



Arboricultural Report

Impact assessment and method statement

Foresters Cottage
Claypits Lane
Lypiatt

23rd February 2021

Compiled for:

Karen Courtney

By

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BSc (hons) Arb, Cert Arb L4 (ABC), BA (Hons), MArborA

Ref: WTC_664.01

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Validation statement for LPA registration

This report is submitted to Stroud District Council to accompany a planning application. The report contains tree information relating to the proposal for a garden room.

For local planning authority (LPA) validation purposes, this report contains the following:

- A full tree survey compliant to the requirements of BS5837:2012 'Trees in relation to design, demolition and construction – recommendations' undertaken by a competent and qualified arboriculturist.
- A suitably scaled plan with a north point showing the site boundaries and the tree survey information.
- An assessment of the impacts of the proposed development on the existing trees. This includes recommendations of which trees should be removed/retained and the proposed protection measures.
- An arboricultural method statement outlining appropriate methods of tree protection and any specific technical construction methods needed to implement the design proposals with minimal detriment to retained trees.

Summary

A summerhouse is proposed within the garden of Foresters Cottage. The footprint will be partially within the RPA of a B category walnut tree and so piled foundations will be employed with an arboricultural watching brief to ensure minimal disruption to the rooting area of the tree. Tree protective fencing will also be installed for the duration of the build. With works being carried out in accordance with this tree report the overall impact on the trees is considered to be low.

Contents

Validation statement for LPA registration.....	2
Summary.....	2
1.0 INTRODUCTION.....	5
1.1 Instruction:.....	5
1.2 Documents provided:.....	5
1.4 Limitations:	6
1.5 Ecological Constraints:	6
1.6 Tree preservation orders and/or conservation area protection:	6
2.0 SITE VISIT AND DATA COLLECTION	7
2.1 Site Visit:	7
2.2 Site Description:.....	7
2.3 Data collection:	7
2.4 Interpretation of data:	9
3.0 ARBORICULTURAL IMPACT APPRAISAL	9
3.2 Below ground constraints	11
3.3 Above ground constraints	11
3.4 Trees to be retained	12
3.5 Trees to be removed	12
4.0 ARBORICULTURAL METHOD STATEMENT	13
4.1 Tree works prior to construction.....	13
4.2 Protective fencing.....	13
4.3 Site access.....	13
4.4 Contractors car parking	14
4.5 Site huts and storage	14
4.6 Demolition of the existing summer house	14
4.7 Service installation	14
4.8 Ground level changes	14
4.9 Foundations within Root Protection Areas	14
4.10 Hard surfaces within Root Protection Areas	15

4.11 Soft landscaping within exclusion zones	15
4.12 Responsibilities.....	15
4.13 Arboricultural supervision	16
APPENDIX 1: Tree schedule	19
APPENDIX 2: Tree constraints plan.....	21
APPENDIX 4: Tree protection plan.....	22
APPENDIX 5: Tree protection fencing (source: BS5837:2012)	23
APPENDIX 6: Tree protection fencing signs.....	24
References	25

1.0 INTRODUCTION

1.1 Instruction: I am instructed by Karen Courtney, to inspect the trees that could affect or be affected by the development proposal at the land known as Foresters Cottage. This report, in compliance with BS5837:2012 'Trees in relation to design, demolition and construction - recommendations' is required to accompany the submission of a planning application for the proposal for a garden room.. My instruction is to prepare the following information:

- A schedule of the relevant trees including tree data and condition assessment.
- A tree constraints plan.
- An arboricultural impact appraisal.
- An arboricultural method statement.
- A tree protection plan.

