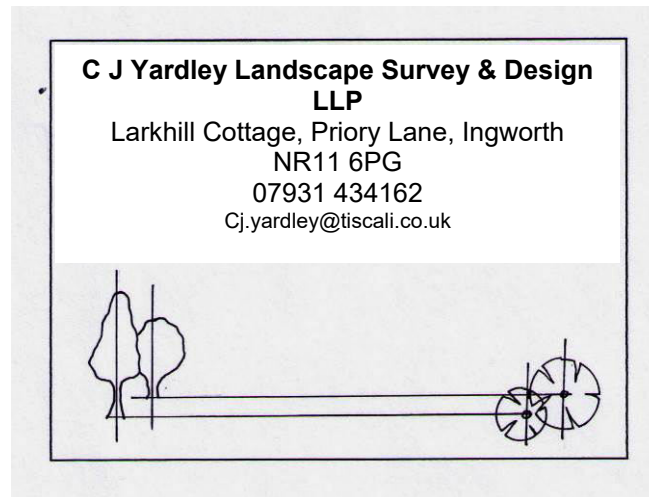


**Arboricultural Impact Assessment, Tree
Protection Plan, Method Statement
Site at Walpole Barn, Thwaite Common.**



November 2021

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1. Introduction

1.1. This report is intended to assess the implications for existing trees and hedging within and surrounding the site of a proposed development at land at Walpole Barn, Thwaite Common. The development proposals are as indicated on the plans 4612/02 with arboricultural information added November 2021 and developed from plans by Pike Partnership Ltd. The report and plans are intended to provide sufficient information to address the required submission of arboricultural impact, tree protection and construction method details for a proposed Planning Application for the development. This report assesses the impacts of the proposed development (as set out in the plans accompanying this document) on the trees / large shrubs on, and where relevant, adjacent to the site, and uses this information to provide details of any proposed tree protection and construction methodology in relation to trees that may be recommended. The report has been commissioned by Mr A Mckinnon

N. B. This survey is not intended to be a tree condition survey and should not be used to identify tree hazard/risk or provide information for risk indemnity purposes. The survey was carried out at a time of year when some pathogens / faults may be visible but it should be recognised that such pathogens (fungal fruiting bodies / issues with leafing etc.) are transitory and seasonal and that they may not be present when the survey was carried out. A full inspection for Health and Safety purposes would identify faults / make relevant recommendations on appropriate seasonal inspections for faults that may not be presenting at the time of the survey.

1.2. How to Use this Document

1.2.1. The document is divided into four main sections

- 1 - Introduction and Executive Summary of Findings
- 2 - Table of Trees (and Hedging if relevant) covered by the survey
- 3 - Assessment of Arboricultural Impacts of the proposed development
- 4 - Tree Protection Plan and Method Statement

1.2.2. The Executive Summary sets out the main points to consider in relation to this report and is intended to assist the Planning Officer / applicant in knowing what impacts the development will have and the general scope of tree protection and mitigation measures which we consider are necessary to employ to protect trees which are to be retained after development

1.2.3. The Impact Assessment considers the detail of what impacts we consider the development will have on the trees on the site (both in terms of trees / hedging removed and the impacts on the trees to be retained). This section provides the basis on which we then devise the Tree Protection Plan and Method Statement and is a justification for the elements which we have included in this section.

1.2.4. The Tree Protection Plan and Method Statement are the 'important / actionable' part of the document which should be presented to ALL persons who are to work on the site. It is of great importance that this part of the document AND the Tree Protection Plan

which accompanies it (and which due to size may be a separate sheet) is held by the architect, the engineers (if present) and the site manager. The document should be available for inspection by all persons working on the site and held in the Site Office or on site in a suitable place. A toolbox talk should be held between the Site Manager and ALL those working on the site (as and when needed but certainly at the commencement of development and certainly at the commencement of any works which are in areas which are clearly indicated to be specially worked upon in this report) to identify working practices as recommended in this document and make sure that all those working on the site know exactly what they are doing and why. If there are any doubts over the actions to be taken please refer IMMEDIATELY to the arborist who can either attend the site / and or provide advice.

NOTE; If this document is part of a Planning Application/ or deals with works near to or within TPO/ Conservation Areas, it is likely to form a legally binding part of any Planning Permission/Tree Works Application, and failure to adhere to the recommendations in the document can either lead to prosecution (in the case of trees covered by a TPO / Conservation Area) or invalidate the Planning Permission. If in any doubt about anything related to development and trees - contact the Arboricultural Consultant...

1.2.5. This report is based upon the recommended procedure outlined in the revised version of the British Standard (5837:2012). The procedure requires that a survey of all the trees on the site is conducted which includes consideration of the following:

- The location, species, height, crown spread, condition, likely future development and projected lifespan (where appropriate) of all the trees on or adjacent to (and thereby potentially impacted on by any proposed development) the proposal site.

1.2.6. This data is then used to produce plans and document showing;

1. The Root Protection Area (RPA) for each tree based upon a formula (Diameter of trunk at 1.5m height in mm x 12 shown as a radiused circle from the base of the tree with or as a formula based on trunk diameter x number of trunks in the case of multiple trunked trees. The RPA may be offset or altered only for certain existing physiological issues within the growth area of the tree. The area of the rooting zone will not be less than that calculated.
2. The Tree Constraints Plan (TCP) - showing the RPA + any relevant other information such as tree shading issues / future growth potential of the trees.
3. The factors contained in the TCP are intended to inform the layout of the development proposals. The TCP is not a development exclusion zone, but imposes certain constraints and restrictions (in order to achieve the BS) on what can and cannot be constructed within the zones.
4. From the TCP and any submitted development layout, the arboriculturalist is intended to produce an Arboricultural Implications Assessment. This document uses the data produced to assess the risk of damage to the trees both during construction and into the future. Liveability issues should also be considered within this survey.
5. A Tree Protection Plan (TPP) will then be drawn up to show the finalised layout of the site development plan together with the location of all the trees to be removed /

retained and the location and nature of any protective fencing. This will be in plan form and will constitute part of any future Arboricultural Method Statement.

6. Finally an Arboricultural Method Statement (AMS) may be required to be produced to say how any works which may impact on tree health will be undertaken to ensure that they minimise damage and comply with the standards set in the BS.

The survey was carried out on 18th April 2021 and revised with a re-survey on 20th November by C.J Yardley and represents a consideration of the condition of the site and trees at that time.

