

Tree Planning Solutions

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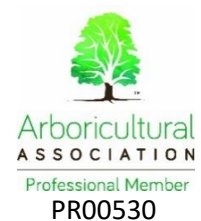
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Arboricultural Impact Assessment and Method Statements

For

Land at 3 Elms Cottage, Copdock, Ipswich, Suffolk

| | |
|----------------------|-------------------------------|
| Date | 23 rd April 2023 |
| Client | BG Designs |
| Report by | Mr James Choat BSc, M Arbor A |
| Site | 3 Elms Cottage |
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1. Summary

- 1.1.1 Tree Planning Solutions received instruction from BG Designs to complete a suitable arboricultural site survey and produce this subsequent arboricultural impact assessment (AIA) for an area of land at 3 Elms Cottage, Copdock, Ipswich, Suffolk.
- 1.1.2 Trees are a material consideration during the planning application process and require specialist input at the design stage to ensure the success for the end use of the proposed development whilst retaining the best tree specimens. Generally, local authorities provide local plan policies for planning applicants with regards to the suitable retention and protection criteria for trees during the application process and subsequent construction phase, and the level of detail that will be required to determine the application - details can be found on the local authority web site. Central government provide 'The National Planning Policy Framework' (NPPF 2021), which provides specific details of application acceptability; paragraphs 131 and 179 specifically relate to tree retention, biodiversity, habitat including trees and woodlands. Consultants providing arboricultural impact assessment (AIA) apply British Standard 5837 2012 criteria to demonstrate the suitable retention, design and protection of trees during the application / design process. The completed assessment forms part of the application detail and will aid the Planning Authorities decision with regard to the impact of the proposed development on the existing tree stock and local landscape character.
- 1.1.3 The survey and this report are provided in support of a planning application for the construction of a detached garage.
- 1.1.4 The site was surveyed on the 21st April 2023, the weather was dry with a light wind, conditions for surveying trees were good. 4 individual trees and 2 tree groups were surveyed as part of the assessment for trees that could be affected either directly or indirectly by the construction of the proposed development.
- 1.1.5 The report provides the following information and data in accordance with the criteria provided within BS 5837 2012 '*Trees in relation to design, demolition and construction Recommendations*'

- Tree survey and schedule
- Tree constraints data and plan
- Arboricultural Impact Assessment
- Arboricultural Method Statement and Tree Protection Plan

1.1.6 This report pays particular reference to:

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ British Standard 5837 2012 ▪ British Standard 3998 2010 ▪ NHBC CH 4.2 ▪ NJUG 4 ▪ NPPF 2021 | <ul style="list-style-type: none"> Trees in relation to design, demolition and construction Recommendations Recommendations for tree work Building near trees National Joint Utilities Group ‘Working Near Trees’ National Planning Policy Framework |
|--|---|

1.2 Statutory protection

1.2.1 Babergh District Council GIS constraints data was checked 24/04/23, the adjacent site on the shared boundary is subject to a tree preservation order (TPO) No. BT117A/G6 G6 – Group of 3 Oak and 2 Lime, the site is not situated within a designated conservation area (CA). It is recommended the applicant obtain written consent from Babergh District Council and where applicable the Forestry Commission, before carrying out recommendations contained within this report. Furthermore, no works should be carried out to any 3rd party tree(s) without first obtaining consent from the owner(s) of the tree(s).

1.2.2 Multi agency nature on the map GIS data (MAGIC) was checked 24/04/23, specifically data sets for land designations and habitats (woodlands). The site is subject to a site of special scientific interest impact zones – Hintlesham Woods SSSI and Bobbitshole Belstead SSSI.

1.3 Limitations

1.3.1 The applicant has supplied a plan of the existing and proposed (desired) site, no further information has been provided.

The following plans have been provided with the instruction for this report:

- Existing layout drawing provided by BG Designs Ref A1 102303-9P
- Proposed layout/concept drawing provided by BG Designs Ref A1 102303-9P

1.3.2 This survey is for the purpose of determining the impact of the development upon existing trees; it is not a detailed tree condition survey and should not be used as such. All trees have been assessed from ground level; no aerial or below ground parts have been inspected in detail.

1.3.3 The survey remains valid for 12 months. If during 12 months following the tree survey adverse weather conditions have occurred, or the site environment changed in any form, it is recommended the trees be reassessed.

1.3.4 The content of this report remains the property of Tree Planning Solutions unless otherwise stated. This report is not to be copied without written consent from Tree Planning Solutions.

