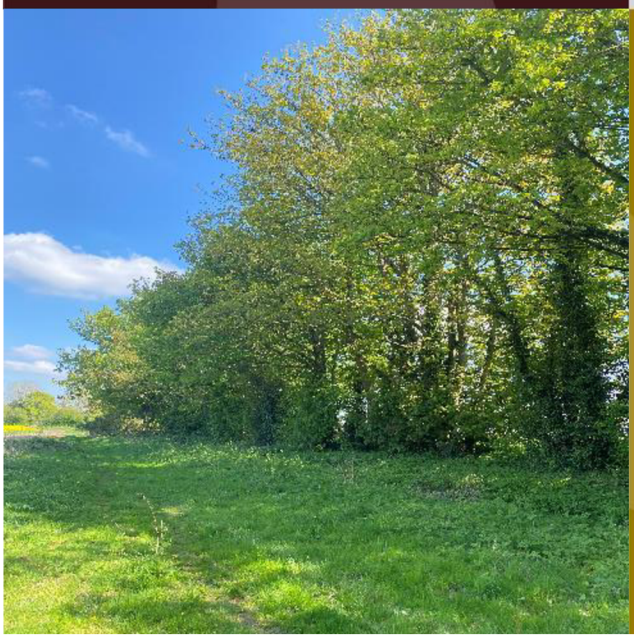
Land East of Wrotham Road, Meopham

British Standards 5837:2012 Tree Survey: Arboricultural Impact Assessment, Method Statement and Tree Protection Plan



Client:

Richborough Estates Limited

Report Reference:

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Project Details

Client:	Richborough Estates Limited
Project:	Land East of Wrotham Road, Meopham
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Report Title	BS 5837:2012 Tree Survey, Arboricultural Impact Assessment (AIA), Arboricultural Method Statement (AMS) & Tree Protection Plan (TPP)

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Document Control

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1 EXECUTIVE SUMMARY

i RammSanderson Ecology Ltd was instructed by Richborough Estates Limited to carry out an assessment of trees at Wrotham Road, Meopham which follows the guidance of British Standards 5837:2012 'Trees in relation to design, demolition and construction – Recommendations', and to provide a report on the arboricultural implications to the proposed development of the site.

ii The current development proposals are for the construction of residential properties and associated infrastructure along with the construction of new access paths and roads to Wrotham Road and Green Lane.

iii A current topographical survey of the site in AutoCAD format has been provided and this formed the basis for the Tree Constraints Plan.

iv Following consultation with the project Clients regarding the arboricultural constraints, a site layout plan has been produced which is considered represent the most appropriate integration between the new buildings and existing trees. A provided AutoCAD copy of this proposed site plan (Drawing Reference: P25-0485_DE_1003_G_1 Illustrative Development Framework Plan) has been considered during the Arboricultural Impact Assessment and used to produce Tree Protection Plan.

v The content and scope of this report is listed below:

- BS 5837:2012 Tree Survey and Categorisation
- Arboricultural Impact Assessment
- Arboricultural Method Statement
- Tree Protection Plan

1.1 Findings and Recommendations

i The survey assessed 52 individual trees, 10 groups of trees, and 3 hedgerows. The majority of the individual trees surveyed were of low quality (Category C), however 15 individual trees, and the majority of the groups of trees were deemed to be of moderate quality (Category B). The survey highlighted 5 individual trees, and 3 groups of trees were of high quality (Category A), whereas all 3 hedgerows were of low quality (Category C).

ii There is currently a tree preservation orders (TPO) at this location (TPO-1973_009 Order 002) which relates to G5-B2 within this report. Therefore, trees detailed within this report were subject to statutory protection at the time of the survey.

iii At the time of survey 6 individual (T20, T21, T22, T46, T65 and T67) trees were classed as category U status, and therefore unsuitable for retention in their current form.

iv The proposed development will require the further removal of 1 category C tree (T66). In addition, 3 separate sections of H2-C1, 4 separate sections of G6-B2 and 2 separate sections of G5-B2 are required for removal in order for the proposed access to be constructed.

v There will be moderate reduction in amenity and arboricultural value mainly due to the loss of 1 mature low-quality tree and a total of 6 sections from moderate quality groups of trees. It is therefore recommended that compensatory planting is implemented through an effective landscape design.

vi New hard surfacing is proposed within the RPA of Tree T23-B2 is considered to be acceptable in this instance, providing appropriate mitigation is applied to ensure that the new hard surfacing is constructed using a three-dimensional cellular confinement system and in such a way to minimise impacts to the tree root system. Please see section 6.13 for more details. New hard surfacing in the form of footpaths and cycleways is proposed within the outer RPAs of trees T25, T27, T30, T47, T64 and multiple locations along the eastern edge of G6.

vii It is recommended that temporary protective fencing is erected in order to create a construction exclusion zone which adequately protects the retained trees from damage during the construction works. This fencing should be erected at the outset of the development before any activities are carried out or materials/ plant is brought onto the site. For full details see the Tree Protection Plan (Appendix D).

viii Any tree works detailed in the Tree Survey Schedule at Appendix A have been identified solely in the context of the sites current use and would be considered good arboricultural management irrespective of any development proposals. It should not be inferred that any such recommended tree works are necessary to implement the proposed development.

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2 INTRODUCTION AND BACKGROUND

2.1 Purpose and Scope of this Report

i This report has been prepared following the guidance within BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' Its purpose is to assess the likely arboricultural implications to the development proposals for the site and to be submitted in support of a planning application to the Local Planning Authority seeking consent for these proposals. It also provides arboricultural guidance on how the proposed development can be achieved while minimising any potential detrimental impacts to retained trees.

ii In preparing this report, consideration has been given to the proposed layout, the condition of the trees, and the final use of the site with a focus on providing a harmonious, balanced environment between the trees, buildings, and the end users of the site.

iii Whilst not definitive, the findings and any associated recommendations detailed within this report are considered reasonable, practicable, sustainable, and in the interests of promoting good arboricultural management.

iv Recommendations included within this report are the professional opinion of an experienced Arboriculturist and are the view of RammSanderson Ecology Ltd. This is based on a review of the information provided by the Client, the brief, and a survey of the site. This report pertains to these results only.

v This report and the survey(s) on which it depends have been carried out by a competent Arboriculturist.

2.2 Regulatory and Policy Framework

i Part VIII of the Town and Country Planning Act 1990 (as amended) and the Town and Country Planning (Tree Preservation) (England) Regulations 2012 enable a local planning authority to make a Tree Preservation Order (TPO) to protect specific trees, groups of trees, or woodlands in the interests of amenity. A TPO prohibits the cutting down, toppling, lopping, uprooting, wilful damage, and wilful destruction of protected trees without the local planning authority's written consent.

ii Section 211 of the Town and Country Planning Act 1990 makes provisions to protect trees which are within a conservation area, but not the subject of a TPO. These provisions require anyone intending to carry out works to a tree within a conservation area to give the local planning authority 6 weeks' notice before carrying out certain works unless an exemption applies.

iii The Forestry Act (1967) requires that a Felling Licence, issued by the Forestry Commission, is obtained before felling trees, unless an exemption applies; such exemptions include felling small quantities of trees (less than 5m^3 of timber in any calendar quarter) or felling in specific areas (e.g. gardens).

2.3 Site Location and Context

i Site address: Wrotham Road, Meopham, Gravesham, Kent, DA13 0AB.

ii Central grid reference: TQ 64557 66628

iii The site comprises of the larger eastern parcel of land which is bordered by Wrotham Road to the west and Green Lane to the north, with private residential properties lying to the north east and to the south of the site.

Figure 1: Site Location Plan

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3 SURVEY METHODOLOGY

3.1 Survey Methods

i The site was visited on the 24th and 25th of April 2025 to carry out an assessment in accordance with BS 5837:2012 – Trees in relation to Design, Demolition and Construction - Recommendations.

ii The weather at the time was dry, bright, clear and still and considered to be adequate for conducting the survey during which, the following information was collected:

- Sequential reference number (recorded on the tree survey plan), including reference to type (tree, group, woodland, or hedgerow).
- Species, listed by common name (a key to scientific names is provided at Appendix B).
- Height.
- Stem diameter measured @ 1.5m height (for trees with more than one stem, the combined stem diameter is recorded as per BS5837:2012 Section 4.6).
- Branch spread (measured at the four cardinal points).
- Existing height above ground level of first significant branch.
- Life stage:

  Y – Young,
  SM – Semi Mature,
  EM – Early Mature,
  M – Mature,
  OM – Over Mature.

- General observations, particularly of structural and/or physiological condition, and/or preliminary management recommendations as appropriate.
- Estimated remaining contribution (future life expectancy) in years (<10, 10+. 20+, 40+);
- Tree quality assessment category grading as per Section 4.5 and Table 1 of BS5837:2012. 'U' or 'A' to 'C' grading with the subcategory 1, 2 or 3 reflecting arboricultural, landscape or cultural values, respectively.