1.2 Documents provided: Drawings WTC_664.02 (tree constraints plan), WTC_664.03 (tree retention/removal plan) and WTC_664.04 (tree protection plan) are derived from the following drawings which were supplied to me by Anthony Webster:

- Ruxton Surveys drawing – *Site Survey* – Dwg. No. 19194/01 – dated: November 2019
- Anthony Webster Architectural Design Ltd drawing – *Proposed Garden room* – Dwg. No. FC.04 – Dated: Feb 2021

1.3 I am a consulting arboriculturist with Wotton Tree Consultancy Ltd. I have a BSc (hons) Arboriculture and the AA Technicians Certificate in Arboriculture (Cert Arb L4 (ABC)). I am a LANTRA qualified Professional Tree Inspector. I am a professional member of the Consulting Arborists Society, a professional member of the Arboricultural Association, an associate member of the Institute of Chartered Foresters and a licensed user of Quantified Tree Risk Assessment (QTRA) - license no. 2278. I am trained in valuing amenity trees using the Capital Asset Value for Amenity Trees (CAVAT) system. I have been a consulting arborist since 2006.

1.4 Limitations:

1.4.1 My survey was a preliminary assessment undertaken from ground level and observations have been made solely from visual inspections for the purposes of assessment in terms relevant to planning and development. Only binoculars, mallet and a probe have been used to aid tree assessment. No invasive or non-invasive internal decay detection devices have been used in assessing tree condition.

1.4.2 The recommendations and conclusions in this report relate only to the conditions found on this site at the time of the site visit and inspection. The recommendations contained within this report are valid for a period of 12 months from the date of this report. Any significant alteration to the site that may affect the trees that are present or have planning implications (level changes, additional tree works, post extreme weather events, hydrological changes) and will necessitate a re-assessment of the trees and the site.

1.4.3 The tree survey that forms part of this report is not a tree safety inspection. The survey has been carried out in order to inform the planning process. Where obvious risks have been observed, they have been addressed in the 'preliminary management recommendations' (see Appendix 1 – Tree Schedule). Potential hazards and levels of risk are likely to change as the site usage changes during and post development.

1.5 Ecological Constraints: The Wildlife and Countryside Act 1981 and amendments made within and subsequent to the Countryside and Rights of Way act 2000 provides statutory protection to bats, birds and other species that inhabit or use trees. The protection afforded to these species could impose significant constraints on the use of a particular site as well as significantly restrict the timing of any works that may be necessary. Any restrictions are in addition to the tree restriction highlighted in this report. Whilst I have some working knowledge of these potential issues they are outside my area of expertise and you must seek advice from a qualified ecologist to ascertain if any further restrictions apply.

1.6 Tree preservation orders and/or conservation area protection:

Having consulted Stroud District Council's online planning map (<https://stroud.maps.arcgis.com/apps/webappviewer/index.html?id=96d9891272094303adb0ad9b4a84b910>) [accessed 23rd February 2021] I am informed that the site does not sit within a Conservation Area, nor are any trees on site subject to a Tree Preservation Order. Due to occasional inaccuracies with web-based records it is advisable to check directly with Stroud District Council before undertaking tree works.

Any tree works recommended for trees subject to a TPO or within a Conservation Area may need to be applied for (or notified to the council in the case of a conservation area) separately unless full planning permission is granted and this report constitutes an approved document with the main planning application.

2.0 SITE VISIT AND DATA COLLECTION

2.1 Site Visit: I visited the site on 16th February 2021. All observations were made from ground level (aided by the Visual Tree Assessment method – Mattheck and Breloer, 1994) and all measurements except stem diameter were estimated unless otherwise stated in the tree schedules. The weather at the time of the visit was cool and overcast; these conditions in no way hindered my ability to view the trees.

2.2 Site Description:

The site comprises a small area of the rear garden of Foresters Cottage.

2.3 Data collection: Each tree or group was inspected and allocated an identification number as indicated in the tree schedule (appendix 1) and tree survey plan. For each tree the following information was collected:

- species
- height (m)
- stem diameter (mm)
- average radius of crown to 4 cardinal points (m)
- height and orientation of first significant branch
- average height of canopy clearance
- life stage
- observations regarding condition
- preliminary management recommendations
- safe useful life expectancy

As encouraged in BS5837:2012, each tree or group was allocated to one of four categories (A,B,C or U), which reflects its suitability for retention in context of the development. Please see table 1 for explanation of the criteria for tree categorisation.