1.3.5 The consultant is a qualified arboriculturist, occasionally opinions and views are provided regarding buildings and structures, the consultant is not a qualified buildings surveyor or structural engineer and therefore all opinions and views should be supported by a qualified structural/building engineer.

1.4 Qualifications

1.4.1 The consultant has been working within the Arboricultural industry for 24 years as a tree surgeon, tree officer and consultant. Knowledge and experience are regularly updated by attending industry related seminars and courses. Continued professional development is

verified by professional membership to the Arboricultural Association (membership No. PR00530), CPD is updated on-line, a record can be provided upon request.

1.4.2 The consultant holds a Bachelor of Science (BSc) degree in Rural Resource Development, a Higher National Diploma (HND) in Rural Resource Management, the Lantra Professional Tree Inspection Award, the RFS Level 2 Certificate in Arboriculture, level 3 certificate in Ecology and is a registered user of Quantified Tree Risk Assessment (QTRA).

2.1 The site

2.2 Site description

2.2.1 The site is located centrally within the village of Copdock and accessed from Old London Road via a crossover providing vehicular access to the site. The site is situated within an urban position with limited number of tree features / canopy cover. The trees subject of this report are situated to and beyond the boundary of the application site. The application site contains the following built structures – detached dwelling and garage. The application site consists of the following habitat / green features –improved grass, shrubs and standard trees.

2.3 Topographical survey

2.3.1 A topographical survey was not provided with the instruction for this project. The site is generally flat with no significant changes in levels that will influence root orientation or morphology, it is therefore reasonable to assume the root protection areas will be normal in terms of size and shape. Various inspection chambers were recorded during the survey, the date of construction/servicing is not known, it is not known therefore whether the below ground services are affecting / have previously affected the rooting zone of the trees. Overhead services were not recorded during the tree survey.

2.4 Soils

2.4.1 British Soil Geology Maps scaled at 1:50,000 show the site to be situated on bedrock of Red Crag Formation – Sand and superficial deposit of Lowestoft Formation – Diamicton. Sand and gravel soil texture is likely to offer a deeper rooting environment than that of clay as the roots can easily penetrate and explore sandy soils with little resistance, clay like soils tend to restrict root exploration. Clay soils can be modified by moisture, either reduced or increased in volume by fluctuations in moisture content, such fluctuations can influence how structures perform and therefore may require additional, engineered support to improve the stability or the structure. Local variations and differing soil seams of superficial and bedrock deposits do occur, differing bedrock and superficial deposits will have a different soil texture and structure to those described above and will perform differently. It is recommended core samples be obtained to determine the exact soil texture at the site.

Part 1 Tree Survey, Constraints and Impact Assessment

3.1 Tree survey and schedule

3.1.1 The tree schedule provides an account of all the trees at or adjacent to the site and is written on to a tabular form. Each tree is given a reference number (T1, T2, T3, G1 etc) that is plotted on to a tree survey plan to be cross-referenced with the tabular form. Contained within the schedule are the dimensions of each individual tree and any notable physiological or mechanical defects. An estimated life expectancy is derived from the condition and context of the tree and then graded for the retention suitability. The tabular form can be found in appendix 1 with explanatory notes for each column heading. The tree survey plan can be found in appendix 2. Provided below is a table of the existing trees, their current condition and British Standard 5837 category grading. The categories for retention are; A - high value, B - moderate value, C - low value and U - unable to be retained as a living tree, each category is given a colour code for use with the tree survey plan (appendix 2), A - Green, B- Blue, C - Grey and U- Red. There are further sub-categories used alongside the categorisation; 1 arboricultural, 2 landscape and 3 wildlife or historical values. A tree with more than 1 subcategory is considered more valuable than 1 with just 1, i.e. a tree categorised as B1/2/3 is more valuable than B1. British Standard 5837 recommends trees with a stem diameter of less than 150mm are categorised as C regardless of condition, form etc. it is assumed that a tree of this size can either be transplanted or replaced without any negative impact upon tree-based visual amenity. Veteran trees are automatically graded as category A due to their age and wildlife associations although they will likely contain significant defects, generally the defects are the microhabitats that increase their value.

