of trees to be retained. However, where there is an overriding justification for construction within the RPA, technical solutions might be available that prevent damage to the tree(s), as per *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations,* Section 5.3.1.

It should be demonstrated that the tree(s) can remain viable and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA, and that a series of mitigation measures to improve the soil environment that is used by the tree for growth can be implemented.

On this basis and under previous BS5837 standards, it is sometimes acceptable to allow for encroachment of up to 10%. It should be possible to have viable grow areas on the other sides of the RPA which exceed 20%, thus compensating for the loss of viable rooting area. It would also be possible to carry out decomposition to the soils and add minerals and nutrients to aid root development in the viable areas.

10.5 Background to incursions between layout (drives, parking areas, paths, landscaping) and the trees for retention

Where permanent hard surfacing within the RPA is considered unavoidable, site-specific and specialist arboricultural and construction design advice should be sought to determine whether it is achievable without significant adverse impact on the trees.

The design should not require excavation into the soil, including through lowering of levels and or scraping, other than the removal, using hand tools, of any turf layer or other vegetation.

The structure of the hard surface should be designed to avoid localised compaction by evenly distributing the load.

New permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

In order to maintain the soil volume moisture, the surface should be of permeable hard material (unless there is a risk of water logging of soils). The design should incorporate a three-dimensional design such as 'no-dig' Cell Web. Any 'no-dig' specification has been included within the Tree Protection Plan.

10.6 Understanding foundation techniques

The use of tradition strip footings can result in extensive root loss and should be avoided within the RPA. Specially engineered structures within RPAs should be justified if this enables the retention of good quality trees such as category A and B.

Root damage can be minimised by using piles, with site investigations used to determine their optimal location (avoiding damage to roots important for the stability of the tree). This should be carried out to a minimum depth of 600mm and can be undertaken either by hand tools or compressed air soil displacement.

The piles should be the smallest practical pile diameter to reduce the possibility of striking major tree roots. This also reduces the size of the rig requirements. When selecting the pile type, the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete should be considered.

The beams should be laid at or above ground level and cantilevered as necessary to avoid tree roots identified by site investigations.

Following any approval decision, details and specifications will be included within a full Arboricultural Method Statement.

Where a slab for a minor structure such as sheds or garden rooms is to be formed within the RPA, it should bear on existing ground level and should not exceed an area greater than 20% of the existing unsurfaced ground.

10.7 Incursions on this project

The design has been amended and changed to ensure there is no impact on the trees on site.

10.8 Inclusion of new infrastructure requirements

All new infrastructure will be routed in from the south east of the site and away from any trees. Any drainage soakaway can also be located to the southeast of the site outside of the RPA of any retained tree. No further details will be required due to the size of available land.

10.9 Canopy issues on the new development

Shading is not of an issue within this project and the canopies of the trees do not overhang the boundary and the fence of the new sports pitch.

10.10 Tree works

Tree reference number	Species	Category grading	Works required	For Development	For Arboriculture
T01	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T02	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T03	Rowan *(Sorbus aucuparia)*	U	Remove tree		Yes

10.11 Potential tree removal to facilitate the development

No trees are needing to be removed for this development.

10.12 Potential for future direct damage

There will be no future direct impact from this scheme.

10.13 Future seasonal nuisances

There will be no future seasonal nuisances from this project.

11. Arboricultural Method Statement

11.1 Key personnel

There will be minimal presence on site and most work will be completed by a maximum of five personnel. This will include a project manager, site manager/foreman, workers and additional persons off-loading materials. All personnel on site must report the site manager.

Before any works take place, a toolbox talk must be given from the arboricultural consultant to all workers on site to explain the importance of the trees and how to work around the trees.

11.2 Accidents and emergencies involving trees

Any accidents involving the trees on the site, any emergencies or any spill of liquids or chemicals on site MUST be reported to the lead arboricultural consultant by the site manager within two hours. Following discussion, the arboricultural consultant will produce a plan of action, which may involve non-routine site visits and follow-up visits to make the site safe. All accidents are to be reported on including any treatments such as soil removal, root pruning, de-compaction of soils. This report must be sent to the site manager, project manager and the LPA within five working days.