1.3. Executive Summary

The application will have the following impacts on trees and requires the following tree protection measures;

1. A line of young trees comprising 12 common Oak, 6 Hazel, 3 Silver Birch, 4 Ash and 3 Sweet Chestnut (of low to moderate amenity value) are proposed to be removed to facilitate the development of the new house. A further 43 in the western wooded area (W5) of young trees of a mix of 10no Oak, 15no Ash, 12no Sweet Chestnut and 7no Field Maple are proposed to be removed to facilitate the construction of the new access to the property. Individually the trees are of low amenity value but are part of a moderate amenity value woodland. The removal of the trees is compensated by replacement woodland and individual tree planting areas on a mown grass field to the north of the site as part of more extensive ecological and landscape enhancements which are proposed to substantially improve both the visual and ecological amenity of the site. The removal of the trees for the new driveway (augmented by additional woodland fringe planting to this feature) is intended to improve the ecological value of the woodland by introducing a woodland glade / ride feature with increased planting diversity and structure.
2. No works are proposed to alter the canopies of retained trees to facilitate the proposed development. The impact is therefore assessed as NEUTRAL.
3. The development of the new properties will be located well outside the Root Protection Area (RPA) of trees. No special construction methodology is required for the installation of the proposed buildings or surfacing on site. With appropriate tree protection measures as set out in Section 4 of this report, the impact on the trees is assessed as NEGLIGIBLE
4. The location of new services to and from the new dwelling is not known at this stage and therefore we have had to hypothesize where likely potential conflicts / locations may emerge. Our assessment is that the site (which contains existing services from the existing properties to the south west of the new house) would be able to accommodate services to the new property and positioned to be located outside the RPA of retained trees and hedging. Similarly any locations for proposed soakaways (including discharge to the proposed new pond) can be located well outside the RPA of retained trees. If these locations are followed and

all services are located outside the RPA of trees, the impact on retained trees / hedging is assessed as NEUTRAL

5. Construction access is available via the existing gated access off Thwaite Common (minor lane to the south). This presents minor tree constraints which (with the removal of trees as indicated for the new altered driveway route) would require only construction exclusion fencing to be provided as the RPA of adjacent trees is small due to their young age. Other areas within the site will need to be fenced off to protect trees but there would be no requirement to use ground protection matting, and the degree of restriction for construction is assessed as minor and readily achievable as shown on the Tree Protection Plan. If these guidelines are complied with, the impact of the construction access issues is assessed as NEGLIGIBLE
6. Shading and overbearing issues have been considered as part of this assessment in accordance with BS5837 guidance. The new dwelling is located well outside the shade quadrants / falling distances of the semi-mature trees in the tree belt to the south of the site. It is not assessed that neither shading or overbearing issues would impact on the new building and the impact is therefore NEGLIGIBLE.
7. Subsequent landscaping to the site will need to be undertaken with due regard for the root protection areas of trees

1. 4. Site Description.

1.4.1. The site is located to the northern side of Thwaite Common which is an area of semi-natural wet grassland, woodland and scrub landscape that is formed to either side of a minor tributary of the River Bure – which drains westwards towards the river some 2 miles distant. The site is located on the slightly rising land away from the valley floor and area of the Common but adjoins it on its southern boundary, separated from it by a minor lane. Walpole Barn is one of several properties which are located in this relationship to the Common and set out along the northern side of the Common land area. Most are larger houses or house and barn conversions reflecting the historic land tenure pattern in this area which tended to develop housing on land adjacent to the Common (associated with piecemeal enclosure and a fairly open tenure structure allowing ad hoc development over the centuries resulting in a scattered settlement pattern which coalesced on features such as the common where land could be ‘obtained’).

1.4.2. To the south of the site, the Common provides an enclosed and very rural character of semi-natural landscape. This degree of enclosure is maintained to either side of the site by small parcels of woodland and by other adjoining properties. To the north of the site on slightly rising ground, the property adjoins open arable land which is divided into fairly large (what would now be standard sized for the area at around 10ha) fields divided by low closely managed hedges and hedgerow trees.

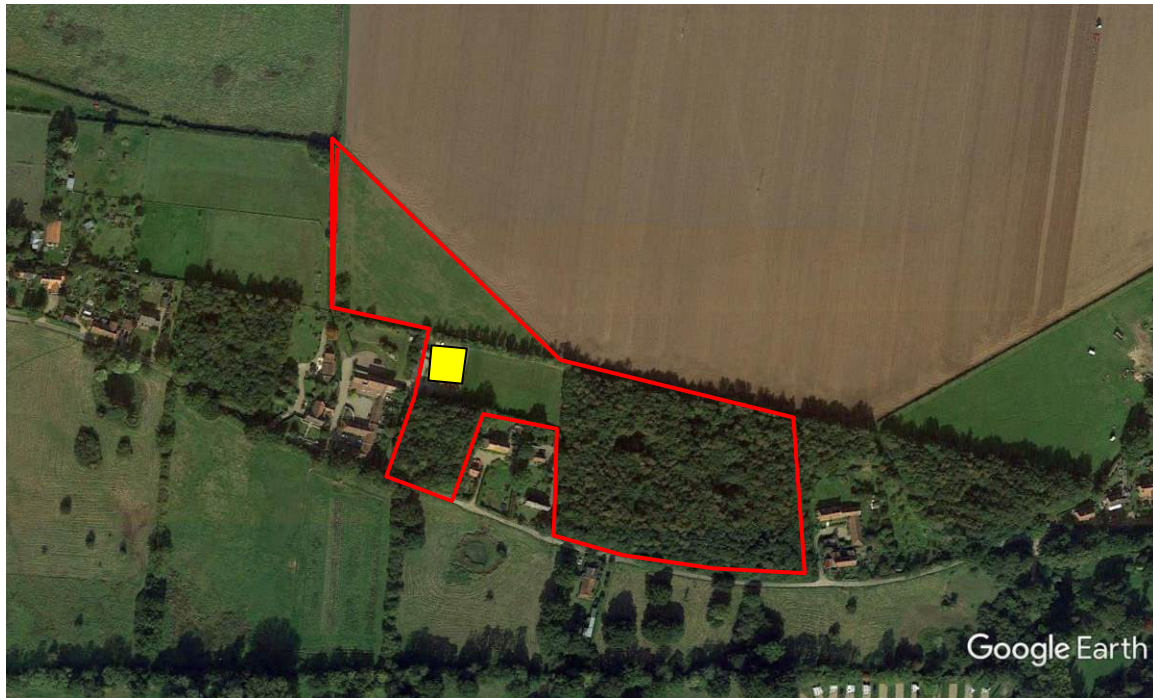
1.4.3. The site itself comprises four main parcels of land. To the north of the site is a triangular area of land which has been formed from part of the adjoining arable field and is now incorporated into the site area as a parcel of improved mown grassland with a newly planted mixed species hedge to the northern side (hypotenuse). The western

boundary of this site is formed by a minor track and bank.

1.4.4. The central area of the site is formed by a grassed area of land bounded by youngish trees to the north in a tree / hedge line and woodland to the south and east. To the western side the site adjoins the former farm complex. To the south of this area is another parcel of land which is recently (last 25 years) planted mixed deciduous woodland which adjoins the minor lane and common to the southern side and to adjacent large gardens to either side.

1.4.5. To the east of the three central parcels of land is a larger area of woodland which wraps around a property to the south. This is of similar composition to the southern area of woodland above

The location and extent of the site are shown in the google earth image below. This also indicates the type of habitats and landscapes surrounding the site



1.5. Development Proposal for Site

1.5.1. The development concerns the construction a single new dwelling located where indicated in Yellow on what is currently a hard surfaced tennis court area associated with the adjacent barn. It should be noted that there is a consent for a helicopter hangar, located on the open triangular field to the north of this location which would not be proceeded with should the proposed house development be undertaken. These are all shown on the development plans 4612/01 which are a development of the plans by Pike Partnership Ltd, and which combine the existing site features with the proposed features

Services

1.5.2. We have not been provided with a detailed services plan to show the location of underground services to and from the dwelling. We have assumed that services will run to the new dwelling from services in the minor lane to the south of the site with a package treatment unit being used to treat foul water with a discharge to a pond to be created on site

1.6. Current Ground Cover and Boundary Treatments

1.6.1. The existing site comprises an area of disused car parking with disused landscaping zones around the periphery of the former Community Centre. These contain hard surfaced areas of asphalt and rough grassed areas.