Table 1 Tree condition table

| Tree ref | Species Common and Scientific | Age class | Observations | Category grading |
|----------|---|-----------|--|------------------|
| T1 | Lime <i>Tilia x europaea</i> | M | 3rd party, unable to fully assess. Significant basal preventing full inspection. Recent pollard to 5m. | C1 |
| G1 | Lawson's Cypress <i>Chamaecyparis lawsoniana</i> | EM | 3rd party, unable to fully assess. Recently topped at 5m. | C1 |
| T2 | Lime <i>Tilia x europaea</i> | M | 3rd party. Significant basal preventing full inspection. Twin stem forming compression fork. Target pruned over boundary. Decay to lateral at 6m in central crown. 2 below bark wounds at 1.5m with bark detaching.. | B1/2 |
| G2 | Lawson's Cypress <i>Chamaecyparis lawsoniana</i> | EM | 3rd party, unable to fully assess. Recently topped at 5m. | C1 |

| Tree ref | Species Common and Scientific | Age class | Observations | Category grading |
|----------|-------------------------------|-----------|--|------------------|
| T3 | Oak Quercus robur | M | 3rd party. Recent target pruning over driveway area. | A1/2 |
| T4 | Oak Quercus robur | M | 3rd party. Occasional tear wounds within crown. | A1/2 |

3.2 Further discussion

3.2.1 Visual amenity value.

Visual tree amenity value of the surveyed tree features is good the trees can be seen clearly from the publicly maintained highway and footway, the trees range in height from 5m to 19m and are reasonably prominent features within the street scene.

3.2.1 Landscape value

The tree features provide good landscape value, the trees help screen the site and reduce the perceptual load of the built form and hard roof line at and beyond the site boundaries. The trees do not however form part of the historical landscape (hedgerow, pollards, coppice) or landform (ditches, ponds, woodland edge remnant etc). The trees are likely a remnant from a larger estate which has since been developed.

3.2.2 Wildlife value

The wildlife value is limited, the structural diversity and connectivity is poor, with limited field layer but reasonable sub and higher canopy layers which limits, breeding, migratory and navigational opportunity for less mobile fauna. The trees are a mix of native and non-native specimens, non-native trees tend to have limited numbers of associated native insects. The trees are mature specimens with a reasonable number of microhabitats, these tend to favour older / veteran specimens.

3.2.3 Condition

Trees T1 and T2 could not be assessed due to significant basal growth and 3rd party ownership. No significant defects were noted on the remaining trees.

3.2.4 Provided below is the British Standard 5837 categorisations with total number of surveyed trees for each corresponding categorisation:

A = 2

B = 1

C = 3

U = 0

- 3.2.5 All category A trees should be retained. The development design should seek to accommodate such trees using special construction techniques and design modification. There should be only very minor work within the RPA and only minor crown works, generally those required to improve the condition of the tree. Category A trees are those that offer a significant contribution to the amenity and character of the area, they have a long-life expectancy and contain very few defects.
- 3.2.6 The majority of category B trees should be retained where their long-term retention is achievable. A mixture of tree works, design modification and special construction techniques should be employed to accommodate category B trees. Generally, category B trees have a life expectancy over 20 years and offer a medium to long-term contribution to the amenity/character of the area. Category B trees contain occasional defects that can be remedied with suitable tree works.
- 3.2.7 The category C trees are desirable for retention in the short term. Generally, category C trees have a life expectancy of less than 10 years and would be acceptable to remove once new planting is established. Category C trees contain many defects that are likely to reduce the long-term life expectancy of the tree. Category C trees do not add to the character or visual amenity of the area.

Photo 1 Trees T1 and G1



Photo 2 Trees T2, T3 and G2



4.1 Tree constraints

4.1.1 The above and below ground tree constraints are represented by the present crown spread and root protection areas (RPA) of each retained tree. British Standard 5837 provides a calculation for root protection areas for both single and multi-stem trees. The constraints are plotted to a site plan around each individual tree; the constraints plan is used to influence site layout and further clarifies tree retention or removal. The constraints plan can be found in appendix 2. Further consideration should be given to the future growth potential for each retained tree; the table below provides estimated growth rates that should be considered when achieving a suitable design layout.

4.1.2 Provided below is a constraints table that provides data for the radial distance required for the RPA, the present height and spread of the tree, the future increase in height and spread of the tree in 10 years and tree management considerations.