Table 1: cascade chart for tree assessment, adapted from Table 1 of BS5837:2012

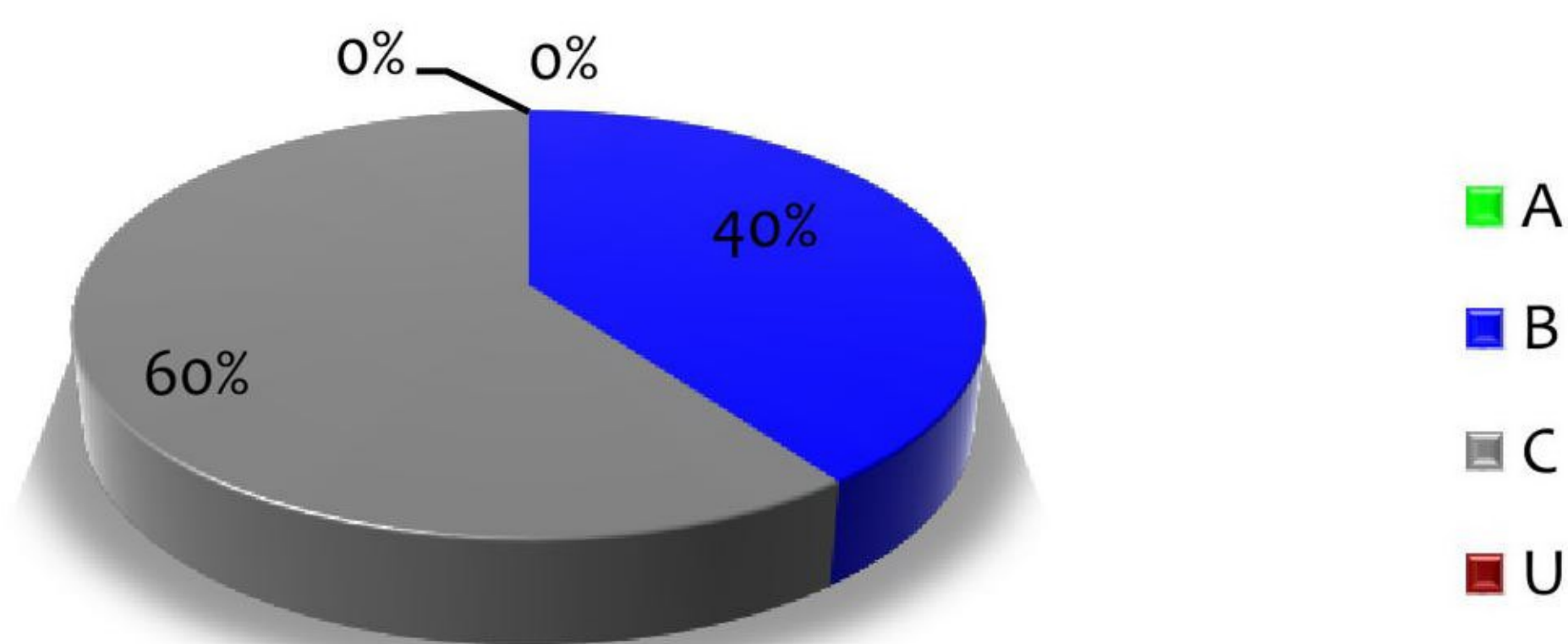
Category & definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for >10 yrs	<ul style="list-style-type: 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 Trees that are dead or showing signs of significant, immediate and irreversible decline Trees infected with significant pathogens affecting health or safety, or very low quality trees suppressing trees of better quality <p><i>NOTE: these trees can have existing or potential conservation value making retention desirable</i></p>			DARK RED
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values incl conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of >40 yrs	Particularly good examples of their species, esp if rare or unusual. Those that are essential components of groups or formal or semi-formal arboricultural features	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value	LIGHT GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of >20 yrs	Trees that might be included in category A but are downgraded because of impaired condition such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit category A designation.	Trees present in numbers, usually growing as groups or woodlands such that they attract a higher collective rating than they might as individuals. Trees occurring as collectives but situated so as to make little visual contribution to the area.	Trees with material conservation or other cultural value	MID BLUE
Category C Trees of low quality with an estimated remaining life expectancy of >10 years, or young trees with a stem diameter <150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary landscape benefits.	Trees with no material conservation or other cultural value.	GREY

2.4 Interpretation of data: Section 4.6 of BS5837:2012 recommends that the trunk diameter measurement is used to calculate the RPA which can then be interpreted to identify the design constraints of a particular site. Once the design principal has been established the construction exclusion zone and location of protective measures can be identified.