1.6.2. The relevant boundaries of the site are as follows;

1. The boundary to the north eastern side of the site is formed by a 1.4m high newly (last 10 years) planted mixed native species hedge.
2. The southern boundary is formed by a 1.2m high post and rail fence to the boundary with Thwaite Common Lane
3. There are no other relevant boundaries as the site is large and other boundary types are simply internal divisions within the property for different parts of the garden / surrounding woodland / paddock landscape

1.6.3. Hedgerow Regulations 1997; the hedges within the survey are not subject to the Hedgerow Regulations either because they associated with the boundary of domestic property (such as the informal tree line G1, G2 and G3) or because they have not been in existence for the requisite 30+ years.

1.7. Levels

1.7.1. The site slopes gently from north to south.

1.8. Soil Type

1.8.1. The soil type across the site appears to be boulder clay / loams and gravels over chalk. The soils therefore may be unstable and shrinkable to a degree. Detailed investigation of the soil structure will be necessary to determine the depths of footings etc.

1.9. Trees on/adjacent to the Site

1.9.1. There a number of trees / large shrubs on and adjacent to the site which are included in the survey as being relevant to the construction of the new building / ancillary features such as services and which for the purposes of the survey have been (in most cases) grouped into areas

1.9.2. It is not known if any of the trees in the survey are covered by Tree Preservation Orders. A proportion of the site is located within a Conservation Area and therefore is subject to the Conservation Area Regulations as affecting trees. The extent of the Conservation Area is shown on the copy of the plan below provided by North Norfolk

District Council (2012). The Regulations require that all above and below ground works which affect trees be notified in writing to the District Council a minimum of 6 weeks prior to the works commencing or such lesser period as the Council may allow in writing.



It is not known if the trees are subject to any residual Planning Condition affecting their retention or management. These factors are not fixed and may be liable to change, and it is therefore recommended that prior to any works commencing on trees on the site above or below ground (including excavating trenching for services or installing surfacing) that reference is made to the Council to ascertain if consents are required.

Local Policies

1.9.5. The Council has planning policies in place to protect important trees as part of the planning process (by the serving of Tree Preservation Orders or placing of Planning Conditions on Permissions) as part of planning policy within the emerging Local Plan (formerly LDF) Development Control policy structure.

1.9.6. Normally accepted scope of inclusion of trees to 15m from the site boundaries have been included in this survey unless otherwise agreed due to relevance.

2. Tabulated Assessment of the Trees on the Site - Tree Constraints Details

2.1. The trees on the site have been assessed in relation to the provisions in the BS and the information is presented in tabular format. The tables include all the relevant data required to assess the constraints (in construction terms) that the trees present and this data has been used to develop the Tree Protection Plan which accompanies this document. Details of the features included in the data collection and assessment are set out below in the Notes.

Notes on Tables

- All measurements are given in metres.
- 'DBH' is the diameter of the trunk/s at breast height (1.5m)
- Crown Spread is the limit of the crown of the tree at its maximum and is recorded as a diameter. On the plans the crown spread is shown in its actual form i.e. frequently asymmetrical.
- Age Class is assessed and described as set out in BS 5837 Table 1, where; Young Trees are aged less than 1/4 life expectancy; semi-Mature Trees are between 1/4 and

½ life expectancy; Early Mature Trees are over ½ life expectancy, Mature trees are over 2/3ds life expectancy and Over Mature are effectively in decline.

- Tree Vigour is assessed as being either Good, Fair, Poor or Dead as set out in BS 5837
- Root Protection Distance (as shown as a dashed and dotted line on accompanying plans) is assessed based on the BS 5837 section 4.6 based on the diameter of the trunk at 1.5m height in mm x 12 and shown as an area based on the premise that the distance - diameter x 12 = radius of circle of RPA area. Trees with more than one stem are calculated differently. Trees with 2 - 5 stems are calculated as the square root of the combined (added) stem diameters all of which are individually squared. For more than five stems, the result is the square root of the mean stem diameter squared which has been multiplied by the number of stems.
- Canopy Spread is shown at the four cardinal points and is also shown as a constraint (continuous or repeated line on accompanying plans).
- Shading issues (as described in Section 5.3.1) are shown on accompanying plans as a 'segment with its centre at the centre of the tree and radiating outwards as straight lines to the North West and east with the area between them radiused with a dashed line.
- The Useful Life Expectancy of the tree is shown in periods ranging between <10 yrs, 10+, 20+, 40+yrs (in accordance with Section 4.4.2)
- Where any work that may, in the opinion of the surveyor, be required to the tree in order to enable the proposed development to take place, or where changes to the use of the land (i.e. to garden) may change the risk posed by the tree/s, such work is indicated in the Comments section of the table. All work recommended will accord to BS 3998:2010, and be based on the principle that the tree takes primacy over the proposed development (unless it is adjudged to be of poor amenity value), and works will only be recommended that accord with the retention of the tree in good health.
- Tree Retention Category this is the product of the surveyor's opinion of the importance of the tree in terms of its individual features. The assessment is made on the basis of the criteria set out in BS5837:2012 and is described in the Table 1 summarised from the British Standard on the following page;

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)			See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation			See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories			See Table 2

Table 2 -

How to read the tree table -

The tree table below is split into sections which detail the height, spread and form of the tree together with other important information relating to the diameter of the trunk - DBH - (which provides the data for determining the root protection area (RPA)), age class of the tree (what stage of its development it has reached); its condition and the amenity contribution that it makes together with its formally assessed 'retention category' or amenity rating (see table 1) as assessed using the BS criteria. These factors are used to provide the data which is transposed onto the development plan and which provides the 'Tree Constraints' on this plan. The data is then used to help determine our assessment of the impacts of development, the location of any tree protection and any remedial measures which will help to protect and ensure the health and retention of those trees which are shown to be retained after the development is completed

Tree No.	Species	Height Metres	Crown Spread metres	DBH mm /Radius RPA m	Vigour / Age Class	Condition / amenity contribution / under crown clearance	Retention category
The number given to each tree on the plan	Given as the common name unless the Latin name only is known	The height of the tree	The spread of the tree either as a radius from the centre (to each cardinal point N, S, E or W) or as a diameter where this is acceptable	The 'diameter of the trunk at breast height' - this is used to work out the radius of the root protection area (in metres)	The vigour is either low or normal. The age class varies from Young to Over Mature in five more or less equal sections relating to the five 'stages' of development of the tree - varies with the species as to how many years this may be.	A broad guide to the condition of the tree from a superficial ground level inspection. The condition rating is not to be used for health and safety purposes and is not a substitute for a detailed tree condition survey but will indicate the approximate condition of the tree and highlight any major faults if clearly visible. Where these are not visible (ivy obscuring the trunk) this may be highlighted. It is always advisable to have a formal tree condition survey for indemnity purposes. Amenity contribution highlights any special amenity value that the tree/s may present Under crown clearance is intended to provide a guide to allow assessment of whether or not crown lifting would be needed to gain access beneath the tree for development or other purposes	The formal British standard amenity classification which ranges from 'A to U' see Table 1