11.3 Phasing of onsite works

The phasing of the works will take place as follows:

a. Pre-contract meeting
b. Tree works
c. Installation of tree protection fencing
d. Siting of welfare units and storage of materials
e. Undertaking and completing construction works
f. Undertaking and completing all service works
g. Undertaking external landscape works to areas outside of the tree protection fencing
h. Removal of tree protection fencing
i. Undertaking external landscaping works within the tree protection fencing area
j. Sign off from the construction company and arboricultural consultant (no further involvement is required)

11.4 Tree works

For reasons of safety, all tree works referred to below must be carried out prior to the delivery of any building materials or any site personnel being engaged to work on the land.

Summary of tree works

Tree reference number	Species	Category grading	Works required	For Development	For Arboriculture
T01	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T02	Common Ash *(Fraxinus excelsior)*	U	Remove tree		Yes
T03	Rowan *(Sorbus aucuparia)*	U	Remove tree		Yes

Notes:

All tree works are to be undertaken in accordance with *BS2998:2010, Tree Work – Recommendations.* All arisings are to be removed from site and the site should be left as found. Care is to be taken to protect the ground around the retained tree and hedge to ensure they do not become compacted due to tree surgery operations. To prevent subsequent compaction and root death, no equipment or vehicles shall be parked or driven beneath the crowns of any retained trees.

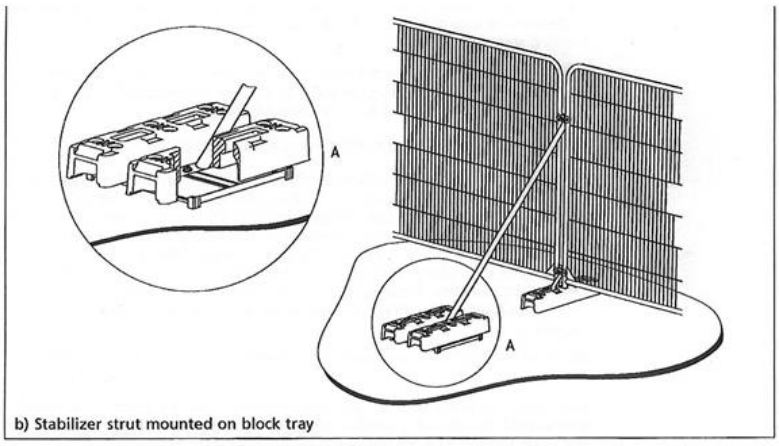
If required by the client, Apex Environmental Ltd can source, tender and oversee the necessary tree works.

In any case, there will be a requirement for the lead arboricultural consultant to assess the works to ensure they have been carried out to specification and in line with *BS3998:2010* guidance.

11.5 Installation of the tree protection fencing

The fence must be erected in line with the Tree Protection Plan and under the supervision of the Arboricultural Consultant. The fence must be erected before any construction or demolition works take place. This will be of the specification detailed overleaf.

Figure 3



b) Stabilizer strut mounted on block tray

On the outer face, attach heavy gauge 2m tall galvanized tubular and welded mesh infill panels, such as heras fence panels or similar. These are to be securely fixed by use of clips and back braces (to be fastened from within the tree exclusion zone). These are to be anchored by way of stabilizer strut mounts on block tray. Within the mesh attach signs bearing the words TREE PROTECTION AREA – KEEP OUT (See appendix II)

11.6 Prohibited actions around trees

The following activities must not be carried out under any circumstances:

A. No fires to be lit on site within 10 metres of the nearest point of the canopy of any retained tree/hedgerow on or adjacent to the proposal site.
B. No equipment, signage, fencing etc. shall be attached to or be supported by any retained tree on or adjacent to the application site,
C. No temporary access within designated root protection areas without the prior written approval.
D. No access within the designated Construction Exclusion Zone.
E. No mixing of cement, dispensing of fuels or chemicals within 10 metres of any retained tree/hedgerow on or adjacent to the application site.
F. No development or additional cables to be routed within the root protection areas of any retained tree/hedgerow on or adjacent to the application site without direct arboricultural supervision.
G. No stripping of topsoils, excavations or changing of levels to occur within the root protection areas of any retained tree/hedgerow on or adjacent to the site.
H. No topsoil, building materials or other to be stored within the root protection areas of any retained tree/hedgerow on or adjacent to the site.
I. No alterations or variations of the approved works or protection schemes shall be carried out without the full consultation of the Arboricultural Consultant.
J. Any material movement close to trees must also consider weights and heights to ensure that tall or bulky items do not contact any branch or limb of retained trees.