Notes: Only individual trees with a stem diameter of 75mm or greater are included in the survey. It is not always practical or necessary to record individual details for every tree within a group or woodland. Only basic details (height and species) for domestic hedgerows and significant shrubs were recorded. More substantial hedgerows (including evergreen screens) are generally recorded in a similar manner to groups of trees.

iii The measurement conventions used were as follows:

- Height, crown spread, and crown clearance was recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- Stem diameter was recorded in millimetres, rounded to the nearest 10mm.
- Any estimated dimensions (for offsite or otherwise inaccessible trees where accurate measurements cannot be taken) were clearly identified as such in the tree schedule (Appendix A).

iv The survey includes all trees plotted on the provided topographical survey. Should any relevant trees on or adjacent to the site have been missed on the topographical survey, these have been included where appropriate. However, the positions indicated on any plans included within this report for all trees not included on the provided topographical survey have been approximated for the purposes of identification only, and if accurate locations are required these should be confirmed on site.

4 LIMITATIONS

4.1 Survey

i Each of the surveyed trees has been plotted and recorded as an individual tree or a tree group in accordance with the criteria detailed in section 4.4.2.5 of BS 5837:2012.

ii The information contained within this report is based on the author's knowledge and experience in respect of tree related issues. Whilst the appropriate level of skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete, or not fully representative information.

iii Any survey work undertaken will have been subject to natural limitations, including seasonal and phenological aspects.

iv Trees were assessed from ground level using the Visual Tree Assessment (VTA) method. The trees included in the survey were not climbed, no samples were removed, and no detailed internal investigation of decay was made.

v Where other vegetation (e.g. ivy or dense ground cover) prevented full access to any tree, this is noted in the tree survey schedule (Appendix A). Dense ivy cover can prevent full access to a tree and so obscure the presence of cavities or other defects. Any such situations are noted in the tree survey schedule with, where appropriate, recommendations for the ivy to be removed and a re-inspection carried out. No ivy was removed from any tree during the survey.

vi No liability can be accepted by RammSanderson Ecology Ltd. in respect of the trees unless the recommendations of this report are carried out under their supervision and within their recommended timescales. Acceptance of this report represents an agreement with the guiding principles and the terms listed.

vii The findings and recommendations contained within this report are, assuming its recommendations are observed, valid for a period of twelve months from the date of survey. Trees are living organisms and their condition can change significantly over a relatively short period of time – good practice dictates they are inspected on a regular basis for reasons of safety.

viii Any hedgerows within the survey area were assessed solely for their general arboricultural condition and value. Further detailed assessment, following the Hedgerow Regulations 1997, is outside the scope of this report and no attempt has been made during this assessment to classify any hedgerow under the criteria within those Regulations.

ix Tree rooting characteristics and soils are both enormously variable as are their interactions. This makes any attempts to quantify tree related subsidence risk assessment impossible. No attempt has been made to assess subsidence risk potential nor should any be construed.

x The report relates only to the trees included within the Tree Schedule (Appendix A).

5 RESULTS

5.1 Surveyors

i The survey was carried out by:

- Liam Bancroft BSc (Hons) is an arboricultural consultant with 3 years' experience in this role at RammSanderson Ecology Ltd. He has previously worked as a forestry operations supervisor in New Zealand for over 5 years and has also completed the LANTRA Professional Tree Inspection assessment examination.

ii The survey was completed during suitable conditions as detailed in the table below.

Table 1: Summary of conditions during survey

Abiotic Factor	Survey 1
Survey type	BS5837:2012 Tree Survey
Date completed	24th-25th April 2025
Temperature	13°C
Wind speed (Beaufort Scale)	1
Cloud cover	20%
Precipitation	0

5.2 Statutory Tree Protection

i Gravesham Borough Council confirmed, by email on the 5th of March 2025 that the site is not within a conservation area, however, the conservation area 'Meopham, The Street, Conservation Area' does run adjacent to the southern boundary of the larger eastern parcel of land.

ii Gravesham Borough Council also confirmed that a TPO (Tree Preservation Order) is effective on site. This TPO (TPO-1973_009 order (002) pertains to "W1 – consisting of mainly sweet chestnut, 0.5 acres of land situate at "Olive shaw" Green Lane, Meopham". This TPO correlates to G5-B2 within this report.

iii The trees on the site are therefore subject to statutory protection and therefore restrictions are placed on tree works being carried out at this location, until permission from Gravesham Borough Council are sought.

5.3 Tree Survey

i The survey assessed 52 individual trees, 10 groups of trees, and 3 hedgerows, the quality and value of which are summarised in the table below whilst full results of the tree survey are provided in the Tree Schedule (Appendix A).

ii The site as whole was mainly made up of low quality (Category C) individual trees which were located predominantly around the perimeter of the site. The majority of the groups on site were of moderate quality (Category B).

iii The survey also highlighted 5 individual trees and 3 groups of trees that were of high quality (Category A).

iv All 3 hedgerows surveyed were of low quality (Category C).

Table 2: Survey Results

BS5837:2012 Tree Quality Assessment Category		Trees	Groups	Hedgerows	Woodlands	Total
A	**Trees of high quality** which are healthy and attractive with high visibility and no significant defects, and which can make a substantial contribution for a minimum of 40 years	5	3	0	0	**8**
B	**Trees of moderate quality** which are healthy and attractive but with some remediable defects such that they are in a condition to be able to make a significant contribution for a minimum of 20 years	15	6	0	0	**21**
C	**Trees of low quality** which are unremarkable, of limited merit and that are easily replaced, small-growing, young species which have a relatively low potential amenity value, and low landscape benefits. These trees typically include self-seeded trees of limited life span, small (below 150mm stem diameter) and young trees and trees of poor form and limited amenity value.	26	1	3	0	**30**
U	Trees which are 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 and/or are considered to be unsuitable for retention in the proximity of new dwellings or areas of public open space.	6	0	0	0	**6**
	Total	**52**	**10**	**3**	**0**	**65**

6 ARBORICULTURAL IMPACT ASSESSMENT

6.1 Introduction

i The arboricultural constraints, both above and below ground, identified during the tree survey (Section 5) and illustrated on the Tree Constraints Plan (Appendix A), have been used, through consultation with the client, to inform the proposed site layout design.

ii The following arboricultural impact assessment evaluates the direct and indirect effects of the proposed design, with recommendations for appropriate mitigation where necessary. It takes account of the effects of any tree loss required to implement the design and any proposed construction activities which may have the potential to damage retained trees.

6.2 Trees Suitable for Retention

i Where possible, it is generally considered desirable for any Category 'A' and Category 'B' trees to be retained and appropriately integrated within the layout for new developments. Category 'U' trees are unsuitable for retention other than for the very short-term or exceptionally for their conservation value and therefore should not be considered to be a constraint to development.

ii In assessing the probable impact of the proposed development on the trees and vice versa, and therefore identifying which trees are suitable for retention and integration within the context of the proposed layout, the following factors have all been considered:

- Root Protection Areas for Retained Trees
- Shading
- Direct Damage
- Construction Activity
- Demolition/Ground Works
- Future Pressure for Tree Removal and Pruning
- Seasonal Nuisance
- Infrastructure
- Future Management

6.3 Root Protection Areas (RPAs)

i Recommended Root Protection Areas (RPA) for all individual trees on or immediately adjacent to the survey area are detailed within the Tree Schedule (Appendix A) and illustrated on the Tree Constraints Plan (Appendix C).

ii These RPAs have been calculated following the recommendations within BS5837:2012 Section 4.6 and are represented on the Tree Constraints Plan as a circle centred on the base of the tree's stem. Should any deviation from this circular RPA be considered appropriate, for example where previous site conditions (the presence of roads, structures, and underground apparatus), topography, or soil type/structure will have influenced root growth, any modifications to the RPA will be clearly explained and reflect a soundly based arboricultural assessment of the likely root distribution for the individual tree. Any such modified RPA will be of an overall area which is equivalent to the BS5837:2012 recommendation.

iii Recommendations for RPAs for any groups of trees, woodlands, or hedgerows, where the positions of individual trees are not included on the provided topographical survey, also reflect a soundly based arboricultural assessment of the likely collective root distribution of the constituent trees.

6.4 Recommendations for Tree Removals

i The survey identified 6 trees which are unsuitable for retention due to their condition. These trees pertain to; T20 – Unknown heavily decayed dead standing, T21 – a dead standing ash overhanging Green lane to the

north, T22 – a dead sweet chestnut in conflict with an existing utilities pole, T46 – an offsite ash in poor condition, T65 – Lombardy poplar in poor condition and T67 – a Lombardy poplar in poor condition with decayed stem. These trees are recommended for removal in the interests of good arboricultural management.

ii In addition, 1 individual tree (T66-Lombardy poplar), 4 separate sections from group G6 measuring approximately; 7 metres, 10 metres. 10 metres and 25 metres wide, 2 separate sections from group G5 measuring approximately; 5 metres and 9 metres wide. And 3 separate sections from hedgerow H2 measuring approximately 4 metres, 5 metres and 8 metres require removal to facilitate the development plans.

iii Table 5 (section 7.1) below provides a summary of all recommended tree works (pruning and removals).

iv All Arboricultural work should be carried out by qualified and competent Arborists working to BS 3998:2010 'Tree Work – Recommendations'.