Table 2 – Trees which are included in the Tree Survey

	Tree No.	Species	Height metres	Crown Spread metres	DBH/RPA in mm	Vigour / Age Class and remaining years	Comments:	First main branches (N, S, E, W) and minor bough outer canopy clearance (CC). Amenity Classification
G	1.	Hazel (6), Hawthorn (6), Oak (2), Birch (1)	4	1.5m dia	Av 150 / 1.8m	N/SM 40+	Fair condition – the plants have been topped and form a loose hedge	C2
G	2.	Oak (8) Ash (3)	5 – 8	2 – 4m dia	Av 150 / 1.8m	N/Y 40+ / ? for ash	Fair condition – a line of young trees spaced at approx. 1 – 2m intervals	CC 2m C2
G	3.	Ash (6) Sweet Chestnut (7) Oak (15) Birch (4)	6 - 9	2 – 5m	Av 100 – 200 / 2.4m	N/Y 40+	Fair condition - a line of young trees spaced at approx. 1 – 2m intervals	CC 2m C2
T	4.	Ash	12	7N, 6W, 8E, 7S	3 x 370 / 7.6m	N/M ?	Fair condition – complex union where trunks divide. Large spreading canopy	CC 3m N B1
W	5.	Oak Ash Sweet Chestnut Field Maple	8 - 10	3 – 7m dia	170 – 250 / 3m	N/SM 40+ (not Ash)	Fair to reasonable. A newly planted woodland (approx. 25 – 30 years of age) on a standard 3m x 3m grid. No significant understory. No evidence of thinning	Canopies in woodland are CC 4 – 5m on fringe 2 – 4m B2
W	6.	Oak Ash Sweet Chestnut Wild Cherry Silver Birch	8 - 10	3 – 7m dia	170 – 250 / 3m	N/SM 40+ (not Ash)	Fair to reasonable. A newly planted woodland (approx. 25 – 30 years of age) on a standard 3m x 3m grid. No significant understory. No evidence of thinning	Canopies in woodland are CC 4 – 5m on fringe 2 – 4m B2

Condition Key (Vigour / Maturity)

Vigour:	L	Low
	N	Normal
Maturity:	Y	Young
	EM	Early Mature
	SM	Semi Mature
	M	Mature
	OM	Over Mature

- Good condition – no obvious faults which would reduce the life expectancy of the tree, a good form with a full canopy.
- Reasonable condition. Some minor to moderate faults which will reduce the life expectancy of the tree or a tree with some degree of decline but which has good form and reasonable canopy density for the species.
- Fair condition. A tree with significant faults which will reduce the life expectancy. Probably with faults that require surgery and which will reduce the amenity of the tree. A tree with poor form and thin canopy.
- Poor condition. A tree near the end of its life or one with sever faults which may be correctable with surgery or may not but which will probably leave the tree in a form which is poorly structured.

3. Arboricultural Implications Assessment of trees on the site from the details contained in Table 2 above

3.0.1. The assessment has considered all the trees in the vicinity of the proposed development together with those which in our opinion may be affected by the requirements to access the working area to construct the proposed development features, or where new services may be installed to the new building - the survey does not include all trees within the site. The trees on the site comprise a range of species and sizes commensurate with different phases of garden and nearby agricultural land planting and comprise

Two woodland areas on land to the south of the site and just bounding the northern side of Thwaite Common lane

A central east to west boundary tree line / loose hedge bounding the domestic garden area to the south (with tennis court) from a triangular field area to the north

3.0.2. The assessment below has been carried out to the recommendations contained in the British standard BS 5837:2012. Where necessary, and due to the specific nature of the trees and constraints / development imposed, interpretation within the Guidance has been made.

3.0.3. Development proposals contained on the plans 4612/02 developed from plans by Pike Partnership Ltd with arboricultural information added November 2021 show the layout of the proposed development and access etc and indicates the relationship between the trees and the proposed structures. The principle arboricultural issues concern to following main features

1. A line of young trees comprising 12 common Oak, 6 Hazel, 3 Silver Birch, 4 Ash and 3 Sweet Chestnut (of low to moderate amenity value) are proposed to be removed to facilitate the development of the new house. A further 43 in the western wooded area (W5) of young trees of a mix of 10no Oak, 15no Ash, 12no Sweet Chestnut and 7no Field Maple are proposed to be removed to facilitate the construction of the new access to the property. Individually the trees are of low amenity value but are part of a moderate amenity value woodland. The removal of the trees is compensated by replacement woodland and individual tree planting areas on a mown grass field to the north of the site as part of more extensive ecological and landscape enhancements which are proposed to substantially improve both the visual and ecological amenity of the site. The removal of the trees for the new driveway (augmented by additional woodland fringe planting to this feature) is intended to improve the ecological value of the woodland by introducing a woodland glade / ride feature with increased planting diversity and structure.
2. No works are proposed to alter the canopies of retained trees to facilitate the proposed development. The impact is therefore assessed as NEUTRAL.

3. The development of the new properties will be located well outside the Root Protection Area (RPA) of trees. No special construction methodology is required for the installation of the proposed buildings or surfacing on site. With appropriate tree protection measures as set out in Section 4 of this report, the impact on the trees is assessed as NEGLIGIBLE
4. The location of new services to and from the new dwelling is not known at this stage and therefore we have had to hypothesize where likely potential conflicts / locations may emerge. Our assessment is that the site (which contains existing services from the existing properties to the south west of the new house) would be able to accommodate services to the new property and positioned to be located outside the RPA of retained trees and hedging. Similarly any locations for proposed soakaways (including discharge to the proposed new pond) can be located well outside the RPA of retained trees. If these locations are followed and all services are located outside the RPA of trees, the impact on retained trees / hedging is assessed as NEUTRAL
5. Construction access is available via the existing gated access off Thwaite Common (minor lane to the south). This presents minor tree constraints which (with the removal of trees as indicated for the new altered driveway route) would require only construction exclusion fencing to be provided as the RPA of adjacent trees is small due to their young age. Other areas within the site will need to be fenced off to protect trees but there would be no requirement to use ground protection matting, and the degree of restriction for construction is assessed as minor and readily achievable as shown on the Tree Protection Plan. If these guidelines are complied with, the impact of the construction access issues is assessed as NEGLIGIBLE
6. Shading and overbearing issues have been considered as part of this assessment in accordance with BS5837 guidance. The new dwelling is located well outside the shade quadrants / falling distances of the semi-mature trees in the tree belt to the south of the site. It is not assessed that neither shading or overbearing issues would impact on the new building and the impact is therefore NEGLIGIBLE.
7. Subsequent landscaping to the site will need to be undertaken with due regard for the root protection areas of trees

3.0.3. These features have all been considered in detail in the following assessment process and have been used to develop protection and mitigation strategies which are included in the final chapter of the report 'Tree Protection Plan and Method Statement'

3.0.4. The plan 4612/02 developed from plans by Pike Partnership Ltd with arboricultural information added November 2021 indicates the location and extent of proposed development of the site. The location and canopy spread of the trees is also indicated together with the Root Protection Area. Additional information is added in the form of the location of protective fencing around the trees and special measures areas (for certain construction processes). This additional information forms the elements of the Tree Protection Plan and Method Statement.