11.7 Siting of storage and welfare facilities

The storage area and welfare facilities has been identified on the Tree Protection Plan. This is on hard standing or on ground protection boards and along with the fencing, it will give adequate protection. The storage area must also include an area for the mixing of materials, which must be contained within a spill containment trays of at least 2000mm x 1000mm x 120mm.

11.8 Undertake and complete construction works

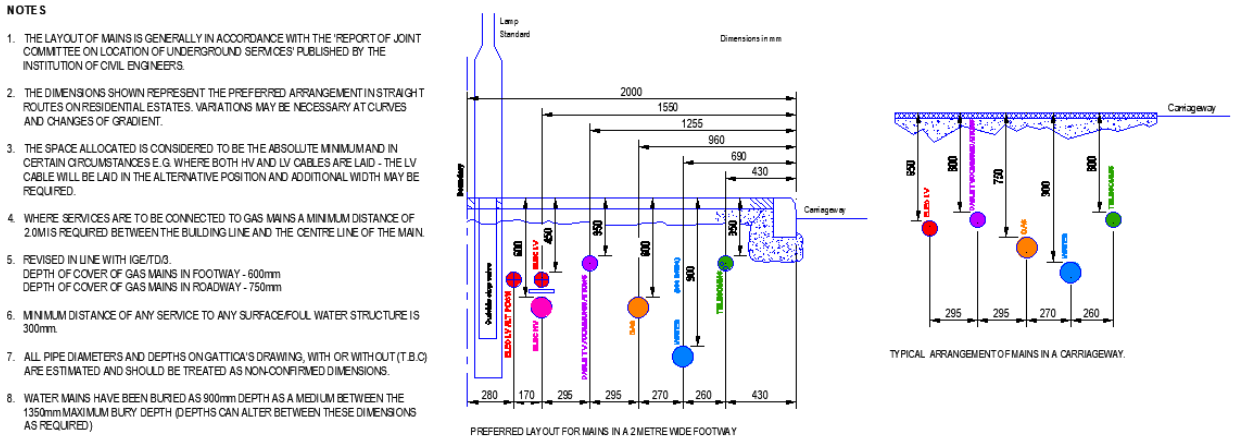
Once the above fencing has been installed and signed off by the arboriculturist, then the main development can commence. As no further works are within the Root Protection Areas, there will be no further requirements for onsite monitoring from the arboriculturist.

11.9 Undertake and complete all service works

This will be open trenching outside of the RPA, although care will still be needed to ensure trees roots greater than 25mm are not damaged.

Where care is needed then this must be done by hand tools only and any roots within the area of less than 25mm must only be cut using secateurs in one clean motion. This must be carried out under the strict supervision of the Arboricultural Consultant. During the trenching any exposed tree roots greater than 25mm must not be damaged. Assessment by the Arboricultural Consultant must take place and decide if it is possible to either cut the root, move the root, or if the cable can run under the roots is their space available. Where it is not possible to cover the tree roots in soil for any extended period (such as a tree root on the edge of a pit), then the roots must be wrapped in hessian material. This must be for a limited time only and the pit must be closed by the end of the working day.

The main work process will be to carefully remove the grass area to expose the topsoil. The grass is to be placed to one side and sheeting placed next to the trench. Topsoil is to be placed on the sheeting and this must be done by hand only. This is to expose the tree roots and the works must carefully work around the roots to expose the roots and the soil. The best tools to use is an air spade or lance from an air compressor. Where this is not possible a spade and trowel use only. This needs to be dug to the correct depth as outlined in the cable distances below:



Once dug out then the cable can be carefully run through the tree roots without harm to the tree. The soil is to be back filled and tampered down. The grass can then be laid on top and watered.

Where it is not possible to do any of the works then the only other option to the project manager will be to look at re-routing the cable or tunnelling under the rooting system of the tree. In such cases, a separate method statement will be required.

11.10 Undertake external landscape works to areas outside of the tree protection fencing

Once the main phase of construction has been completed, there will be a requirement to hard and soft landscape the rear garden and the front area (outside of the Tree Protection Fencing). This should be carried out in accordance with any submitted landscape proposal.