Table 2 Tree constraints table

| Tree ref | Species Common and Scientific | Height in m | Stem diameter in mm | Radial distance required for RPA | Branch spread | | | | Height of crown clearance in m | Estimated increase in crown height in M in 10 years. | Estimated increase in crown spread in M in 10 years. | Management considerations |
|----------|---|-------------|---------------------|----------------------------------|---------------|---|---|---|--------------------------------|--|--|---|
| | | | | | N | E | S | W | | | | |
| T1 | Lime Tilia x europaea | 5 | 700 | 8.4 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | Maintained as a high pollard |
| G1 | Lawson's Cypress Chamaecyparis lawsoniana | 5 | 150 | 1.8 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | Recently topped |
| T2 | Lime Tilia x europaea | 17 | 800 | 9.6 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | Likely to require crown management in near future |
| G2 | Lawson's Cypress Chamaecyparis lawsoniana | 5 | 150 | 1.8 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | Previously topped / managed |
| T3 | Oak Quercus robur | 19 | 980 | 11.76 | 6 | 6 | 6 | 6 | 7 | 2 | 2 | None |
| T4 | Oak Quercus robur | 19 | 1000 | 12 | 6 | 6 | 6 | 6 | 7 | 2 | 2 | None |

5.1 Arboricultural impact assessment

5.1.1 Provided below is an assessment of the impact of the development on each individual tree and any design requirements for the site. Such factors include tree preservation orders, tree amenity, tree retention, removal of structures within RPA, infrastructure requirements, construction of infrastructure, end use of space, tree loss / new planting, veteran/aged tree assessment, light issues, proximity to structures, relationship with new homeowners and tree nuisance.

Table 3 Arboricultural Impact Assessment

| Tree Ref | TPO/CA/other statutory protection. Amenity assessment. Retention recommendation. | Removal of existing structures and hard surfacing within RPA | Proposed Infrastructure within RPA | Construction methods for proposed infrastructure | End use of space | Shading and light | Proximity to structures | Future pressure for tree removal/works | Seasonal tree nuisance |
|---------------|---|--|--|---|--|--|---|---|--|
| T1, G1 and G2 | <ul style="list-style-type: none"> • Babergh planning GIS checked 24/04/23 Tree T1 subject to TPO, site not subject to CA. • MAGIC GIS checked 24/04/23 – site subject to SSSI impact zones. • Reasonable amenity, landscape and wildlife value. • Trees recommended for retention. | N/a | N/a | N/a | <ul style="list-style-type: none"> • Amenity spaces and access / parking area not constrained by the retained trees. • Cyclical reduction pruning is likely in the future to manage the crown structure / pollard. | <ul style="list-style-type: none"> • Non-habitable space. • Shading to occur in late afternoon / evening, unlikely to affect the use of the space. | <ul style="list-style-type: none"> • Cyclical reduction pruning is likely in the future to manage the crown structure / pollard | <ul style="list-style-type: none"> • Low. No significant nuisance or loss of enjoyment of the proposal will occur due to the retained trees. | <ul style="list-style-type: none"> • Leaf and fruit dispersal • Nuisance of blocked drains, gutters etc. • Recommend use of guards as appropriate to prevent blockages occurring. • Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.). |
| T2, T3 and T4 | <ul style="list-style-type: none"> • Babergh planning GIS checked 24/04/23. Trees T2, T3 and T4 subject to TPO, site not subject to CA. • MAGIC GIS checked 24/04/23 – site subject to SSSI impact zones. • Good amenity and landscape value, reasonable wildlife value. • Trees recommended for retention. | <ul style="list-style-type: none"> • Removal of existing garage from within RPA of T3 and T4. • To be removed using handheld tools only. | <ul style="list-style-type: none"> • Proposed garage within RPA of T2 and T3. | <ul style="list-style-type: none"> • Least invasive foundation design such as raft or piled with the overriding aim of limiting the depth of excavation within the RPA. Structural engineer to advise, found should be no deeper than 300mm and all excavation within the RPA carried out using handheld tools only. | <ul style="list-style-type: none"> • Amenity spaces and access / parking area not constrained by the retained trees. • Cyclical reduction / target pruning is likely in the future to manage over parking / garage area. | <ul style="list-style-type: none"> • Non-habitable space. • Shading to occur in late afternoon / evening, unlikely to affect the use of the space. | <ul style="list-style-type: none"> • Cyclical reduction / target pruning is likely in the future to manage over parking / garage area. | <ul style="list-style-type: none"> • Low. No significant nuisance or loss of enjoyment of the proposal will occur due to the retained trees. | <ul style="list-style-type: none"> • Leaf and fruit dispersal • Nuisance of blocked drains, gutters etc. • Recommend use of guards as appropriate to prevent blockages occurring. • Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.). |