6.5 Tree Loss Evaluation

i Of the tree losses stated in Section 6.4, T66 is considered to be of low quality (Category C) and is also in poor condition.

ii The 3 sections of hedgerow proposed for removal are from a low quality (Category C) hedgerow (H2-C1).

iii All 6 sections of a groups of trees proposed for removal are from moderate quality (Category B) groups (G5 and G6).

iv It is therefore considered that the proposed development will result in a moderate loss of arboricultural/amenity value given the particular removal of 6 sections of moderate quality group (G5 and G6) and the removal of a mature low quality individual tree (T66) required to implement the development.

v As a result, any arboricultural losses which do result from the proposed tree removals should be mitigated against through appropriate replacement planting as part of the landscaping scheme for the development.

vi Any arboricultural and amenity losses should be balanced against the overall benefits of the development and mitigated against/compensated for through appropriate new tree planting, as part of the overall landscaping scheme for the development with the aim of maintaining an appropriate amount of tree cover whilst improving the long-term arboricultural value of the site.

6.6 Recommendations for Tree Pruning

i Tree pruning is permitted along the western edge of G6 to open up visibility splays for the proposed new access points from Wrotham Road.

ii Facilitative pruning is also proposed to the western edge of hedgerow H3-C2 for the creation of the proposed cycleway/footpath.

iii Any recommendations within the Tree Survey Schedule (Appendix A) details pruning works **solely** in the context of the current use of the site that are recommended in the interest of good arboricultural management of the trees irrespective of any changes in use of the site. These recommendations should not be considered as necessary to implement or facilitate the proposed development.

iv Any additional pruning which is recommended solely to accommodate the proposed site layout (e.g. access facilitation pruning) is detailed within Table 5 (section 7.1).

v All Arboricultural work should be carried out by qualified and competent Arborists working to BS 3998:2010 'Tree Work – Recommendations'.

6.7 Tree Protection Plan

i The Tree Protection Plan (Appendix D), when read in conjunction with this report, details the required tree protection and mitigation measures for all trees proposed to be retained and integrated within the proposed layout.

ii The Tree Protection Plan is superimposed on the proposed layout and includes details of;

- Trees selected for retention and trees proposed for removal.
- The precise location and specification of protective barriers to form a construction exclusion zone around the retained trees.
- The extent and type of any temporary ground protection, and/or any additional physical measures, that are recommended in association with any temporary access or other activities which are permitted within the construction exclusion zone.
- The position, extent and general construction specification of any new permanent new hard surfacing within the RPA.

6.8 Shading

i Although there are circumstances where shade from trees could be considered beneficial, excessive shading of buildings by trees can be a problem, particularly where it affects rooms which require natural light. Similarly, it is often considered that open spaces such as gardens and sitting areas benefit from direct sunlight, for at least part of the day, and therefore that excessive shading of these areas by trees is undesirable.

ii In this instance, no further investigation, illustration or mitigation is considered necessary due to the generally favourable layout orientation which means that the development is not considered likely to be subjected to an unreasonable level of shading from trees.

6.9 Direct Damage

i All new developments should consider the likelihood of direct damage occurring to any new structures, hard surfacing or associated utilities from incremental tree stem/root growth or mechanical damage resulting from encroachment of branches.

ii The proposed layout locates all new structures and services outside of the recommended RPAs.

iii For any proposed new planting, Table 3 below, taken from Annex A of BS 5837:2012, provides recommendations that are advised as minimum distances from structures and services for new tree plantings.

Table 3: Minimum distance between young trees or new planting and structure to avoid direct damage to a structure from future tree growth

Type of structure	Minimum distance between young trees or new planting and structure, in metres (m)		
	Stem dia. ≤300mm[A)]	Stem dia. 300mm to 600mm[A)]	Stem dia. ≥600mm[A]
Building and heavily loaded structures	---	0.5	1.2
Lightly loaded structures such as garages, porches etc.	---	0.7	1.5
Services			
≤1m deep	0.5	1.5	3.0
≥1m deep	---	1.0	2.0
Masonry boundary walls	---	1.0	2.0
In-situ concrete paths and drives	0.5	1.0	2.5
Paths and drives with flexible surfaces or paving slabs	0.7	1.5	3.0

A) Diameter of stem at 1.5m above ground level at maturity.

6.10 Temporary Ground Protection

i The proposed site layout does not include any conflict between the necessary construction working space and retained trees. Therefore, it is not considered that any temporary ground protection will be required to implement the development.

ii British Standard 5837:2012 advises that temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction to underlying soil and further provides the following note:

The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

iii Final on-site measurements should be taken to ascertain the extent of any tree protection measures and provide an indication of whether incursions, which have not been anticipated, into the RPAs of retained trees might prove necessary.

6.11 Excavation/Ground Works

i The installation of any protective mitigation measures, if necessary, prior to the commencement of any works on site, will allow excavations and ground works to take place whilst minimising any anticipated adverse effect and/or impact on the retained trees.

ii All plant and vehicles engaged in ground works should either operate outside the RPAs, or run on appropriate ground protection, if necessary, in the proximity of retained trees.

iii Where trees stand adjacent to hard surfaces and/or buildings to be removed, excavation should be undertaken inwards, from within the footprint of the existing hard surfacing, or outside of the RPAs.

6.12 Construction Within the Root Protection Area

i The use of traditional strip foundations can result in extensive root loss and should be avoided. However, BS5837:2012 recommends that the insertion of specially engineered structures within RPAs may be justified if it enables the retention of a good quality tree (usually category A or B) that would otherwise be lost.

ii The foundation design should minimise any adverse impact on the trees and should take into consideration all relevant site-specific constraints. In order to arrive at a suitable solution, the combined advice of the project arboriculturist and an engineer will be required.

iii BS5837:2012 recommends that root damage can be minimised by using piles, located optimally to avoid any structural roots, by means of hand tools or compressed air soil displacement, to a minimum depth of 600mm, or beams laid at or above ground level to avoid tree roots.

iv Where piling is to be installed near to trees, the smallest practical pile diameter should be used to reduce the possibility of striking major tree roots. Temporary ground protection, appropriate to the size of the piling rig in use, should be used as detailed above in section 6.6.

v It may be appropriate for slabs for minor structures (e.g. a shed base) to be formed within the RPA. It should however be placed on the existing ground level with no new excavation and should not exceed an area greater that 20% of the unsurfaced ground within the RPA.

vi The proposed layout does not include any construction within the RPA and so there is no requirement for any specially engineered structures in this instance.

6.13 Hard Surfacing Within the Root Protection Area

i New hard surfacing is proposed within the RPA of tree T23-B2, T25-B2, T27-C2, T30-A2, T47-A2, T64-B2, and at multiple intervals along the eastern RPA of G6-B2.

ii Of these trees listed about, the impacts to trees T25, T27 T30, T47, T64 and G6 are deemed to be minimal as the proposed hard surfacing is at the outer limits of the RPA, with additional rooting potential on all other aspects.

iii However, it is recommended that the installation of a 'no-dig' type hard surface, which incorporates a three-dimensional cellular confinement system will be necessary within the RPA of T23-B2. General guidance on this type of 'no-dig' surfacing is provided below:

iv This is considered to be acceptable in this instance, providing appropriate mitigation is applied to ensure that the hardstanding is constructed in such a way to minimise impacts to the tree root systems.

v BS5837:2012 recommends that three-dimensional cellular confinement systems, incorporating geotextile or impermeable barriers as necessary, may be appropriate sub-base options for new hard surfacing with the RPA.

vi A 'no-dig' design should be used which does not require excavation into the soil other that the removal, using hand tools, of any turf layer or other surface vegetation. The structure of the hard surface should be designed

to avoid localised compaction and in all cases, the advice of a structural engineer should be sought to ensure that the design is suitable for the anticipated vehicle loads it will be subjected to.

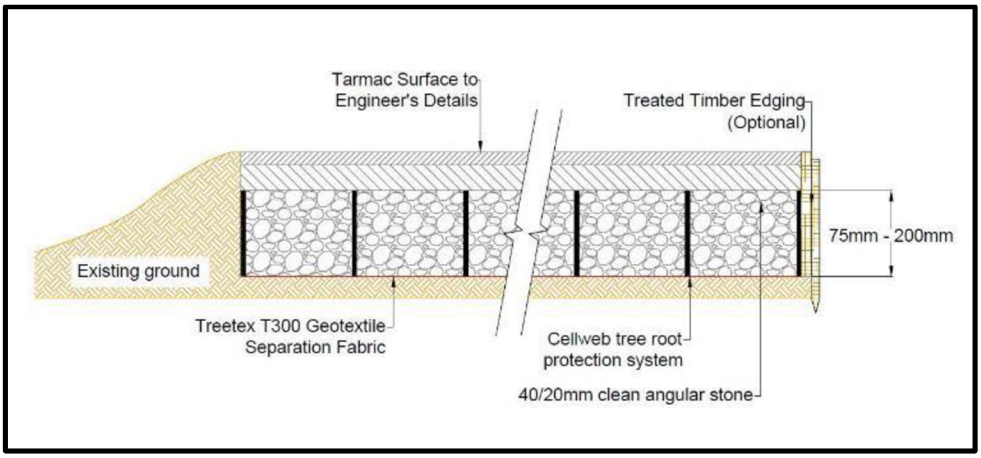
vii An assessment should be made to establish whether the existing site topography lends itself to the installation of a three-dimensional cellular confinement system. Final on-site measurements should be taken to ascertain the extent of any incursions into the RPA and provide subsequent guidance on the extent of any 'no-dig' installation.

viii The new hard surfacing should be resistant to deformation by tree roots and should be set back from the tree's stem and above ground buttresses by a minimum distance of 500mm to allow for growth and movement. Where no-dig installations are proposed to be located particularly close to the main stems of retained trees then it is recommended that consideration is given to realigning the hard surfacing in order to reduce the total area (m^2) of RPAs affected in order to reduce the likelihood for future pruning pressure and minimise the potential for any detrimental impact on the retained trees.

ix It is recommended that the total area for all new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

x Indicative cross-sectional drawings of a suitable three-dimensional cellular confinement system (CellWeb™) are shown below (Figure 2).