11.11 Remove tree protection fencing

Once all construction works have been completed and all materials and machinery have been removed from site, the arboricultural consultant must be informed. They will then invite the LPA Arboricultural Officer to meet on site to discuss the process and any final remedial works that may be required.

11.12 Undertake external landscaping works within the tree protection fencing area

The final phase of works can now be carried out to include any landscaping requirements within the Root Protection Area.

11.13 Sign off from the construction company and arboricultural consultant

A final meeting is required to formally sign off all completed works and to confirm that no further action is required. This will include a Visual Tree Inspection and report on any remedial actions (if necessary). Once this has been completed it will be submitted to the LPA Arboricultural Officer.

11.14 Monitoring of the development site

The development's tree protection fencing is to be monitored by the arboricultural consultant, who must be retained to record and report observations to the LPA Arboricultural Officer within five working days of the site visit.

Prior to the commencement of any works on site, a pre-start meeting is to be held to discuss the protection methodology and Arboricultural Method Statement and to swap contact details. A toolbox talk with the key workers must also take place to ensure people on site are aware of trees and tree roots.

Thereafter supervision and monitoring, visits will be undertaken for the duration of the works to ensure that tree protection measures are in place and are functioning as designed. A record of these visits must be kept. Any faults will be logged, and mitigation and amelioration advised and actioned. This will be duplicated and handed to the site agent, developer and LPA within five working days of the site visit.

Regular contact will be maintained with the site manager to determine any forthcoming operations that may impact on the tree protection measures and whether any arboricultural supervision is required.

The arboricultural consultant will be advised a minimum of 72 hours prior to the commencement of any works that require their supervision, and in any case will visit at no less than weekly intervals to monitor and supervise works. Key visits for supervision are:

Construction Stage	Pre-commencement Site Meeting Date	Attendance				
		Main Contractor	Arboricultural consultant	Architect	Clients site manager	Council Tree Officer
Pre-commencement site meeting	To be confirmed	In attendance	In attendance	In attendance	In attendance	Invited
Site preparation/location of tree protective measures including ground protection and fencing	To be confirmed	In attendance	In attendance	In attendance	In attendance	Invited
Sign off and removal of tree protective fencing	To be confirmed	In attendance	In attendance	In attendance	In attendance	Invited

Details of Arboricultural Consultant:

Name: Reuben Hayes
Company: Apex Environmental Ltd
Address: 3 Lawrence Way, Lichfield, WS13 6RD
Office number: 0121 249 1235
Mobile: 07968 442929
Email: reuben@ael-treeconsultants.co.uk

This concludes the report. If I can be of further assistance, please do not hesitate to contact me.

Signature:  Date: 23rd July 2023

Reuben Hayes M.Arbor.A; CMgr MCMI
Managing Director for and on behalf of Apex Environmental Limited

12. Arboricultural terms

12.1 An 'arboriculturist' is a person who has, through relevant education, training and experience, gained recognized qualifications and expertise in the field of trees.

12.2 A 'competent person' is someone who has had training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task in question. A competent person is expected to be able to advise on the best means by which the recommendations of *BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations* may be implemented.

12.3 A 'tree survey' in the context of planning and development is taken to mean an assessment of the tree stock on site (or within the area shown where appropriate), as individuals or groups. (This is undertaken independent of and prior to any knowledge of a scheme being produced). Management recommendations in the tree survey schedule reflect the structural and physiological condition of the trees only. It is essential that the trees are assessed objectively and without reference to site layout proposals.

12.4 The 'construction' is a site-based operation with the potential to affect existing trees.

12.5 A 'Root Protection Area', or 'RPA', 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 is treated as a priority. The RPA area is worked out on a mathematical basis. It is listed in appendix III

12.6 'Construction Exclusion Zone', or '(CEZ)', is based upon the RPA and forms the exclusion zone to which access is prohibited during the project phase.

12.7 A 'Tree Constraints Plan', or TCP, is a scaled plan prepared by an arboriculturist showing the RPA and the accurate canopy spread of a tree, along with information to identify the tree by reference to a survey schedule. It will also identify any under and above ground constraints. The author of this report will produce this using AutoCAD.