5.2 Further discussion

- 5.2.1 A pile and beam or reinforced concrete raft foundation design is recommended where the proposal falls within, or is very close to, the RPA. The overriding objective is to limit the amount of soil/root disturbance that may otherwise occur with traditional strip trench footings. If considering a piled design the design should allow for the smallest pile diameter for the applied load; this will enable a smaller piling rig to operate at the site easing constraints on space and soil compaction. All heavy plant operating within the RPA should operate on surface that will spread load such as pre-cast reinforced concrete slabs or composite boards over a suitable depth of compressible material 200-300mm of bark chip or 10mm shingle. The pile foundation connecting beam, or raft should be excavated using an air spade or hand excavated using an agreed method statement. Excavation should be no deeper than 300mm and where possible the beam / support should be provided above ground. Greater detail is to be provided by the project structural engineer. Trial excavation is recommended to locate structural roots or root mats, a pile plan should be designed to avoid contact with the located roots.
- 5.2.2 Below ground services for drainage, electricity, gas, water, telecoms, are to be located outside the RPA of the retained trees or connected to existing services within the site. If however, this is not viable then trenchless methods of working will be adopted, shallow trenching may be permitted although a trial trench should be prepared to determine the presence of roots to be affected and the impact upon the health of the tree affected. Overhead services such as lighting columns, electricity, telecoms, etc. are to be outside the present and future canopy spread, use of Table 2 'Tree Constraints' will aid design.
- 5.2.3 Guttering and drains will have guards to prevent leaf/fruit drain blockages. Where a significant loss of rainwater water is likely due to loss of natural soft surfaces, the rainwater drainage will be redirected into the soil area of the retained trees. The drainage will result in an even and slow distribution toward the rooting area, it will not cause waterlogged conditions or damage to the soil structure, structural engineer to advise further.

5.2.4 The information provided in the impact assessment and constraints advice has provided a basis for tree retention, works specification and construction techniques required. Further details for this can be found in the following sections of this report.

6.1 Tree removals and impact assessment

6.1.1 Provided below is a table of the trees to be removed. This is to be cross-referenced with the tree survey plan provided in appendix 2.

Table 4 Trees to be removed

| Trees to be removed | Reason for removal | Impact upon visual amenity |
|---------------------|--------------------|--|
| None | N/a | None. No trees are to be removed to facilitate construction of the proposed development. |

Part 2 Arboricultural Method Statement

7.1 Tree works specification

7.1.1 All tree works are to be completed as a starting phase of development unless otherwise stated.

7.1.2 All works are to be completed to BS3998 2010 'Recommendations for tree works'

7.1.3 Research suggests that tree works are better completed when the trees are using the least amount of energy and when conditions do not favour pathogens. It is recommended that the works specified below be carried out in midsummer July/early August or the dormant period Jan/Feb. Specifically, times of bud break and leaf abscission should be avoided. This may need further assessment for different species or for aged/veteran trees whose energy reserve and potential to kinetic ratio is susceptible to change from minor tree works. Where this is likely to occur, a separate management plan for that individual tree may be required.

7.1.4 Provided below is a table showing tree works specification. The key for works urgency can be found in Appendix 1 Explanatory notes.

Table 5 Tree works specification

| Tree ref | Species Common and Scientific | Age class | Tree works to facilitate construction and / or access to the site. | Preliminary management recommendations | Works urgency (Preliminary works only) | Category grading |
|----------|--|-----------|--|--|--|------------------|
| T1 | Lime <i>Tilia x europaea</i> | M | None | Maintain pollard every 5 to 8 years depending on vigour. | 3 | C1 |
| G1 | Lawson's Cypress <i>Chamaecyparis lawsoniana</i> | EM | None | None | 0 | C1 |
| T2 | Lime <i>Tilia x europaea</i> | M | Hand excavation and root pruning within RPA for construction of the founds for the proposed garage. See method statement provided in section 9 and tree protection plan appendix 5 | Reduce crown by 3 to 4m - high pollard | 3 | B1/2 |
| G2 | Lawson's Cypress <i>Chamaecyparis lawsoniana</i> | EM | None | None | 0 | C1 |

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| Tree ref | Species Common and Scientific | Age class | Tree works to facilitate construction and / or access to the site. | Preliminary management recommendations | Works urgency (Preliminary works only) | Category grading |
|----------|-------------------------------|-----------|---|--|--|------------------|
| T3 | Oak Quercus robur | M | Breakout existing garage base to original construction depth. See method statement provided in section 9 and tree protection plan appendix 5. Hand excavation and root pruning within RPA for construction of the foundations for the proposed garage. See method statement provided in section 9 and tree protection plan appendix 5 | None | 0 | A1/2 |
| T4 | Oak Quercus robur | M | Breakout existing garage base to original construction depth. See method statement provided in section 9 and tree protection plan appendix 5. | None | 0 | A1/2 |