Figure 2: Cross section illustrating a permeable tarmac surface finish



6.14 Construction Activity

i The installation of any recommended protective or mitigation measures prior to the commencement of any works on site will allow the development to take place whilst minimising any anticipated adverse effect and/or impact on the retained trees.

ii All plant and vehicles engaged in construction works should either operate outside the RPA, and/or run-on appropriate ground protection.

6.15 Future Pressure for Tree Pruning/Removal

i Whilst the presence of retained trees can often enhance the immediate environment upon completion, any proposed layout should provide sufficient space that will allow for future tree growth and to provide a subsequently reduced need for future, frequent remedial pruning.

ii The tree works detailed in Table 5 are considered, in this instance, to provide an environment and layout juxtaposition that will allow for the future growth of the retained trees whist minimising any immediate future pruning pressures.

6.16 Seasonal Nuisance

i Foliage, fruit, and cone fall can be considered by some to be a nuisance and requests to Local Planning Authorities to carry out pruning works to negate these issues are often refused due in part to their brief, seasonal nature of the problem.

ii Providing a suitable juxtaposition when considering new layouts will help in minimising issues experienced by people living in proximity to trees.

iii A certain level of leaf fall in the autumn will be inevitable due to the generally deciduous nature of the existing trees on the site. This it is however not considered to be unreasonable in the context of the site's use.

6.17 Infrastructure

i Infrastructure requirements have been considered and there is no evidence to suggest that retained trees will have an impact on lighting, signage, CCTV sightlines or visibility splays.

ii Where the installation of any underground apparatus and drainage is considered necessary then particular care should be taken in its routeing and methods of installation and wherever possible be routed outside RPAs.

iii Where routeing services outside RPAs is not possible then detailed plans showing the proposed routeing should be drawn up in conjunction with the project Arboriculturist. Trenchless insertion methods are considered appropriate for this purpose and British Standards 5837:2012 details solutions for differing utility apparatus requirements (see table 4 below).

iv British Standards 5837:2012, Section 7.7.2 suggests that in the event roots can be retained and appropriately protected during exposure, then excavation using hand-held tools might be acceptable for shallow service runs. The National Joint Utilities Group's publication 'NJUG Volume 4' contains further guidelines on the installation of new underground services in proximity to trees.

Table 4: Trenchless solutions for differing utility apparatus installation requirements

Method	Accuracy	Bore dia. A)	Max sub. B) length	Applications	Not suitable for
Micro tunnelling	≤20	100 to 300	40	Gravity-fall pipes, deep apparatus, watercourse/roadway undercrossing	Low-cost projects due to relative expense
Surface-launched directional drilling	≈100	25 to 1,200	150	Pressure pipes, cables including fibre optic	Gravity-fall pipes, e.g. drains and sewers C)
Pipe ramming	≈150	150 to 2,000	70	Any large-bore pipes and ducts	Rocky and other heavily obstructed soils
Impact moling D)	≈50 E)	30 to 180 F)	40	Gas, water and cable connections, e.g. from street to property	Any application that requires accuracy over distances in excess of 5m

A) Dependent on strata encountered.

B) Maximum subterranean length.

C) Pit-launched directional drilling can be used for gravity fall pipes up to 20m subterranean length.

D) Impact moling (also known as thrust-bore) generally requires soft, cohesive soils.

E) Substantial inverse relationship between accuracy and distance.

F) Figures given relate to single pass up to 300mm bore achievable with multiple passes.

6.18 Landscaping

i BS 5837:2012 advises that any new tree planting and associated landscaping proposals should consider the ultimate height and spread, form, habit and colour, density of foliage, and maintenance implications, in relation to both the built form of the new development, and the retained landscape features.

ii Consideration should also be given to the advice detailed in section 6.4 in respect of distances of newly planted trees in relation to new structures.

iii For all new tree planting, the guidance within BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations' should be followed.

iv No details of any proposed landscaping have been provided.

v Ultimately, the Local Planning Authority are to provide advice on exact compensatory planting ratios for the project. It is always preferable to replacement plant to occur in a suitable area of the development site, however if there are constraints that do not allow the trees to grow to full maturity, other suitable sites are to be considered.

vi The creation of new hedgerows is encouraged due to their ecological and landscape significance where feasible on site. This should consist of native species already present in existing hedgerows on site.

6.19 Issues to be addressed by an Arboricultural Method Statement

i The Arboricultural Method Statement (Section 7) details the general methodology for the implementation of those aspects of the proposed development that have the potential to result in damage to the retained trees.

7 ARBORICULTURAL METHOD STATEMENT

7.1 Recommended Tree Works/Removals

i Tree works tabled below (Table 5) have been identified as a result of one or more of the following reasons:

- to directly implement the proposal,
- to facilitate the implementation and construction of the proposals,
- to assist in the creation of a balanced and desirable layout juxtaposition and
- in the interests of reasonable arboricultural management.

ii All tree works should be carried out by qualified and competent Arborists working to BS 3998:2010 'Tree Work – Recommendations'.

Table 5: Summary of Recommended Tree Works

Tree No.	Species	BS5837:2012 Category	Recommended Works
T20	Unknown	U	Remove as soon as possible- due to the condition of the trees, in the interests of good arboricultural management.
T21	Ash		
T22	Sweet chestnut		
T65	Lombardy poplar		
T67	Lombardy poplar		
T46	Ash	U	Notify owner if outside of red line boundary – recommend removing tree irrespective of any proposed development works on site (if trees are located outside of the site boundary, the relevant landowners should be contacted and informed about the condition of the trees).
T66	Lombardy poplar	C2	Remove - to accommodate the proposed development.
H2	Mixed	C1	Remove 3 separate sections to accommodate proposed developments. Approximate 4m, 5m and 8m.
G5	Mixed	B2	Remove 2 separate sections to accommodate proposed developments. Approximate 5m and 9m.
G6	Mixed	B2	Remove 4 separate sections to accommodate proposed developments. Approximate 7m, 10m, 10m and 25m.
T49	Ash	C2	Sever and remove ivy to 1 metre to allow basal inspection.
T29	Scots pine	C2	
T43	English oak	B2	
T39	Sweet chestnut	B2	Annual monitoring of overall condition.
T33	Ash	B2	Remove deadwood >25mm throughout.
T52	Ash	C2	Sever and remove ivy to 1 metre to allow basal inspection. Remove deadwood >25mm throughout. Biennial monitoring of lean and condition.
T53	Sycamore	C2	Sever and remove ivy to 1 metre to allow basal inspection.

			Remove deadwood >25mm throughout.
G5	Mixed	B2	Habitat pole dead stems to 4 metres throughout. Remove deadwood >25mm in conflict with overhead utilities cables.
G9	Mixed	B2	Future canopy clearance over drive where necessary.

7.2 Summary of Mitigation

i The table below summaries the mitigation methods required for the site, specific to any trees where their RPA may be subject to impact by the proposed development.

ii Each specific requirement is detailed further in the subsequent sections of this report.

Table 6: Summary of Mitigation Requirements

Tree No.	Species	Works effecting	Mitigation Required
Throughout the site		Retained trees in general proximity to the proposed construction works	Create a construction exclusion zone, by erecting and maintaining temporary tree protection fencing for the duration of the construction works. The tree protection fencing should be installed as detailed on the Tree Protection Plan (Appendix D).
T23	Ash	A small percentage of the RPA is within the proposed hard standing.	The specification for the new hardstanding should follow the guidance in Section 6.13 with a 'no-dig' construction method and three-dimensional cellular containment system to be used within the RPA. Temporary protective fencing should be installed at the edge of the new hardstanding for the duration of the construction works, as shown in the Tree Protection Plan (Appendix D). The areas enclosed by the protective should be maintained as a total exclusion zone to all construction activity. No working activity, storage of materials, ground level changes, excavations or vehicular access is permitted within the protected area. Following developments the tree should be monitored for signs of stress and decline.

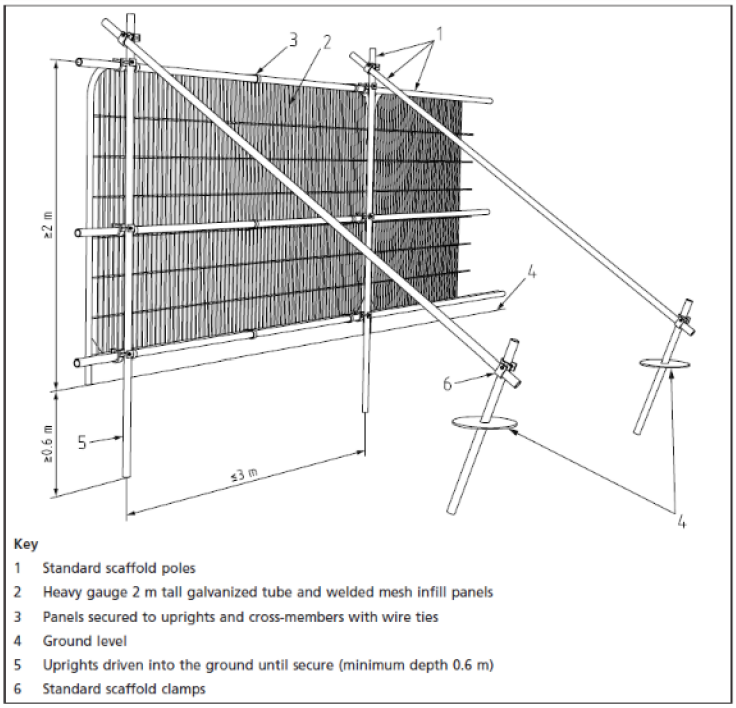
7.3 Erection of Protective Fencing

i It is recommended that temporary protective fencing should be erected in order to create a construction exclusion zone which adequately protects the retained trees from damage during the construction works. This fencing should be erected at the outset of the development works before any activities (including demolition and ground works) are carried out and materials/ plant are brought onto site.

ii The recommended position for protective fencing is detailed on the Tree Protection Plan (Appendix D).

iii The fencing should consist of a vertical and horizontal scaffold framework which is well braced to resist impacts as seen below in Figure 3.