12.8 An 'Arboricultural Impact Assessment', or 'AIA', is a study or report undertaken by the project arboriculturist. It is a detailed evaluation of the direct and indirect effects of the proposed development on the tree(s) and the potential future maintenance of the tree(s). Where necessary, it recommends mitigation. The assessment takes account of the effects of any tree loss required to implement the design, and any potentially damaging activities that are proposed in the vicinity of retained trees.

12.9 An 'Arboricultural Method Statement", or 'AMS', is a methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree. The AMS is likely to include details of an on-site tree protection monitoring regime.

12.10 A 'Tree Protection Plan', or 'TPP', is a scale plan that is superimposed on a layout plan. It is based on the topographical survey, showing all hard surfacing and other existing structures within the RPA. The plan indicates the precise location of protective barriers that need to be erected in order to form a construction exclusion zone around the retained trees.

12.11 Other plans and documents may be referred to and annexed where appropriate.

12.12 'Access facilitation pruning' is a one-off tree pruning operation, the nature and effects of which are without significant adverse impact on the trees' physiology or amenity value, which is directly necessary to provide access for operations on site.

12.13 'Services' are any above or below ground structure or apparatus required for utility provision. Examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.

12.14 'Stem' is the principal above-ground structural component(s) of a tree that supports its branches.

12.15 'Structures' are manufactured objects, such as a building, carriageway, path, wall, service runs, and built or excavated earthworks.

12.16 A 'veteran tree' is recognized by a criterion set by *BS2998:2010, Tree Work – Recommendations*. It must show signs of biological, cultural or aesthetic value that are characteristic of, but not limited to, individuals surviving beyond the typical age range for the species concerned.

Appendix I – Tree survey

Tree survey undertaken to *BS5837:2012 Trees in relation to construction – recommendations*

Tree No.	Tree identification method in sequential order – TXXX=Existing trees, GX=Group of trees, HX=Hedgerow
Species	Species
Height in (m)	Approximate height of tree in metres
DBH in (mm)	Stem diameter in millimetres taken at 1.5 metres above ground level. AV=average diameter (see appendix III)
Branch spread in (m) N - E - S – W	Branch spread in metres reflecting the spread at the four principal compass points. N/A= Not applicable in woodland settings
Existing height above ground in (m)	Height in metres of crown clearance above existing ground level. To include first significant branch and direction of growth (e.g. 2.5 – N) Height of lower form of Canopy to inform current ground clearance, crown/stem ratio and shading
Life stage	Age classification (Y=young, SM=semi-mature, EM=early-mature, M=mature, LM=late-mature, OM=over-mature)
Est. remain years	Approximate years remaining (+40=minimum of 40 years, +20=minimum of 20 years, +10=minimum of 10 years, <10 less than 10 years)
General observations	Condition of tree (good, fair, poor, dead), structural and/or physiological condition, and/or preliminary management recommendations
Preliminary management recommendations	Works needed in order to retain tree in current setting or where works would be needed in order to facilitate development
Physical condition and structural condition	Physiological condition (good, fair, poor, dead), to include structural defects such as the presence of any decay, fungal issues, pathogens and defects)
RPA in (m²)	Area directly calculated from the DBH measurement (single stem/multiple stem variant, as outlined within the Standard, see appendix III)

Ref.	Species	Measurements	General Observations	Retention Category	RPA	Condition
H01	Common Hawthorn *(Crataegus monogyna)*	Height (m): 3 Stem Diam(mm): 80 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 0 Lowest Branch (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	Well maintained hedge, needs to be cut back by 500mm and reduced to 2.5m	B2	Radius: 1.0m. Area: 96 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
H02	Common Hawthorn *(Crataegus monogyna)*	Height (m): 1.5 Stem Diam(mm): 80 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 0 Lowest Branch (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	Well maintained hedge	B2	Radius: 1.0m. Area: 173 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
H03	Common Hawthorn *(Crataegus monogyna)*	Height (m): 1.5 Stem Diam(mm): 80 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 0 Lowest Branch (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	Well maintained hedge	B2	Radius: 1.0m. Area: 280 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T01	Common Ash *(Fraxinus excelsior)*	Height (m): 8 Stem Diam(mm): 300 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 2.5 Lowest Branch (m): 2(N) Life Stage: Dead	Completely infected with Ash Dieback	U	No RPA due to Retention Category of U.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Dead Structural Cond: Fair Bat Habitat: None