3.1. Overall Conclusions of the Amenity Value of the Trees on the Site/ Tree Constraints

3.1.1. Some indication of the relative amenity value of the trees on and adjacent to the site has been discussed above, this section provides additional detailed assessment of the site and the area.

3.1.2. The individual British Standard amenity classification value of the trees is appended to each tree in Table 2 and varies between tree/s which are of moderate amenity value as members of groups of trees (B2). There are also a number of trees which are classified as C2 or low amenity value. There are no high amenity or unclassified trees in the survey which demonstrate particularly poor condition.

3.1.3. The principle tree elements are the two woodland areas W5 and W6 which form strong landscape elements as groups of trees to the southern and south eastern side of the site – separated by land outside the site boundary (a cottage with large garden). Both areas are relatively young and were planted up on a typical woodland planting grid of 3m x 3m – approx. 25 – 35 years ago. The trees have not been thinned and the woodland area is experiencing overcrowding to the trees on the site which is now beginning to lower their amenity value and the ecological value of the woodland (there is very little light to the woodland floor and consequently little understory or ground cover vegetation). Individual trees within the woodland are all classified (with a few exceptions to the southern boundary where these are better specimens) as low amenity value – the moderate classification covers the woodland as a whole but individual trees within it are not of particular note and significant tree thinning / creation of glades or rides which will improve the visual and ecological value of the woodland would be positive operations enhancing the woodland value overall.

3.1.4. The line of young trees / informal hedge to the north of the garden onto the triangular field (G1 G2 and G3) are of similar age and similar form. They also have similar ecological and landscape value – the group as a whole (G1 excepted) might just be considered ‘moderate amenity’ but realistically due to the density of the planting and the quality of the trees / age range, Low amenity is more appropriate.

3.2. Future Development of the Trees.

3.2.1. This assessment has only considered those trees which in the opinion of the surveyor may be impacted upon by the proposed development (constrained).

3.2.2. The grouping of trees to the south and south eastern side of the site (woodlands) are all semi-mature and have significant future growth potential. Trees in this group will tend to develop taller and in woodland edge locations, more drooping canopies form as mass is added to the boughs but this will not impact on the proposed development. However the location of the trees well to the south of the new proposed building will not present a significant shading or overbearing element as they develop. Similarly the garden area (as existing) to the east of the new building will not be significantly restricted or impacted as the size of the area and its extent to the north will retain sufficient areas well beyond the shaded southern part of the garden zone as trees develop. Therefore the impact of the development on restricting the future development of the trees on the site is assessed as NEGLIGIBLE

3.2.4. The group of trees to the immediate east of the new house are similarly young and have substantial growth potential. The westernmost of the group are likely to develop to a size whereby they will require some degree of reduction or management in relation to the proximity to the new house but the number of such trees in this grouping means that such works would not significantly impact on the feature / group as a whole and the impact of such management would therefore be assessed as having a NEGLIGIBLE impact on the amenity of the group.

3.3. Tree / hedge Removals and Replacements

3.3.1. Approx. 30 young trees and shrubs are proposed to be removed from groups G1, G2 and part of G3 where the footprint of the new house is proposed to extend over the tree line of these groups. The groups are assessed as Low amenity value due to their age structure and the density of the planting which is forming poorly shaped trees as a result. In effect this is a spindly tree hedge – somewhat mutilated for the overhead wires.

3.3.2. The proposals also require the removal of approx. 43 no mixed trees from W5 – south western woodland for the altered driveway access.

3.3.3. In addition, we are recommending that the woodlands be thinned to remove approx. 35% of the trees within them and to form three gladed areas in the south western woodland (W6). This work is NOT proposed or required to be undertaken as part of the development of the new house but is much overdue as part of good woodland management for the woodlands as ecological and landscape features. The creation of a more open woodland and the formation of the new driveway and glades will substantially improve and increase the biodiversity potential of the woodlands as a whole. The value of rides and glades in a woodland are recognised as the locations where the highest biodiversity is present in most woodlands and these woodlands are particularly deprived of light and diversity at present due to their age and structure. Regardless of the proposed development, this work would be valuable and necessary and is overdue. It will be accompanied by the detailed and comprehensive underplanting and edge planting proposed in the Landscape Plan and Schedule (CJ Yardley 2021) which is intended to introduce a good understory to the woodland and form a more diverse and structured woodland edge planting to the rides and glades.

3.3.4. Overall, whilst in statistical terms the proposed works both to install the new house and access driveway would appear to suggest that the development will have a negative impact on tree and woodland features, in reality, the overall programme of proposed removals (which is substantially greater) is a vital and overdue process which will revitalise and measurably improve both the individual trees (particularly those like T4 which are struggling with competition and suppression), the structure of the woodland and the biodiversity and long term health of the woodland as an ecological and landscape feature of the area. The impact of the works is therefore designed and intended to have a SIGNIFICANT POSITIVE impact on the landscape and biodiversity presented by the woodland and trees on site

3.4. Canopy Spread and Canopy Clearance Issues

3.4.1. There are no proposals to alter the canopy spread or clearance of trees on or adjacent to the site.

3.5. Root Protection Area

3.5.1. The root protection area of trees is shown as a dotted and dashed circle around trees on the plan. The British Standard default recommendation suggests that no development should be undertaken within the root protection area of trees unless it is unavoidable or unless the tree/s concerned are of low amenity value. The BS does however allow for some works to be undertaken within the RPA of trees subject to the assessment of a suitably qualified arboricultural surveyor but generally assumes that these will be minimal, peripheral and localised, and that the area of the RPA will be part of an exclusion zone (construction exclusion zone CEZ) around the trees which will be fenced off from all access during construction. Therefore, usually such an area will be closed off from works until any which are deemed acceptable (such as driveway constructions) actually need to take place and preferably at the conclusion of other developments on the site.

3.5.2. The development has considered the RPA of the trees adjacent to the site with great care. The key points which are considered relevant are;

3.5.3. Tree removals

Where tree removals within the woodland and to the edge of G3 are proposed, these are likely to be within or close to the RPA of retained trees if they are located less than 6m from a retained tree. Therefore for all trees located within 6m of a retained tree (shown by the areas on the Tree Protection Plan as GREEN HATCHING), trees must be removed by hand operations and stumps ground out.

3.5.4. Installation of the new house

The proposed development of the new house and related surfacing structures is located well outside the root protection areas of trees. The provision of tree protection will be required to prevent collateral damage to tree canopies and rooting areas during development. If the works are carried out in conformity with the recommendations in Section 4 the impact is therefore assessed as NEGLIGIBLE.

3.5.5. Surfacing to driveway

The new surfacing to the proposed altered driveway route is located well outside the root protection areas of trees. The provision of tree protection will be required to prevent collateral damage to tree canopies and rooting areas during development. If the works are carried out in conformity with the recommendations in Section 4 the impact is therefore assessed as NEGLIGIBLE.