Figure 3: Default specification for protective barrier © British Standards Institute

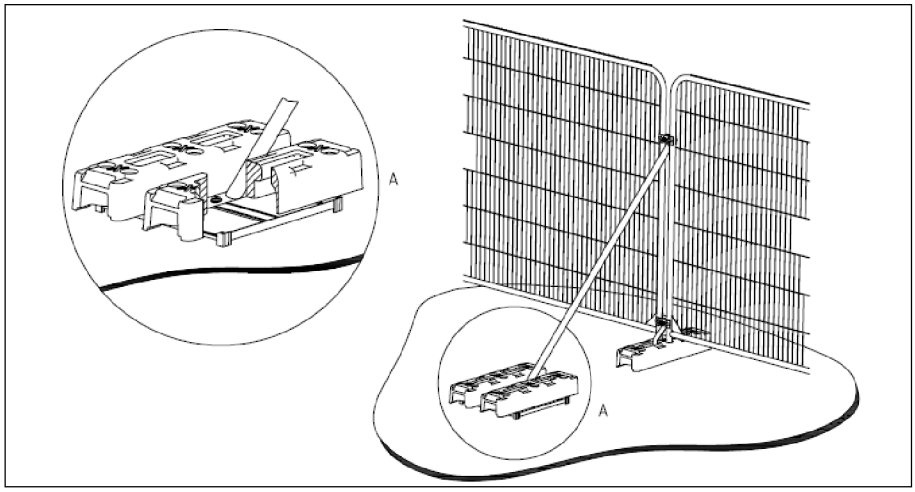


iv All-weather warning notices should be attached to the fencing to clearly identify the area as a tree protection exclusion zone into which access is not permitted

v Once erected, the protected area should be regarded as sacrosanct and the fencing should not be removed or altered unless recommended by the project Arboriculturist and, where necessary, approval from the local planning authority.

vi Where the site circumstances and associated risk of damaging incursion into the RPAs do not necessitate the default level of protection, an alternative specification may be considered to be appropriate. For example, 2m tall welded mesh panels on rubber or concrete feet as illustrated below in Figure 4.

Figure 4:Alternative Specification for Protective Fencing © British Standards Institute



vii In this instance, it is considered that the associated risks to trees from the proposed development do not necessitate the default specification and therefore that use of the alternative specification will be appropriate.

7.4 Additional General Precautions Outside of the Exclusion Zone

i Fires on site should be avoided wherever possible. Where they are unavoidable, they should be kept well away from the exclusion zone and only lit in positions where heat will not affect foliage or branches. The potential size of a fire and wind direction should be taken into account, and it should be attended at all times until safe to leave.

ii Any materials, fuel, or chemicals whose accidental spillage would cause damage to a tree should be stored and handled well away from the exclusion zone.

7.5 Site Monitoring

i Following consideration of the likely arboricultural impacts to the development, together with the recommended mitigation options, it is not considered that on-site arboricultural monitoring will necessary during the construction works.

ii A two-stage visit must be arranged with the Arboricultural Consultant at:

- **Phase one:** prior to any works. to arrange a check of the protective barrier installation (prior to any construction activity). A visit should be arranged to check that the location of the protective barriers have been installed as per the Tree Protection Plan,
- **Phase two:** nearing completion.
  A visit should be arranged for the Arboricultural Consultant to monitor the site nearing completion to assess the mitigation. Also discuss the aftercare and monitoring that will take place.

iii Random site monitoring can take place throughout the duration of the construction to check that all guidelines are being adhered to.

iv In particular, trees T23-B2, T64-B2 and trees within proximity to the proposed new access routes on the northern and western boundaries should be monitored annually to assess for signs of stress and decline.

7.6 Ground Works, Demolition & Construction Works

i Installation of all recommended protective mitigation measures prior to the commencement of any works, combined with use of temporary ground protection and/or the retention of existing hard surfacing within the RPAs, will allow the ground works to take place whilst minimising any adverse effect or impact on the retained trees.

ii All plant and vehicles engaged in ground works should either operate outside the RPA or run-on temporary ground protection or existing hard standing, where appropriate.

iii During ground works and demolition, the utmost caution should be used to not sever any roots, especially those measuring ≥25mm in diameter. Any roots uncovered roots should be wrapped/covered to prevent them from desiccation and rapid temperature changes (any wrapping should be removed prior to backfilling).

iv In the case where plant or wide/tall loads are being used, it must be ensured that all parts of the equipment remain outside of the RPAs, in order that they can operate without coming into contact with any of the on-site or adjacent trees. All works must have appropriate supervision by a banksman, to ensure that adequate clearance from trees is maintained at all times.

v Access facilitation pruning should not be necessary on site but if it does become necessary to maintain a safe clearance. All work must be approved by the project Arboriculturist and carried out by a qualified and competent Arborist working to BS 3998:2010.

vi If damage occurs to part of a tree during the works, the project Arboriculturist must be contacted without delay.

7.7 Soil Compaction and Remediation Measures

i Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites.

ii Compacted soil will adversely affect drainage, gas exchange, nutrient uptake, and organic content, and will seriously impede or restrict root growth.

iii Soil compaction should be avoided around existing vegetation, including trees, and in areas where new planting or seeding is proposed.

iv Where soil compaction has occurred near to existing trees, remedial works might include sub-soil aeration using compressed air, and the addition of other materials, preferably of a bulky, organic nature (but excluding peat), to improve structure.

v Heavy mechanical cultivation such as ploughing or rotavating should not occur within the RPA.

vi Any cultivation operations should be undertaken carefully by hand to minimize damage to the tree, particularly the roots.

vii Decompaction measures include forking, spiking, soil augering and tilthed radial trenching. Care should be taken during such operations to minimize the risk of further damage of tree roots.

7.8 Contractors Storage, Parking & Access

i Provision should be made for welfare facilities, the site office, contractor parking, storage for materials, plant and spoil, and space for mixing, all outside of the RPAs of retained trees.

ii In this instance, it is considered that there is sufficient space for provision of the above, without placing significant constraints on the working space available for the construction and its associated activities.

7.9 Completion

i At the completion of the construction works, before removal of any of the tree protection measure at the completion of the project, it is recommended that the advice of the project Arboriculturist is sought regarding whether a re-survey of the retained trees is necessary for signs or symptoms of damage and/or stress that the construction may have caused.

ii The protective fencing and ground protection measures should remain in position until its use is considered unnecessary and any risk of damage to the retained trees and/or their respective RPAs e.g. soil compaction from vehicular plant or machinery, has completely passed.

7.10 Tree Planting & After Care

i When planning or implementing any new tree planting scheme, it is recommended that the guidance within BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations' is followed.

ii The following points summarise good after care for newly planted trees with an additional consideration to any necessary formative, corrective and maintenance pruning:

iii Water the trees immediately after planting and weekly throughout the first growing season by allowing 10 – 20 litres of water for each tree. This is especially important during prolonged periods of dry weather in which case the frequency of watering may need to be increased.

iv Do not allow weeds or grass to grow within a 500mm radius of the stem.

v Maintain an organic mulch (e.g. composted woodchip or bark) to a minimum depth of 75mm for a radius of 500mm around the base of new trees.

vi At the end of each growing season, check that tree-ties are not damaging the tree stems and loosen if necessary.

vii Ensure that the tree stakes remain firm while the new planting becomes established and only remove when the tree can support itself, usually after a period of 2 -3 years.

viii Carry out formative pruning to the young trees by removing dead, weak, and crossing branches, epicormic growth, and suckers arising from the roots.