8.1 Tree protection method statement

- 8.1.2 Tree protection is required to prevent physical damage to the stem, branch and crown structure. Tree protection is used also to prevent indirect damage caused by loads passing over the root protection area that would otherwise cause compaction of the soil. Soil compaction reduces soil pore space, which in turn reduces; soil air, available water and nutrients, the anaerobic environment will prevent healthy and strong root growth (elongation, thickening, mycorrhizal association, etc.). Prolonged anaerobic soil conditions will lead to longer term poor tree health with symptoms (crown die back, sparse crown, poor extension growth, etc.) not evident until well after the occurrence. The simplest and most effective way to prevent damage to any retained tree on the development site is the provision of a construction exclusion zone around the tree and its calculated rooting area.
- 8.1.2 The areas for protection will see the RPA confirmed on the ground with the erection of a scaffold frame with wire mesh attached (Please see appendix 3 Barrier protection construction profile, diagram 2). Where site personnel require access across the RPA, ground protection will be installed utilising scaffold boards laid on a compressible layer (100mm of woodchip) with geotextile membrane beneath, as per British Standard 5837 section 6.2.3.3 (see appendix 5 tree protection plan). Where plant less than 2 tonnes requires access across an RPA, the compressible layer as described above should be increased to 200-300mm and the scaffold boards substituted for composite boards fit for the applied load, plant above 2 tonnes should utilise reinforced concrete slabs or specialised track mats fit for the applied load.
- 8.1.3 The barrier protection will contain and display information highlighting the protected tree and consequences of any breach of tree protection. Please see appendix 4, example of informative to be placed on barrier protection.
- 8.1.4 The tree protection plan is shown in appendix 5. This shows; the RPA for each retained tree, the location of protective barriers/ground protection and areas for site storage and contractors parking.

9.1 Construction method statements

9.1.2 Provided in this section are arboricultural method statements primarily concerned with working within the RPA of the retained trees. The method statements are designed to minimise/remove any impact or damage/disturbance that may otherwise occur. The method statements provided should be distributed to all key staff involved with the development.

9.2 Excavation within the RPA

9.2.1 Excavation will be required within the RPA of T2, T3 and T4 as identified in the impact assessment section 5 and tree protection plan appendix 5 for the removal of the existing garage base and to prepare the levels for the foundations for the proposed garage. The method statement provided below is in accordance with British Standard 5837 section 7.2.

Sequential method statement for hand excavation and root pruning.

Note: The roof of the existing garage should be removed using handheld tools only. The walls should be pulled away from the RPA's or pushed inwards on the footprint of the garage, all debris should be hand barrowed and stored outside of the RPA's. The remaining base should be removed using the below method statement.

1. Hard surfacing / existing garage base – Break out using handheld concrete breakers to the original construction depth, assumed to be 200-300mm. Hand barrow and store all debris outside of RPA.
2. Soft surfaces / underlying soils - use an air spade or rake / fork to soften and break the underlying soils / soft surfaces. Carefully remove the loosened soils using handheld tools only (spade, shovel, soft brush, trowel), repeat the above until the excavation depth is reached (TBC by project structural engineer). Hand barrow and store all debris outside of RPA.
3. Where roots are pliable and will not be damaged by movement, push to side of pit or downward, pin with hazel rod or soil.
4. Any exposed roots should immediately be wrapped or covered in damp hessian to prevent desiccation and to protect them from rapid temperature changes.

5. If required, sever any roots with a diameter less than 25mm (use a sharp tool to provide a clean cut across the cross section near to a root junction/ growth point).
6. Avoid severing roots greater than 25mm or clumps of roots (root mats). If this is necessary, then request an arboriculturist to attend the site to assess likely impact upon tree health and future stability.
7. Prior to backfilling any roots should be removed from the protective wrapping and surrounded by sharp sand, or other loose granular fill, before soil or other material is replaced. The backfill is to be free from any contaminants or foreign objects.
8. Monitor tree health during next 2 growth seasons. Check leaf colour, size, density and extension growth.

9.3 Soft surfaces within RPA

9.3.1 Provided below is a method statement to avoid damaging/disturbance to the roots of the retained trees during soft landscape operations.

- Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they radiate from the stem of the tree from large buttresses. After around 4m radial distance structural roots tend to taper to around 3cm in diameter.
- No tractor mounted or heavy plant rotavating machinery is to be used unless working on surface fit for purpose to reduce/spread load and prevent soil compaction.
- Cultivation is to be completed using manual hand tools only.
- Existing soil is to be used, where additional soil is required it should be contaminant free, well drained and suitable PH, texture and structure for the site and planting/existing trees/shrubs.
- Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that provides continued soil conditions for gas exchange and water percolation.