T02	Common Ash *(Fraxinus excelsior)*	Height (m): 8 Stem Diam(mm): 320 Spread (m): 6N, 4E, 4S, 3W Crown Clearance (m): 3 Lowest Branch (m): 2(N) Life Stage: Early Mature Rem. Contrib.: <10 years	Infected with ash dieback around level 2	U	No RPA due to Retention Category of U.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T03	Rowan *(Sorbus aucuparia)*	Height (m): 5 Stem Diam(mm): 400 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Crown Clearance (m): 3 Lowest Branch (m): 3(N) Life Stage: Dead	Dead tree	U	No RPA due to Retention Category of U.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Dead Structural Cond: Poor Bat Habitat: None
T04	London Plane *(Platanus x hispanica)*	Height (m): 17.5 Stem Diam(mm): 920 Spread (m): 10N, 9.5E, 7.5S, 4W Crown Clearance (m): 2.5 Lowest Branch (m): 3(N) Life Stage: Mature Rem. Contrib.: 40+ Years	Minot deadwood, lowering canopy	A1	Radius: 11.0m. Area: 380 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T05	Sycamore *(Acer pseudoplatanus)*	Height (m): 17 Stem Diam(mm): 660 Spread (m): 8.5N, 5.5E, 3.5S, 2.5W Crown Clearance (m): 3 Lowest Branch (m): 3(NE) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 7.9m. Area: 196 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T06	Sycamore *(Acer pseudoplatanus)*	Height (m): 18 Stem Diam(mm): 570 Spread (m): 1.5N, 3.5E, 7.5S, 9W Crown Clearance (m): 3 Lowest Branch (m): 3(W) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 6.8m. Area: 145 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T07	Sycamore *(Acer pseudoplatanus)*	Height (m): 18 Stem Diam(mm): 660 Spread (m): 4.5N, 4E, 3.5S, 10W Crown Clearance (m): 3 Lowest Branch (m): 3(NW) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has potential included bark on large lowest stem, could create future failure. 2nd stem trying to create natural bracing. May consider static load brace in future	B1	Radius: 7.9m. Area: 196 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T08	Norway Maple *(Acer platanoides)*	Height (m): 9 Stem Diam(mm): 320 Spread (m): 5.5N, 3.5E, 1S, 4W Crown Clearance (m): 3 Lowest Branch (m): 2(E) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 3.8m. Area: 45 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T09	Sycamore *(Acer pseudoplatanus)*	Height (m): 15 Stem Diam(mm): 780 Spread (m): 5N, 10E, 7.5S, 7W Crown Clearance (m): 3 Lowest Branch (m): 2(E) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, included bark area on stem at 2m, some natural bracing.	A1	Radius: 9.4m. Area: 278 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T10	Norway Maple *(Acer platanoides)*	Height (m): 14 Stem Diam(mm): 600 Spread (m): 6.5N, 8.5E, 3S, 6W Crown Clearance (m): 3 Lowest Branch (m): 2(S) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 7.2m. Area: 163 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T11	Sycamore *(Acer pseudoplatanus)*	Height (m): 15 Stem Diam(mm): 690 Spread (m): 3N, 8E, 5S, 6W Crown Clearance (m): 3 Lowest Branch (m): 2(E) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 8.3m. Area: 216 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T12	Norway Maple *(Acer platanoides)*	Height (m): 14 Stem Diam(mm): 630 Spread (m): 2.5N, 9E, 6.5S, 6W Crown Clearance (m): 3 Lowest Branch (m): 2.5(S) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 7.6m. Area: 181 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T13	Sycamore *(Acer pseudoplatanus)*	Height (m): 15 Stem Diam(mm): 560 Spread (m): 1.5N, 9E, 3S, 6W Crown Clearance (m): 3 Lowest Branch (m): 2(E) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, nest at top of tree	A1	Radius: 6.7m. Area: 141 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T14	Sycamore *(Acer pseudoplatanus)*	Height (m): 15 Stem Diam(mm): 630 Spread (m): 4.5N, 9E, 1.5S, 6W Crown Clearance (m): 3 Lowest Branch (m): 3(E) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 7.6m. Area: 181 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T15	London Plane *(Platanus x hispanica)*	Height (m): 17 Stem Diam(mm): 860 Spread (m): 4.5N, 9E, 4S, 6W Crown Clearance (m): 3 Lowest Branch (m): 2(E) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 10.3m. Area: 333 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T16	Sycamore *(Acer pseudoplatanus)*	Height (m): 15 Stem Diam(mm): 920 Spread (m): 5N, 10E, 6.5S, 7W Crown Clearance (m): 3 Lowest Branch (m): 2(S) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m	A1	Radius: 11.0m. Area: 380 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T17	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 510 Spread (m): 2N, 7E, 4S, 4W Crown Clearance (m): 3 Lowest Branch (m): 2(NE) Life Stage: Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 6.1m. Area: 117 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T18	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 410 Spread (m): 1N, 2E, 3S, 6W Crown Clearance (m): 3 Lowest Branch (m): 2(E) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 4.9m. Area: 75 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T19	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 380 Spread (m): 1N, 3E, 2S, 2W Crown Clearance (m): 3 Lowest Branch (m): 3(E) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 4.6m. Area: 66 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T20	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 560 Spread (m): 3N, 3E, 3S, 6W Crown Clearance (m): 3 Lowest Branch (m): 3(E) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 6.7m. Area: 141 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T21	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 490 Spread (m): 3N, 5E, 3S, 2W Crown Clearance (m): 4 Lowest Branch (m): 4(E) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 5.9m. Area: 109 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T22	Norway Maple *(Acer platanoides)*	Height (m): 16 Stem Diam(mm): 770 Spread (m): 5N, 4E, 3S, 8W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 9.2m. Area: 266 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T23	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 620 Spread (m): 7N, 3E, 2S, 3W Crown Clearance (m): 4 Lowest Branch (m): 4(E) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 7.4m. Area: 172 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T24	Norway Maple *(Acer platanoides)*	Height (m): 16 Stem Diam(mm): 430 Spread (m): 3N, 5E, 5S, 3W Crown Clearance (m): 3 Lowest Branch (m): 2(S) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 5.2m. Area: 85 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T25	Sycamore *(Acer pseudoplatanus)*	Height (m): 16 Stem Diam(mm): 900 Spread (m): 7N, 5E, 2S, 5W Crown Clearance (m): 4 Lowest Branch (m): 4(E) Life Stage: Early Mature Rem. Contrib.: 40+ Years	Minor deadwood, tree has been lifted in the past to 3m, part of a small group of trees	B2	Radius: 10.8m. Area: 366 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T26	Scots Pine *(Pinus sylvestris)*	Height (m): 17 Stem Diam(mm): 370 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 14 Lowest Branch (m): 14(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees	B2	Radius: 4.4m. Area: 61 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T27	Scots Pine *(Pinus sylvestris)*	Height (m): 17 Stem Diam(mm): 400 Spread (m): 4N, 2E, 2S, 2W Crown Clearance (m): 14 Lowest Branch (m): 14(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees	B2	Radius: 4.8m. Area: 72 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T28	Scots Pine *(Pinus sylvestris)*	Height (m): 17 Stem Diam(mm): 400 Spread (m): 4N, 2E, 1S, 2W Crown Clearance (m): 14 Lowest Branch (m): 14(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees	B2	Radius: 4.8m. Area: 72 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T29	Scots Pine *(Pinus sylvestris)*	Height (m): 17 Stem Diam(mm): 370 Spread (m): 2N, 2E, 1S, 2W Crown Clearance (m): 14 Lowest Branch (m): 14(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees	B2	Radius: 4.4m. Area: 61 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None