7.11 Contacts

i RammSanderson Ltd. 0115 930 2493, info@rammsanderson.com

Appendix A: Tree Schedule May 2025

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
T20	Unknown	M	11	400	2	6	1	1	<10	U	Dead	Not plotted on topographical plan. Estimated location. Severely decayed stem. Snapped at 3 metres and hung up in adjacent tree. Desire footpath in close proximity to tree. Utility cables below.	Remove ASAP.	/	/
T21	Ash	M	9	310	3	1	1	1	<10	U	Dead	Not plotted on topographical plan. Estimated location. Dead stem is overhanging road to north. Ivy previously severed at 1.5 metres with associated chainsaw cuts in stem.	Remove.	/	/
T22	Sweet Chestnut	M	9	350	1	1	2	1	<10	U	Dead	Not plotted on topographical plan. Estimated location. Stem twists around utilities pole. Dead stem.	Remove.	/	/
T23	Ash	M	14	640	7	6	3	3	20+	B2	Fair	Not plotted on topographical plan. Ivy has been severed at base. Frequent new buds throughout. Large >250mm snapped branch to south at 3 metres.	No works recommended at present.	186	7.7
T24	Scots Pine	M	11	400 (Est.)	5	4	1	3	10+	C2	Fair	Estimated DBH. Located in dense hedgerow. Pruned to 8 metres. Leaning to north east but not significantly. Limited VTA on base.	No works recommended at present.	72	4.8
T25	Austrian Pine	M	13	650 (Est.)	5	5	3	5	20+	B2	Fair	Estimated DBH. Located in dense hedgerow. Snapped stubs to 7 metres on	No works recommended at present.	191	7.8

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
												western aspect. Limited VTA of base.			
T26	Austrian Pine	M	9	300 (Est.)	2	3	4	2	10+	C2	Fair	Estimated DBH. Located in dense hedgerow. Snapped stubs to 4 metres on western aspect. Twisted form. Limited VTA of base.	No works recommended at present.	41	3.6
T27	Austrian Pine	M	11	450 (Est.)	6	3	5	5	10+	C2	Fair	Estimated DBH. Located in dense hedgerow. Pruned to 4 metres. Top historically snapped out.	No works recommended at present.	92	5.4
T28	Scots Pine	M	11	350 (Est.)	2	2	3	1	10+	C2	Fair	Not plotted on topographical plan. Estimated DBH. Estimated location. Located in dense hedgerow. Pruned to 4 metres.	No works recommended at present.	55	4.2
T29	Scots Pine	M	11	450 (Est.)	3	3	1	1	10+	C2	Poor	Not plotted on topographical plan. Estimated DBH. Estimated location. Ivy present throughout. Main stem leans north east. Minor amount deadwood within canopy.	Sever and remove ivy to 1 metre to allow basal inspection.	92	5.4
T30	English Oak	M	17	800 (Est.)	7	6	6	7	40+	A2	Fair	Estimated DBH. Located behind fence in private garden. Fair vitality. Dense dead ivy on stem. Limited VTA.	No works recommended at present.	290	9.6
T31	Ash	M	10	500 (Est.)	4	1	6	6	20+	B2	Fair	Estimated DBH. Minor butt sweep to east. Minor amount of minor deadwood within canopy.	No works recommended at present.	113	6

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
T32	Ash	M	12	450 (Est.)	5	3	3	3	20+	B2	Fair	Estimated DBH. Minor butt sweep to east. Minor amount of minor deadwood within canopy.	No works recommended at present.	92	5.4
T33	Ash	M	11	450 (Est.)	4	4	5	2	20+	B2	Fair	Estimated DBH. Located in private garden. Fair vitality. Dead spike branch >100mm north at 2.5 metres. Minor deadwood within canopy.	Remove deadwood >25mm throughout.	92	5.4
T34	Ash	M	8	350 (Est.)	2	2	6	2	20+	B2	Fair	Estimated DBH. Pruned to 3 metres. Stem leans to south. Fair vitality.	No works recommended at present.	55	4.2
T35	Scots Pine	M	7	250 (Est.)	1	3	2	1	10+	C2	Fair	Not plotted on topographical plan. Estimated DBH. Pruned to 4 metres. Limited small canopy. Twisted stem structure.	No works recommended at present.	28	3
T36	Scots Pine	M	7	250 (Est.)	2	1	3	1	10+	C2	Fair	Not plotted on topographical plan. Estimated DBH. Pruned to 4 metres. Limited small canopy.	No works recommended at present.	28	3
T37	Sweet Chestnut	M	7	500 (Est.)	5	3	4	4	20+	B2	Fair	Not plotted on topographical plan. Estimated DBH. Fair structure and vitality.	No works recommended at present.	113	6
T38	Sweet Chestnut	M	9	600 (Est.)	4	3	4	4	20+	B2	Fair	Estimated DBH. Located in private garden. Historic branch tear out on southern aspect at 3 metres.	No works recommended at present.	163	7.2
T39	Sweet Chestnut	M	9	550 (Est.)	4	5	5	4	20+	B2	Fair	Estimated DBH. Located in private garden. Woodpecker holes located on southern aspect at 2.5 metres and 3.5 metres. Minor amount of	Monitor condition annually.	137	6.6

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
												deadwood present in canopy. Fair vitality.			
T40	English Oak	M	17	1090	10	14	11	6	40+	A2	Fair	Not plotted on topographical plan. Woodpecker hole at 3 metres. Fair tree. Forks at 2.5 metres. Only minor deadwood present good for age and species.	No works recommended at present.	539	13.1
T41	Elder	SM	4	141	3	3	2	1	10+	C2	Fair	Not plotted on topographical plan. Fair condition.	No works recommended at present.	9	1.7
T42	Walnut	EM	7	346	4	4	4	3	10+	C2	Fair	Not plotted on topographical plan. Tree forks at base with compression union. Both leaders then fork again at 1 metre. Fair vitality.	No works recommended at present.	55	4.2
T43	English Oak	M	13	700	9	7	7	4	20+	B2	Fair	Not plotted on topographical plan. Estimated DBH. Dense ivy throughout. Appears to sweep east at base. Fair vitality.	Sever and remove ivy to 1 metre to allow basal inspection.	222	8.4
T44	Sycamore	M	13	1100 (Est.)	10	9	9	9	40+	A2	Fair	Not plotted on topographical plan. Estimated DBH. Dense epicormic growth around base. Fair structure and vitality.	No works recommended at present.	547	13.2
T45	Sycamore	M	11	566 (Est.)	4	3	4	3	10+	C2	Fair	Not plotted on topographical plan. Estimated DBH. Dense ivy to top of canopy. Located on edge of worn path.	No works recommended at present.	145	6.8
T46	Ash	M	12	541	6	6	3	0	<10	U	Poor	Not plotted on topographical plan. Located behind low boundary fence. Base is severely decayed. Limited	Notify owner of condition. Recommend to remove.	/	/

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
												arboricultural value. Limited arboricultural value. Stem leaning significantly over site. Ivy present throughout.			
T47	Sycamore	M	16	1800 (Est.)	10	9	6	8	40+	A2	Fair	Not plotted on topographical plan. Estimated DBH at 0.5 metres. 3 codominant stems fused together. Typical minor amount of deadwood and snapped branching for species. Top of canopy is sparse compared to lower/central canopy. Minor ivy presence.	No works recommended at present.	707	15
T48	Ash	M	13	500	10	9	6	8	10+	C2	Poor	Not plotted on topographical plan. Ivy present to 8 metres. Low vitality. Sparse canopy. Tree forks at 1 metre.	No works recommended at present.	113	6
T49	Ash	M	12	743 (Est.)	6	7	6	5	10+	C2	Poor	Estimated DBH. Dense ivy to 9 metres. Compression fork at base. Frequent minor deadwood throughout. Low number of buds. Sparse canopy.	Sever and remove ivy to 1 metre to allow basal inspection.	249	8.9
T50	Hawthorn	M	6	430	4	4	2	3	10+	C2	Fair	Multi-stemmed fused together. Dense canopy.	No works recommended at present.	85	5.2
T51	Wych Elm	M	6	233	2	1	1	1	10+	C2	Poor	Dense ivy throughout. Slight lean to north. Canopy is shaded out. Iron fence included within tree union on southern aspect.	No works recommended at present.	25	2.8
T52	Ash	M	10	440	7	1	0	5	10+	C2	Poor	Dense ivy throughout. Leans over site boundary to north.	Sever and remove ivy to 1 metre to	88	5.3

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
												Low vitality. Sparse canopy. Frequent moderate deadwood within canopy. Iron fence included at 1 metre on southern aspect.	allow basal inspection. Remove deadwood >25mm throughout. Biennial monitoring of lean and condition.		
T53	Sycamore	M	13	504	4	3	2	2	10+	C2	Poor	Tree forks at 1 metre. Dense ivy throughout. Slender stem. Narrow canopy due to shading from offsite group. Moderate deadwood within canopy over path to south.	Sever and remove ivy to 1 metre to allow basal inspection. Remove deadwood >25mm from over adjacent pathway.	113	6
T54	Hawthorn	M	5	206	1	1	1	4	10+	C2	Fair	Not plotted on topographical plan. Ivy present throughout. Canopy weighted to west. 2 minor leaders snapped at 2 metres.	No works recommended at present.	20	2.5
T55	Small-leaved Lime	M	20	1000 (Est.)	8	8	8	5	40+	A2	Fair	Not plotted on topographical plan. Estimated DBH. Located on private driveway. Large single stem. Some epicormic growth around base. Fair condition. Limited VTA.	No works recommended at present.	452	12
T56	Holly	M	6	532	3	3	1	3	10+	C2	Poor	Dense ivy at base and throughout canopy. Estimated DBH. Stems appear fused at base. Metal fence included at base on southern aspect.	No works recommended at present.	129	6.4