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- Planting is to be done with care and to avoid severing tree roots; generally, planting should be completed outside the RPA.

10.1 General arboricultural considerations

10.1.1 Provided in this section are wider arboricultural considerations to be used either at the later design stage or when on-site with the contracting team. Further information contained within this section provides details on tree and associated wildlife legislation. The method statements provided should be distributed to all key staff involved with the development.

10.2 Storage

10.2.1 There is to be no storage within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

10.3 Contractors parking

10.3.1 There is to be no parking within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

10.4 Slope

10.4.1 All mixing and storage of materials/chemicals to be done on a pre-prepared flat/level surface with sealed sides to prevent any runoff. Storage of all chemicals/materials likely to cause harm to the trees should be in a sealed container or area with a bund to prevent run off if spillages occur. Site personnel are to have access to spillage treatment equipment.

10.5 Services

10.5.1 Methods for service run construction within the RPA are micro tunnelling, Surface launched directional drilling, pipe ramming and impact moling, method statements for these should be provided by the relevant utility companies. Shallow trenching may be

acceptable for minor services; if shallow trenching is required then hand excavation should be adopted using an approved method statement.

10.5.2 All overhead services to be located outside the present and future crown spread of the retained trees, use tree constraints table provided in section 4 to aid design.

10.6 Levels

10.6.1 No stripping or raising of levels within the RPA without consent from the local authority. If site levels need to be reduced the use of hand excavation or an air spade should be adopted using an approved method statement. If site levels are to be raised the material added should allow for water infiltration and gaseous exchange allowing the roots to carry out their normal biological function, the use of structural soil and below ground aeration system may be required depending on area and depth.

10.7 Development phasing

10.7.1 All contracting staff working at the site should be briefed on approved working practices and protection requirements for the retained trees.

10.7.2 The tree works specification should be completed following approval from the local authority.

10.7.3 Prior to the commencing of development the chosen arboriculturist should re-assess all retained trees and provide further assessment.

10.7.4 All barrier/ground protection should be erected/laid and confirmed as correct by the arboriculturist. All signs should be placed on the barriers at a height of 2m at 3m intervals.

10.7.5 Removal / demolition of buildings and bases, hand excavation to prepare site levels.

10.7.6 Barrier/ground protection altered after intensive phase of development.

10.7.7 Soft landscaping as final phase of development.

10.7.8 Barrier / ground protection removed following landscaping phase.



10.8 Monitoring

10.8.1 Site key personnel

Architect and Contractors

| Name | Position | Contact details |
|-------------|------------------|--------------------------|
| Builder TBC | | |
| BG Design | Lead consultants | bgdesigns@btinternet.com |

Planning Authority

| Name | Position | Contact details |
|--------------------------|--------------|-----------------------------|
| Babergh District Council | Tree Officer | david.pizzey@babergh.gov.uk |

Arboriculturist

| Name | Position | Contact details |
|-------------|---------------------------|--|
| James Choat | Arboricultural Consultant | 07813204621 |
| | | james@treeplanningsolutions.co.uk |

10.8.2 It is recommended that all trees and protection methods be monitored for the duration of development. A qualified arboriculturist will make a regular visit; the project arboriculturist is to carry out an assessment of tree health and protection condition and make recommendations when required.

10.8.3 Site specific monitoring

| Item | Number of visits required | Timing of visit |
|--|---|--|
| Pre-commencement site meeting with key personnel. (Contractor, site manager, architect). Tree works Tree protection installation (ground/barrier) as per tree protection plan and method statements within supplied arboricultural report. Identify area for contractors parking, site storage and access. Place 'exclusion zone' signs at 2m height, 3m intervals facing outwards on temporary fencing. | 1 – 2 depending on whether items can be completed on same day. | Meeting to be arranged between architect and site manager before construction phase. |
| Site visit during construction phase to monitor tree health and tree protection condition. | 3-2 specifically during hand excavation within the RPA of T2, T3 and T4 (removal of existing garage base and excavation for founds for the proposed garage. | During construction phase |
| Removal of tree protection. | 1 | After intensive construction phase |

10.8.4 The above is subject to the client/site manager informing the project staff of the proposed date for each development activity. Following each site visit a brief report (see appendix 6 arboricultural monitoring form) to be sent to the client and local authority within 24 hrs following the visit. Any incidents will be dealt with within 2 hours and to be reported to the project arboriculturist, photos to be provided via email and recommendations provided verbally, if required a site visit should be undertaken to provide further advice/ recommendations.