3.5.6. Service locations

The location of new services to and from the new dwelling is not known at this stage and therefore we have had to hypothesize where likely potential conflicts / locations may emerge. It is assumed that fresh water will be directed from services within the lane to the south of the site along the new driveway and therefore outside the RPA of trees. Foul and surface water drainage will be treated on site with a package treatment plant which will discharge treated water to the proposed pond and additional overflow infiltration provision as indicated – all well outside the RPA of trees. If these locations are

followed and all services are located outside the RPA of trees with installation being carried out in conformity with the statement in Section 4 of this report, the impact on retained trees / hedging is assessed as NEGLIGIBLE

3.5.7. Boundary fencing installation

There are no proposed alterations to boundary treatments as part of this application apart from reinforcement planting to some boundary hedges – the works of which will not impact on the RPA of trees

3.5.8. Construction Access

This aspect of the development is probably the one most likely to have adverse impacts for trees if not carried out correctly and appropriately. There is considerable potential for damage to tree roots by vehicles tracking over them in this location. The existing driveway is deemed to be inadequate to take the weight of construction traffic.

Construction access is available via the new driveway access. Areas along this route and within the site will need to be fenced off to protect trees, the degree of restriction for construction is assessed as not great and readily achievable as shown on the Tree Protection Plan. If these guidelines are complied with, the impact of the construction access issues is assessed as NEGLIGIBLE

Overall

3.5.9. The overall cumulative impact of the development on the rooting areas of trees is assessed as having a NEGLIGIBLE. This assumes that all works will be installed as set out in Section 4 of this report, would have any noticeable or long term adverse impacts on the trees.

3.6. Shading Issues

3.6.1. The issue of liveability - particularly shading and perceived tree hazard - to occupants' resident within the properties should be considered carefully. Whilst these are not physical constraints to development of the properties, they should inform the nature of the development. The BRE have produced a considerable amount of guidance upon shading related issues which is distilled in two booklets (Environmental Site Layout Planning – Littlefair P. J. et al 2000; and Site Layout Planning for Daylight and Sunlight – a guide to good practice; Littlefair P. J 1991 revised 2011. The BS 5837:2012 makes reference to seeking guidance from these sources. However it remains as 'guidance' and does not confer rules even to the same degree as that for root protection areas, nevertheless they are good starting points for considering the relationship between housing, gardens and peoples reaction to trees within their proximity.

3.6.2. The main issues that tend to present with liveability of trees in relation to property are;

- Shading – direct and indirect light obstruction by trees.
- Overbearing and the 'fear' of trees falling or being 'close'

3.6.3. Shading and overbearing issues have been considered as part of this assessment in accordance with BS5837 guidance. The new dwelling is located well outside the shade quadrants / falling distances of the trees in the woodland area to the south of the dwelling (W5) – the impact of shading is therefore assessed as NEGLIGIBLE.

4. Method Statement and Tree Protection Plan

4.0. The tree protection plan details set out below provide information on how to protect and avoid damage to trees on and adjacent to the site during and after the development process. Damage to trees occurs in several main ways from construction processes and these are set out below.

- Tracking of vehicles over root protection areas
- Excavating within root protection areas
- Storage of materials within root protection areas
- Leakage of toxic chemicals within root protection areas - or near to them
- Physical damage to above ground parts of the trees by collision with vehicles or equipment

4.0.1. The tree protection plan therefore sets out to provide information which can be followed to avoid the risk of damage occurring, and / or where damage is inevitable (such as where vehicles have to cross over a root protection area of a tree) minimise the amount of damage occurring.

4.0.2. The tree protection operations below relate to specific items on the site in specific locations and this should therefore be read with the plans, as each area within the site is unique and presents different tree protection requirements.

4.0.3. These physical constraints have been taken into account as far as practicable, the relevant sections of the Tree Protection / Method Statement recommendations below. To a large extent, the constraints actively militate to assist in protecting trees by restricting the size and type of vehicle and construction process that can be used. The development requires a number of specific procedures and these have been considered in relation to the tree protection issues discussed in Section 3 above. The main points are set out in the summary below with each point being expanded upon in the following text;

4.1. Summary of Construction Method Processes in relation to Trees on and Adjacent to the Site

1. Prior to the commencement of development, all trees within areas which are shown GREEN HATCHED on the Tree Protection Plan will be dismantled and removed as set out below.
2. Following the removal of trees but prior to the commencement of any other works associated with the proposed development including storage of materials, access the site with construction vehicles, scraping the surface vegetation from the site or undertaking site level changes, protective fencing will be erected around the trees and hedging to be retained as indicated by the SOLID YELLOW line indicates where existing or Herras type fencing must be retained or installed to prevent

access into areas within the RPA of trees which do not have ground protection measures. This will ensure that the trees are protected adequately from accidental damage. The construction of the ground protection and fencing is detailed below.

3. The installation of services to and from the new dwelling and any other ancillary works on site to position or alter services will be undertaken outside the Root Protection Areas of trees unless otherwise agreed in writing with the District Council.
4. Finally landscaping will be carried out as described below.

4.2. Removal of existing trees on the site

4.2.1. Where existing trees are proposed to be removed from the site (Green Hatched areas) and are within or close to retained trees (6m radius) these will be dismantled by hand felling and the stumps will be ground out in preference to any other removal method in order to avoid damage to tree roots of retained trees which may be intertwined in them.

4.3. Protective Fencing/ Construction Exclusion Zone site Access.

4.3.1. Prior to the commencement of any development on the site including further site clearance, access by vehicles, storage of materials or demolition, temporary protective fencing (as shown on the plans by the YELLOW LINE areas) will be installed where shown.

4.3.2. Where new temporary protective fencing is required to provide an exclusion zone around the Root Protection Areas of trees, this is shown as a SOLID YELLOW line on the plans. Only at the completion of the main works to construct the development (or where it is necessary to remove existing features within CEZs such as surfacing as discussed in the section below) and where it is necessary to remove the fencing in order to construct specific features within the CEZ (e.g. garden works/fencing – see Boundary Features and Landscaping Sections below) the fencing can be moved or dismantled ONLY after all other construction works on the site have been largely completed.

4.3.3. No materials, chemicals, machinery or access shall be stored or gained within this fenced off area during the entire period of the subsequent development of the site.

4.3.4. This fencing shall be either the existing boundary fencing type or to a specification as indicated in BS 5837:2012 and shall comprise weldmesh (Herras type) fencing attached to the ground by posts driven into it to hold the fence rigidly and semi-permanently during construction. Notices shall be attached to the fencing stating that no access, machinery, equipment or materials will be allowed within the fenced off area during the construction period.

4.3.5. All chemicals including cement, together with the mixing of cement, must be located at least 3m beyond the root protection areas (dotted and dashed circles around trees) (this is to prevent spillages / leeching of chemicals into the soil).

4.3.6. All construction access will be either via the existing vehicular access via Walpole Barn or via the new access to be formed off the lane but in all cases located outside the areas fenced off for tree protection.

4.4. Installation of new Services

4.4.1. All service installations and connections – including foul water, fresh water and surface water – will be located outside the root protection areas of trees unless otherwise agreed in writing with the District Council prior to commencement of works.