T30	Scots Pine *(Pinus sylvestris)*	Height (m): 17 Stem Diam(mm): 600 Spread (m): 2N, 3E, 4S, 2W Crown Clearance (m): 14 Lowest Branch (m): 14(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees, twin stem tree at 2m	C2	Radius: 7.2m. Area: 163 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T31	Scots Pine *(Pinus sylvestris)*	Height (m): 17 Stem Diam(mm): 630 Spread (m): 2N, 7E, 3S, 2W Crown Clearance (m): 14 Lowest Branch (m): 14(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees	B2	Radius: 7.6m. Area: 181 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T32	Scots Pine *(Pinus sylvestris)*	Height (m): 17 2 stems, avg.(mm): 400 Spread (m): 1N, 2E, 7S, 2W Crown Clearance (m): 3 Lowest Branch (m): 4(N) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Part of a group of trees	B2	Radius: 6.8m. Area: 145 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat: None
T33	Wild Cherry *(Prunus avium)*	Height (m): 8 Stem Diam(mm): 310 Spread (m): 1.5N, 2.5E, 6S, 5W Crown Clearance (m): 2 Lowest Branch (m): 3.5(W) Life Stage: Early Mature Rem. Contrib.: 20+ Years	Close to hedge	C1	Radius: 3.7m. Area: 43 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Good Bat Habitat: None