10.9 Incidents/variations

10.9.1 Planned

- Site manager to contact arboriculturist for any anticipated/planned variations
- Arboriculturist to assess impact upon trees and offer advice regarding alternative methods
- Arboriculturist to update tree officer providing details of variations

10.9.2 Non-planned

- Site manager to inform arboriculturist of incident
- Site manager to photograph incident and send to arboriculturist
- Arboriculturist to provide initial advice via telephone or email

- Arboriculturist to make site visit within 1 day to assess impact upon trees and offer advice to reduce/remove impact
- Arboriculturist to update the local authority tree officer providing details of incident and measure taken to reduce/remove impact.

10.10 Wildlife legislation

10.10.1 The Wildlife and Countryside Act 1981, The Habitats Directive 1994 (consolidated under Conservation of Habitats and Species Regulations 2017) and The Countryside and Rights of Way Act 2000. These acts protect certain species of flora and fauna; it is an offence to intentionally or recklessly destroy species or habitats contained within these acts. Trees, especially veteran or ancient, can support associated flora and fauna that is protected via the above legislation. It is recommended the applicant employ a suitably qualified ecologist to carry out a survey of the area to ensure no offence is committed. See the following link for further details.

<https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

10.11 Tree legislation

10.11.1 The Town and Country Planning Act 1990 (Trees Regulations 2012). It is an offence to cut down, uproot, lop, top, or cause wilful damage or destruction to a tree subject of a tree preservation order or conservation area. Such acts will lead to prosecution and if convicted a fine not exceeding £20,000 in the magistrate's court; if the case is referred to the crown court the fine may be unlimited. See the following link for further details.

<https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

10.11.2 Hedgerow regulations 1997 protect certain hedgerows from being removed (grubbed out), certain exemptions apply. A removal notice is required to be sent to the local authority before removing a hedgerow subject of the above regulations. See the following link for further details.

<http://www.legislation.gov.uk/ukxi/1997/1160/contents/made>

10.11.3 Forestry Act 1967 as amended - Felling licences are issued by the forestry commission, certain exemptions apply, you should check with the Forestry Commission that a licence is not required before felling trees. See the following link for further details.

<http://www.legislation.gov.uk/ukpga/1967/10/contents>

11.1 Conclusion

11.1.1 All surveyed trees have been categorised in accordance with British Standard 5837 2012.

Visual tree amenity value of the surveyed tree features is good the trees can be seen clearly from the publicly maintained highway and footway, the trees range in height from 5m to 19m and are reasonably prominent features within the street scene. The tree features provide good landscape value, the trees help screen the site and reduce the perceptual load of the built form and hard roof line at and beyond the site boundaries. The trees do not however form part of the historical landscape (hedgerow, pollards, coppice) or landform (ditches, ponds, woodland edge remnant etc). The trees are likely a remnant from a larger estate which has since been developed. The wildlife value is limited, the structural diversity and connectivity is poor, with limited field layer but reasonable sub and higher canopy layers which limits, breeding, migratory and navigational opportunity for less mobile fauna. The trees are a mix of native and non-native specimens, non-native trees tend to have limited numbers of associated native insects. The trees are mature specimens with a reasonable number of microhabitats, these tend to favour older / veteran specimens. Trees T1 and T2 could not be assessed due to significant basal growth and 3rd party ownership. No significant defects were noted on the remaining trees.

11.1.2A piled or raft foundation is recommended for the proposed garage with overriding aim of limiting the amount of excavation to reduce the impact of root disturbance / severance. The project structural engineer should advise further with regards to a suitable design, the excavation should however not exceed 300mm. A suitable method statement for hand excavation is provided that will limit the impact that would otherwise result from the use of heavy plant and mechanical excavation causing soil compaction, tearing of roots and unnecessary root loss. A suitable method statement is provided for the removal of the existing garage and base; again the overriding aim is to limit the impact that would otherwise occur from the use of heavy plant and mechanical removal. No further tree works are required to facilitate construction of the proposal or access to the site. The stem of the trees can be adequately protected using temporary barriers in accordance with BS 5837. Following development, the trees will

not be further obscured, the development is therefore considered to have a low impact upon visual amenity value.

11.1.3 Tree protection and method statements have been provided within this report to reduce the risk of direct and indirect development related damage that may otherwise occur to the retained trees. In conclusion, assuming the method statements and tree protection are implemented as part of the development, the proposal can be constructed with reduced disturbance to the trees.