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
T57	Hawthorn	M	5	219	2	2	1	2	10+	C2	Poor	Dense ivy throughout. Limited canopy.	No works recommended at present.	21	2.6
T58	Elder	M	3	135	2	2	1	1	10+	C2	Poor	Not plotted on topographical plan. Dense ivy throughout. Limited canopy. Canopy shaded out.	No works recommended at present.	8	1.6
T59	Hawthorn	M	4	190	2	3	2	4	10+	C2	Fair	Not plotted on topographical plan. Fair canopy vitality. Multi-stemmed from base. Metal fence located at base of tree, not yet included.	No works recommended at present.	17	2.3
T60	Hawthorn	M	6	313	3	2	1	2	10+	C2	Fair	Ivy present on main stem. Minor decaying stem from base. Metal fence included on southern aspect. Canopy weighted north.	No works recommended at present.	45	3.8
T61	Locust Tree	M	9	360	4	3	2	2	10+	C2	Fair	Ivy present to 4 metres. Metal fence included to 1 metre. Frequent amount of new buds.	No works recommended at present.	58	4.3
T62	Sycamore	M	11	280	2	3	4	4	20+	B2	Fair	Not plotted. Most southerly tree in group. Fair structure and vitality.	No works recommended at present.	36	3.4
T63	Sycamore	M	13	586	3	4	4	6	20+	B2	Fair	Not plotted on topographical plan. Multi-stemmed from base. One stem historically removed, with stub decaying. 2 other stems fusing at 1 metre. Ivy present to 6 metres.	No works recommended at present.	154	7
T64	Lombardy Poplar	M	18	690	3	4	2	3	20+	B2	Fair	Not plotted on topographical plan. Road side screening	No works recommended at present.	216	8.3

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
												tree. Fair structure and vitality.			
T65	Lombardy Poplar	M	7	550	2	1	0	1	<10	U	Poor	Not plotted on topographical plan. Top blown out at 3 metres. Only 2 minor branches remaining.	Retain as habitat in existing form.	/	/
T66	Lombardy Poplar	M	14	560	2	4	2	3	10+	C2	Poor	Not plotted on topographical plan. Roadside screening tree. Exudate evident at 4 metres on southern aspect. Historic branch blown out at 5 metres with decay present. One broken leader at 7 metres. Fair vitality of remaining stems.	Monitor condition on annual basis.	141	6.7
T67	Lombardy Poplar	M	14	500	2	3	2	1	<10	U	Poor	Not plotted on topographical plan. Roadside screening. Large open cavity at base reaching upwards to a depth of >1 metre. Stem decayed throughout to 4 metres. Canopy weighted to east. Slight lean to east. No present targets, but within proximity to adjacent road.	Reduce to 4 metre habitat pole.	/	/
T68	Lombardy Poplar	M	14	570	2	3	2	2	20+	B2	Fair	Road side screening tree. Fair structure and vitality.	No works recommended at present.	145	6.8
T69	Lombardy Poplar	M	16	720	2	3	2	2	20+	B2	Fair	Road side screening tree. Fair structure and vitality.	No works recommended at present.	232	8.6
T70	Locust Tree	M	10	545	3	5	5	5	10+	C2	Fair	Tree forks at 0.5 metres. Ivy present to 5 metres. Frequent minor deadwood within canopy. No present	No works recommended at present.	133	6.5

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
												targets. Fair amount of new growth.			
T71	Locust Tree	M	10	556	4	7	3	4	10+	C2	Fair	Tree forks at base. Fair structure and vitality. Frequent new growth.	No works recommended at present.	141	6.7
G3	Sweet Chestnut, English Oak, Ash, Hawthorn	M	12 (Avg. Est.)	500 (Avg. Est.)	/	/	/	/	40+	A2	Fair	Offsite group located in private garden. Predominantly sweet chestnut. Some historic pruning points on southern canopy. Typical amount of deadwood present for age and species.	No works recommended at present.	/	6
G4	Holly, Scots Pine, Wild Cherry, Elder, Hawthorn, Sycamore, Lawson Cypress	EM	6 (Avg. Est.)	250 (Avg. Est.)	/	/	/	/	20+	B2	Fair	Some larger mature pines within group. Canopy is manicured on western aspect. Limited VTA on main stems within group due to location within private garden. Dense.	No works recommended at present.	/	3
G5	Sycamore, Ash, Hawthorn, Yew, Sweet Chestnut	M	11 (Avg. Est.)	400 (Avg. Est.)	/	/	/	/	20+	B2	Poor	Frequent dead stems within. Frequent moderate and large deadwood throughout group. Utilities cables running within canopy on southern aspect of group. Predominantly sweet chestnut.	Habitat pole dead stems throughout to 4 metres. Remove deadwood >25mm in conflict with overhead utilities cables.	/	4.8
G6	Ash, Sycamore, Hawthorn, Hazel, Small-leaved Lime, Elder, Field Maple, English Oak, Laburnum	M	10 (Avg. Est.)	300 (Avg. Est.)	/	/	/	/	20+	B2	Fair	Fair form, structure and vitality throughout group. Evidence of canopy raising to 3 metres along eastern edge of group. Continuous canopy. Predominantly sycamore.	No works recommended at present.	/	3.6

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m)				Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
					N	E	S	W							
G7	Ash, Sycamore, Elder, Holly, Yew, Atlantic Cedar	M	16 (Avg. Est.)	550 (Avg. Est.)	/	/	/	/	40+	A2	Fair	Group located on private drive. Offsite. Fair overall structure and vitality. Predominantly sycamore with holly understory. Driveway screening benefit. Some main stems located within private garden. Limited VTA on stems.	No works recommended at present.	/	6.6
G8	Sycamore, Elder, Small-leaved Lime, Holly, Wild Cherry	M	13 (Avg. Est.)	400 (Avg. Est.)	/	/	/	/	20+	B2	Fair	Group located on private drive. Offsite. Fair overall structure and vitality. Large small leaved lime within group. Large 6 metre habitat pole within group. Dense holly and ornamental understory.	No works recommended at present.	/	4.8
G9	Wych Elm, Ash, Sycamore, Elder	M	12 (Avg. Est.)	400 (Avg. Est.)	/	/	/	/	20+	B2	Fair	Group located on private drive. Offsite. Fair overall structure and vitality. Predominantly sycamores with young saplings of elm and elder understory. Some low hanging branches over adjacent driveway to north.	Future canopy clearance over drive where/when necessary.	/	4.8
G10	Ash, Sycamore, Hawthorn, Hazel, Elder, Field Maple, Holly, English Oak, Beech	M	12 (Avg. Est.)	600 (Avg. Est.)	/	/	/	/	40+	A2	Fair	Site boundary group. Located offsite behind low fence. Predominantly sycamore with large beech trees within. Eastern edge trees average 300mm DBH with average DBH of group 600mm.	No works recommended at present.	/	7.2
G11	Ash, Sycamore, Hawthorn, Hazel, Elder,	M	9 (Avg. Est.)	500 (Avg. Est.)	/	/	/	/	20+	B2	Fair	Site boundary group. Fair structure, form and vitality	No works recommended at present.	/	6

Tree Nº	Species	Age	Height (m)	Dia. (mm)	Crown Spread (m) N	E	S	W	Life Exp.	Cat.	Cond.	General Observations	Preliminary Management Recommendations	RPA (m^2)	RPA Radius (m)
	Field Maple, Holly, English Oak											throughout. Predominantly sycamore.			
G12	Sycamore, Ash, Blackthorn, Wild Cherry, Hawthorn	SM	6 (Avg. Est.)	100 (Avg. Est.)	/	/	/	/	10+	C2	Fair	Overgrown hedgerow section. Scrubby form. Gappy. Dense nettles and brambles throughout.	No works recommended at present.	/	1.2
H2	Hawthorn, Hazel, Sycamore, Goat Willow, Blackthorn, Silver Birch	Y	2.5 (Avg. Est.)	50 (Avg. Est.)	/	/	/	/	10+	C1	Fair	Field compartment planted hedgerow. Young trees. Dense canopy towards north. Fair vitality throughout.	No works recommended at present.	/	0.6
H3	Holly, Elder, Hawthorn, Cherry Laurel, Wayfaring tree.	SM	3 (Avg. Est.)	100 (Avg. Est.)	/	/	/	/	10+	C2	Fair	Garden screening hedgerow. Well maintained in areas. Dense. Rose, coralberry and ornamentals within.	No works recommended at present.	/	1.2
H4	Sycamore, Hawthorn, Ash, Crab Apple, Goat Willow, Pear, Elder	SM	4 (Avg. Est.)	100 (Avg. Est.)	/	/	/	/	10+	C2	Fair	Hedgerow located behind low boundary fence. Uniform height throughout. Predominantly hawthorn and sycamore. Some ivy present within. Fair vitality throughout. Fair continuity.	No works recommended at present.	/	1.2

Tree Schedule Key:

Reference:	Description:
Tree No.	Sequential reference number as recoded within the Tree Constraints Plan (and subsequent plans). T: Individual Tree G: Group of trees H: Hedgerow W: Woodland
Species	Common name (list of scientific names will be included within the appendix within the arboricultural impact assessment or can be provided upon request).
Age	Y: Young (usually self-seeded or recently planted) SM: Semi-mature (within its first one third of life expectancy) M: Mature (within its final one third of life expectancy) OM: Over-mature (having reached its maximum life span and now in declining) V: Veteran (veteran trees are survivors that have developed some of the features associated with ancient trees. However, are usually only in their second or mature stage of life. A: Ancient (Ancient trees are irreplaceable. They have passed maturity, and as such are in their third and final life stage.)
Height	Estimated height calculated in metres
Diameter	Stem diameter measured to the nearest 10 millimetres at approximately 1.5m above ground level. For trees with more than one stem, the combined diameter is recorded as per BS5837:2012 Section 4.6. (Avg.): Average stem diameter for a group of trees (Est.): Estimate stem diameter due to no access for exact measuring (e.g. offsite or inaccessible)
Crown Spread	Radial crown spread measured to the nearest metre from the centre of the trunk, for each of the four cardinal points
Life Expectancy	An estimate of the remaining life expectancy of the tree, given its condition during the survey taking into account the context of the site <10: Less than 10 years 10+: More than 10 years 20+: More than 20 years 40+: More than 40 years
Category	Quality and value grade classification according to the British Standard 5837:2012 as per section 4.5 and Table 1