4.5. Post Construction Landscaping Procedures – including fencing

4.5.1. Where any new fencing is proposed to be installed within or close to the root protection areas of trees – it will be constructed as set out below

- Post holes will be dug by hand. Any roots encountered over 20mm dia will be retained and the post hole / post moved accordingly to retain the roots.
- No post will be located closer than 1m to the base of any tree
- All post holes will be lined with a damp proof membrane (rubble sack is effective) and this will be used to contain the concrete post base.
- No part of the fence will rest against or be within 300mm of the trunk of any retained tree and no part will be attached to any tree - this is to allow for tree growth and movement

4.5.2. No other details of additional surfacing or boundary treatments (apart from that included in this report) are presented as part of this planning application and it is assumed that the existing boundary treatments and surfacing type (gravel) will be retained after development. If any other landscaping is undertaken to the areas near or within the rooting areas of trees after development, then this should conform to the specification below. Other features such as surfacing and or fencing etc may also require special installation methods or may be unsuitable for installation within the root protection area of trees - we would recommend strongly that you consult either the Council tree officer or an arborist if there are such proposals which are not part of this planning application process.

4.5.2. Following the completion of the construction of the development, when landscaping to the site is undertaken, special procedures will be carried out where these might conflict with trees. Where landscaping impinges within the Root Protection Area of trees to be retained, the following procedures will be adopted;

4.5.2. Only glyphosate based weed killers will be used on any surface vegetation. All use of weed killers will be restricted to pre-physical clearance of the area within the RPAs of trees to be retained in order to prevent spray contacting exposed tree roots.

4.5.3. All removals of existing landscaping, hedging etc will be carried out by hand operated machinery and tools only. The use of backactors etc to remove items will not be used. No excavation beyond that absolutely necessary to remove existing plants and

structures (fence posts etc) will be used.

4.5.4. Following removals of existing landscaping, **no use of rotorvators will be undertaken within the RPA of trees, all levelling and tilthing will be carried out by hand to a maximum depth of 100mm.** Any importation of topsoil will be restricted to a maximum of 150mm above previous ground levels. No topsoil to be made up within 500mm radius of the base of any tree (to prevent 'rotting off')

Appendix

Inc;

Photographs of trees on the site

Schematic of protective fencing to BS 5837:2012 Type 1 and 2 versions as necessary

Diagramme of no dig celweb supported driveway surface

NJUG Guidance Note 4 - Installation of Services near trees

Arboricultural Impact Assessment Plan / Tree Protection Plan / Development Plan shown superimposed on plan 4612/02 with arboricultural information added November 2021
Developed from plans by Pike Partnership Ltd

Photographs of Site Features



Figure 1 – G1



Figure 2 – G2 with G3 from point marked red line on left



Figure 3 – W5 looking north east from existing access along line of proposed new driveway – summer 2021



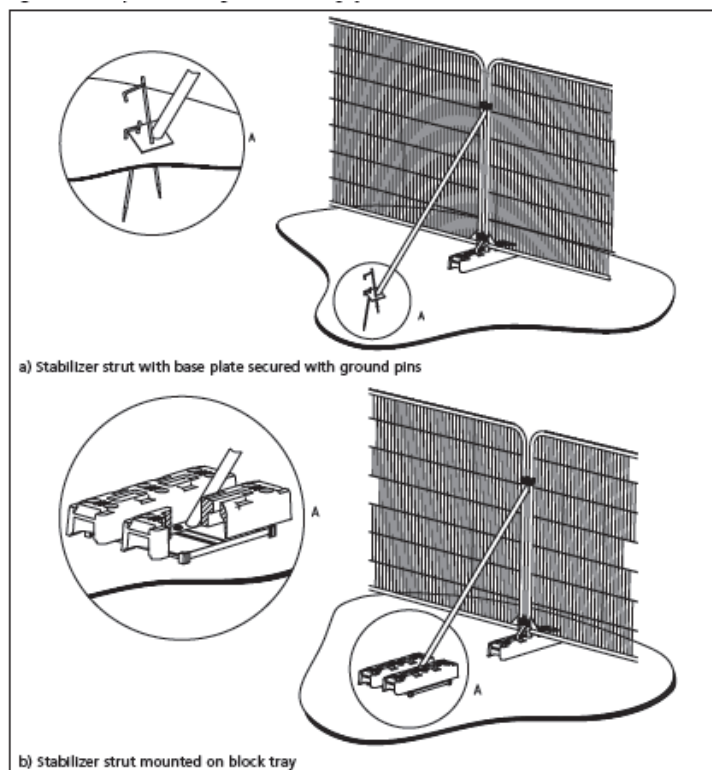
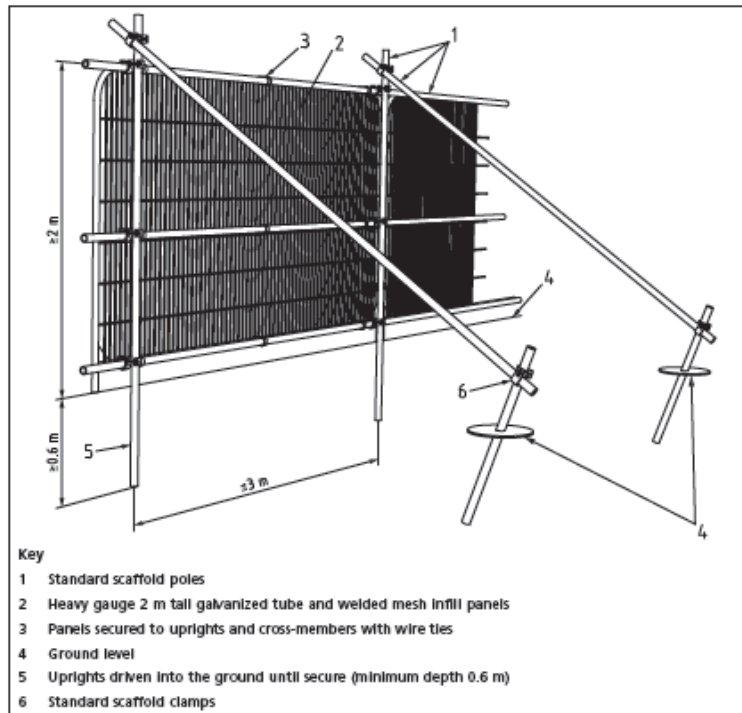
Figure 4 – W5 looking south along line of proposed driveway – winter 2021



Figure 5 – W6 average content Summer 2021

Tree Protection Barriers - Type 1 designs

The standard design which BS5837:2012 now requires as the 'default' design is shown below. In certain circumstances (where there is hard surfacing or other physical features which prevent the use of this type)



Ground protection during demolition and construction

Designs for Ground protection in relation to construction can vary considerably according to the location and terrain. These can be simple scaffolding boards over a plastic membrane where scaffolding or other pedestrian access is required, more sophisticated and heavy duty arrangements such as plywood sheeting which may be suitable for locations where a mini-digger up to 2.5 tons is working / light vehicle access is required, up to heavy vehicle access provision where a proprietary system such as Ground Guards or Rola Track is required. In all cases three main principles apply and these are set out in more detail below

1. The ground support must be adequate to prevent compaction of the ground type being tracked over – soft ground requires better protection than hard / wet than dry etc.
2. The ground support must be adequate for the weight of traffic using it
3. There must be both a compression layer of wood chippings / washed aggregate to distribute the loading and a plastic membrane to prevent cement or other leachate spills from contaminating the soil under the ground protection surface.