T34	Wild Cherry *(Prunus avium)*	Height (m): 9 Stem Diam(mm): 500 Spread (m): 2N, 5E, 7S, 2W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Mature Rem. Contrib.: 20+ Years		B1	Radius: 6.0m. Area: 113 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T35	Wild Cherry *(Prunus avium)*	Height (m): 10 Stem Diam(mm): 600 Spread (m): 3N, 6.5E, 7S, 6W Crown Clearance (m): 2 Lowest Branch (m): 2(S) Life Stage: Mature Rem. Contrib.: 20+ Years	Close to hedge	B1	Radius: 7.2m. Area: 163 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Good Bat Habitat: None
T36	Silver Birch *(Betula pendula)*	Height (m): 7.5 Stem Diam(mm): 220 Spread (m): 1.5N, 1.5E, 1.5S, 1.5W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Semi Mature Rem. Contrib.: 40+ Years	Growing at end of a group of trees	C1	Radius: 2.6m. Area: 21 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T37	Wild Cherry *(Prunus avium)*	Height (m): 6 2 stems, avg.(mm): 140 Spread (m): 1.5N, 2E, 2S, 2W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Semi Mature Rem. Contrib.: 40+ Years	Growing at end of a group of trees	C1	Radius: 2.4m. Area: 18 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

T38	Norway Maple *(Acer platanoides)*	Height (m): 12 Stem Diam(mm): 530 Spread (m): 5N, 5.5E, 5S, 5W Crown Clearance (m): 3 Lowest Branch (m): 2(NW) Life Stage: Early Mature Rem. Contrib.: 40+ Years		B1	Radius: 6.4m. Area: 129 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T39	Pedunculate Oak *(Quercus robur)*	Height (m): 11 Stem Diam(mm): 280 Spread (m): 4.5N, 4.5E, 4S, 4W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Semi Mature Rem. Contrib.: 40+ Years		B1	Radius: 3.4m. Area: 36 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None
T40	Sycamore *(Acer pseudoplatanus)*	Height (m): 13 Stem Diam(mm): 600 Spread (m): 7N, 8E, 7S, 6W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Mature Rem. Contrib.: 40+ Years		A1	Radius: 7.2m. Area: 163 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Good Structural Cond: Good Bat Habitat: None

Appendix II – Tree Protection Notices


No
access for
unauthorised
personnel

Appendix III – Tree categorisation table (BS5837:2012)

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
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 their 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)*			
Trees to be considered for retention				
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	
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), which 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 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	

Appendix IV – Bibliography

British Standards Institution (2010), *BS3998 Tree Work - Recommendations*

British Standards Institution (2012), *BS5837 Trees in relation to design, demolition and construction - Recommendations*

Appendix V – About the author

Author of this report: Mr Reuben Hayes, M.Arbor.A; CMgr MCMI

Qualifications

Quantified Tree Risk Assessment, 2018 – QTRA
CMI Management and Leadership (Level 5) – May 2015
Professional Tree Inspection, 2009 – Lantra
Higher National Diploma, Arboriculture (HND), July 2003 – Warwickshire College
National Diploma (Tree Management and Arboriculture), 2000 – Warwickshire College

Experience

Apex Environmental Ltd: May 2013 – Present
Cannock Chase Council: July 2010 – Present
RJH Silvicultural and Arboricultural Services Ltd: 2008 – 2010
London Borough of Camden: January 2005 – July 2010
Three Rivers District Council: March 2003 – January 2005
Forestry Commission: 1997 – 1998
National Trust

Membership of professional bodies

Professional Member of the Arboricultural Association
Professional Member of Consulting Arborist Society (CAS)
Associate Member of the Institute of Chartered Foresters
Fully accredited Chartered Manager of Chartered Management Institute (CMI)
Member of Institute of Directors (IoD)

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