Category (continued)	A: Trees of high arboricultural value (typically with 40+ years life expectancy) B: Trees of moderate arboricultural value (typically with 20+ years life expectancy) C: Trees of low arboricultural value (typically with 10+ years of life expectancy) U: Trees unsuitable for retention (typically due to poor condition with <10 years of life expectancy) Subcategory: 1: Mainly arboricultural qualities 2: Mainly landscape/ amenity qualities 3: Mainly cultural values/ habitat value/ conservation value
Condition	A visual assessment considering both the physiological and structural condition of the tree, categorised as per the below: Fair: Generally in good health given the age and context of the tree with no significant defects Poor: Generally poor health (including structurally) which can't be remediated Dead: Dead tree
General Observations	Comments on the tree resulting from the visual tree inspection
Preliminary Management Recommendations	In light of the condition, location, and context of the tree, preliminary management recommendations may be provided resulting from the visual tree inspection. These are recommended solely in the context of the current site use and are considered to be good arboricultural management irrespective of any development proposals which may be in place on the site, or currently being considered.
RPA	Root Protection Areas are calculated in square metres (m2) following the recommendations within BS5837:2012 Section 4.6. They are detailed on the Tree Constraints Plan as a circle centred on the base of the stem
RPA Radius	The Root Protection Area Radius is calculated in metres and is the distance from the base of the tree to the edge of the root protection area

NOTES:

i. Any survey work undertaken will have been subject to natural limitations, including seasonal and phenological aspects.
ii. Trees were assessed from ground level using the Visual Tree Assessment (VTA) method. The trees included in the survey were not climbed, no samples were removed, and no detailed internal investigation of decay was made.
iii. Where other vegetation (e.g. ivy or dense ground cover) prevented full access to any tree, this is noted in the tree survey schedule. Dense ivy cover can prevent full access to a tree and so obscure the presence of cavities or other defects. Any such situations are noted in the tree survey schedule with, where appropriate, recommendations for the ivy to be removed and a re-inspection carried out. No ivy was removed from any tree during the survey.
iv. Tree rooting characteristics and soils are both enormously variable as are their interactions. This makes any attempts to quantify tree related subsidence risk assessment impossible. No attempt has been made to assess subsidence risk potential nor should any be construed.
v. Only individual trees with a stem diameter of 75mm or greater are included in the survey. It is not always practical or necessary to record individual details for every tree within a group or woodland. Should any relevant trees on or adjacent to the site have been missed on the topographical survey, these have been included where appropriate. However, the positions indicated on any plans included within this report for all trees not included on the provided topographical survey have been approximated for the purposes of identification only, and if accurate locations are required these should be confirmed on site.

Appendix B: Key to Species Scientific Names

Common Name	Scientific Name
Ash	*Fraxinus excelsior*
Atlantic cedar	*Cedrus atlantica*
Austrian pine	*Pinus nigra*
Beech	*Fagus sylvatica*
Bird cherry	*Prunus padus*
Blackthorn	*Prunus spinosa*
Cherry laurel	*Prunus laurocerasus*
Crab apple	*Malus sylvestris*
Damson	*Prunus domestica*
English oak	*Quercus robur*
Elder	*Sambucus nigra*
Field maple	*Acer campestre*
Goat willow	*Salix caprea*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Hornbeam	*Carpinus betulus*
Laburnum	*Laburnum anagyroides*
Lawson cypress	*Chamaecyparis lawsoniana*
Locust tree	*Robinia pseudoacacia*
Lombardy poplar	*Populus nigra* 'Italica'
Norway maple	*Acer platanoides*
Pear	*Pyrus*
Scots pine	*Pinus sylvestris*
Silver birch	*Betula pendula*
Small-leaved lime	*Tilia cordata*
Sycamore	*Acer pseudoplatanus*
Sweet chestnut	*Castanea sativa*
Walnut	*Juglans regia*
Wayfaring tree	*Viburnum lantana*
Wild cherry	*Prunus avium*
Wych elm	*Ulmus glabra*
Yew	*Taxus baccata*

Appendix C: Tree Constraints Plan – RSE_9340_TCP1_V1

Note: The following trees were not plotted on the provided topographical survey: T20-T23, T28, T29, T35-T37, T40-T48, T54, T55, T58, T59 and T62-T67. The positions for these trees as shown on this plan are therefore indicative only and should be confirmed on site if accurate locations are required.

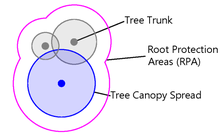
LEGEND:

TX/A — Category A - Trees of High Quality

TX/B — Category B - Trees of Moderate Quality

TX/C — Category C - Trees of Low Quality

TX/U — Category U - Trees Unsuitable for Retention



RammSanderson ARBORICULTURE

Client :
Richborough Estates Limited

Project:
Wrotham Road, Meopham

Drawing Title :
Tree Constraints Plan

Drg No.	Rev :
RSE_9340_TCP1	V1

Drn By :	Scale :	Date :
LJB	1:1250@A1	21/06/2025

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Appendix D: Tree Protection Plan – RSE_9340_TPP1_V3

Hard Surfacing Within the Root Protection Area

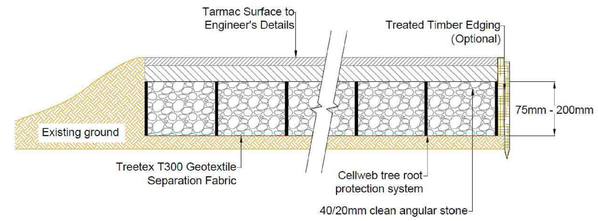
All new hard surfacing within the root protection area (RPA) is to be constructed using a three-dimensional cellular confinement system (for example Cellweb TRP), incorporating geotextile or impermeable barriers as appropriate and installed using a 'no-dig' technique, as detailed in BS837:2012 Section 7.4.

For areas of new hard surfacing, the design will not permit excavation into the soil other that the removal, using hand tools, of any turf layer or other surface vegetation.

The removal of any existing hard surfaces will be carried out with care, using hand tools as much as possible. Where this is not practicable, a small excavator will used to remove the top surface, working backwards from the existing tarmac in order that no vehicles drive on the underlying soil, once exposed.

For new hard surfaces, the underlying soil structure will be protected from compaction during construction by a combination of appropriate temporary ground protection and by 'rolling out' the new surface by working forward from the surface as it is constructed.

The structure of the hard surface will be designed to avoid localised compaction and in all cases, a structural engineer should confirm that the design is suitable for the anticipated vehicle loads it will be subjected to. The finished tarmac surface will be permeable and able to resist deformation by tree roots.

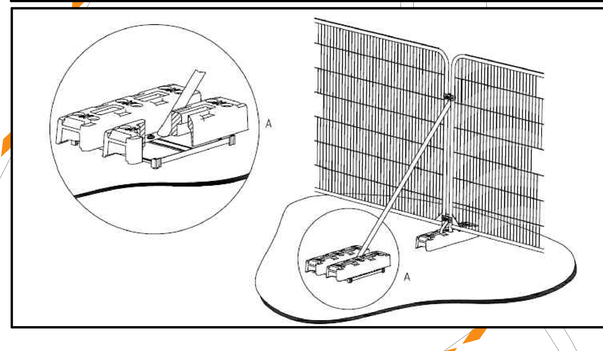


Tree Protection Fencing

Tree protection fencing is to be installed at the positions shown at the commencement of works, before any ground works or soil stripping are carried out and before vehicles or materials are brought onto site.

The fencing will consist of a robust framework which is well braced to resist impacts as shown. The areas enclosed are to be maintained as a total exclusion zone to all construction activity. All-weather warning notices will be attached to the fencing to clearly identify the area as a tree protection exclusion zone into which access is not permitted.

No working activity, storage of materials, ground level changes, excavations or vehicular access is permitted within the protected area. Once erected, the protected area are to be regarded as sacrosanct and the fencing must not be removed or altered unless recommended by the project Arboriculturist and, where necessary, approval from the local planning authority.



LEGEND:

- TX/A — Category A - Trees of High Quality
- TX/B — Category B - Trees of Moderate Quality
- TX/C — Category C - Trees of Low Quality
- TX/U — Trees Proposed for Removal
- Tree Trunk
- Tree Canopy Spread
- Tree Protection Fencing
- 'No-dig' / 3D cellular confinement system to be used for new hardstanding.

RammSanderson ARBORICULTURE

Client :
Richborough Estates Limited

Project:
Land East of Wrotham Road, Meopham

Drawing Title :
Tree Protection Plan

Drg No.	Rev :
RSE_9340_TPP1	V3

Drn By :	Scale :	Date :
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