Where construction working space or temporary construction access is Justified within the RPA, this should be facilitated by a set-back in the alignment Of the tree protection barrier. In such areas, suitable existing hard surfacing that Is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Where the set-back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

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.

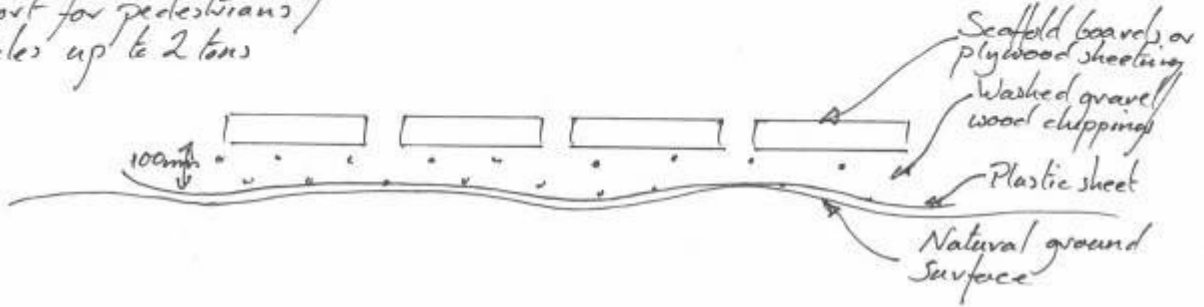
The locations of and design for temporary ground protection should be shown on the tree protection plan and detailed within the arboricultural method statement (see 6.1). – see overleaf

In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

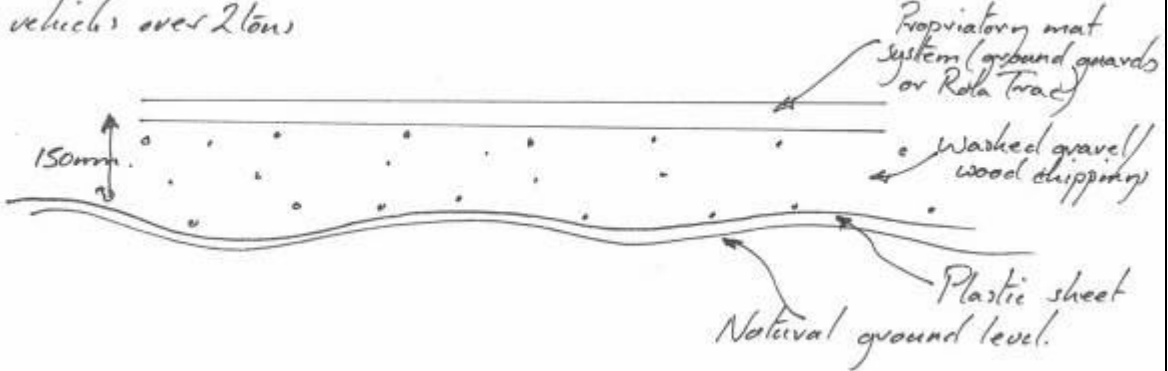
Walpole Barn, Thwaite Common. Arboricultural Impact Assessment, C J Yardley Landscape Survey & Design

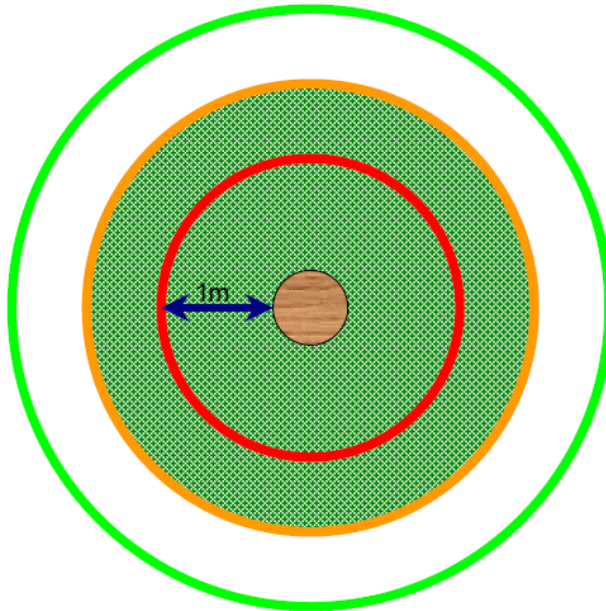
Designs for temporary ground protection

Support for pedestrians /
Vehicles up to 2 tons



Support for vehicles over 2 tons





TREE PROTECTION ZONE

Key to Diagram



Trunk of Tree



Spread of canopy or branches



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

- Don't** excavate within this zone.
- Don't** use any form of mechanical plant within this zone
- Don't** store materials, plant or equipment within this zone.
- Don't** move plant or vehicles within this zone.
- Don't** lean materials against, or chain plant to, the trunk.
- Do** contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.
- Do** protect any exposed roots uncovered within this zone with dry sacking.
- Do** backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.
- Do** notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

- Don't** excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.
- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Don't** repeatedly move / use heavy mechanical plant except on hard standing.
- Don't** store spoil or building material, including chemicals and fuels, within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.

THE PERMITTED ZONE

- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Do** use caution if it is absolutely necessary to operate mechanical plant within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.



Site clearance in GREEN HATCHED areas to be undertaken by hand to avoid damage to tree roots of adjacent retained trees

A management plan (Landscaping document and plans 4612/01) details the thinning of the areas of existing young trees to promote good tree development

Trees shown with crown extent as continuous black line (circ or cusped) - approx
 Trees retained trees to be removed

Root Protection Area shown as line

Line of protective fencing shown (inc existing boundary types)

Special tree and shrub removal area (by hand)

Trees coloured to indicate Tree Retention Category as recommended by BS 5837:2012

Category A - Trees of high quality and value (shown green on the plan)

Category B - Trees of moderate quality or value (shown blue on the plan)

Category C - Trees of low quality or value (shown grey on the plan)

Category U - Trees in very poor condition or which would be lost within 10 years

Shading (by the tree) (in accordance with BS 5837:2012) shown as a factor of height - indicated within the area shown as a segment with two solid lines running East and North West from the centre of the tree and a dashed line marking the circumference. Height of tree shown as solid line with existing height (EH) solid line and ultimate projected growth height (UH) as broken line

Client	Mr A Mckinnon
Job Title	Land adj Walpole Barn, Thwaite Common. Tree Protection Plan; to be read with Arboricultural Impact Assessment document.
Plan No.	4612/02 based on plans by Pike Partnership - Scale 1:500 at A1
Date	19 th November 2021
C. J. Yardley Landscape Survey and Design LLP Priory Lane, Ingworth NR11 6PG 01263 479891	

PIKE Incorporated Architectural Technologists Designers Planning Consultants
 11 Hamilton Road . Cromer . Norfolk . NR27 9HL
 Tel: 01263 802555

CIAT

partnership

client: Alistair Mackinnon drawing: Site plan

project: Self heating house Thwaite common scale: 1 : 500

date: 01/02/21 drawing ncr 3003-04b

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