3.0 ARBORICULTURAL IMPACT APPRAISAL

3.1.1 A total of 15 items were surveyed within and adjacent to the development site. These items comprised 11 individual trees, 3 groups and 1 hedge. The chart below shows the ratio of tree retention categories on the site.

Tree retention category ratios



3.1.2 The entrance to the site consists of a hardstanding driveway with trees on either side, being G1 (to the right of the photo), G2 and G3 (to the left). Their RPA has been amended to reflect the hardstanding. G1 and G2 are B category groups consisting of sycamore with holly, ash and hazel. G3 is a C category group containing hazel, elm and sycamore.



Plate 1: G1-G3 with the hardstanding access to the site.

- 3.1.3 T1 is a B category walnut. At its base is an existing summer house which is to be removed and replaced. As this is all within the RPA of this tree, a method statement within section 4 of this report has been compiled for the removal of the existing structure. The replacement structure will be founded on screw piles, and will sit above the existing ground level. This is further detailed in section 4. Protective fencing will be installed for the duration of the build in accordance with the Tree Protection Plan (WTC_667.04)



Plate 2: T1 – B category walnut with summer house at base.

- 3.1.4 The remaining trees on site occupy the boundary and are predominantly at the bottom of a steep slope. These trees will be unaffected by the project and protective fencing is not considered necessary.



Plate 3: T6 – T11 growing along the north corner of the site.

3.2 Below ground constraints

- 3.2.1 Below ground constraints refer to tree roots. These are easily overlooked during construction operations as they are unseen and often little is understood about their importance. It is essential to ensure that roots are not damaged during building operations as they are the life blood of each tree, providing structural stability by anchoring the tree to the ground and providing transportation of water and nutrients from the soil to the foliage.
- 3.2.2 In reality the spread of roots for trees in an urban environment will rarely be distributed in a perfect circle as the environment below ground level is highly variable. The presence of structural foundations, pipes, impermeable surface coverings and differing soil conditions mean that tree roots will extend in to areas that offer a preferential environment; where water is most available and the soil is least compacted.
- 3.2.3 Root protection areas (RPAs) are shown as a circle centred on the base of the stem unless site conditions such as nearby structures indicate that the shape of the rooting area deviates from this format.
- 3.2.4 The proposals encroach into the RPA of T1. In order to minimalise disruption to the rooting area, screw piles will be used.

3.3 Above ground constraints

- 3.3.1 Trees in close proximity to buildings can provide some constraints, both actual and perceived. Actual constraints may be where low branches conflict with new elevations either at the time of building or in the future. Future growth of young trees should be accommodated in building design. Other constraints include shade, leaf litter and damage from falling branches.
- 3.3.2 Large tree canopies close to buildings can also cause 'post-development pressure' by way of requests for tree removal or pruning as a result of resident anxiety.
- 3.3.3 While the summer house will be in shade for much of the day, its effect will be insignificant as the windows face to the north.
- 3.3.4 It is possible that leaf fall could block gutters and downpipes. This can be mitigated through regular maintenance of the guttering or by installing a proprietary gutter guard.

3.4 Trees to be retained

3.4.1 Of the 11 trees, 3 groups and 1 hedge surveyed, all are proposed to be retained.

3.4.2 Tree protection on development sites is of paramount importance if trees are to be retained successfully. The inevitable stress caused by development near an existing tree can, if provision for adequate protection is not made, be a strain that can severely damage the trees or even result in their death. Although the trees appear healthy during and on completion of the development, the full effects may not come apparent for up to five or more years after works have finished.

3.5 Trees to be removed

3.5.1 No trees are proposed for removal as a result of this development.

4.0 ARBORICULTURAL METHOD STATEMENT

4.0.1 Control measures for construction works in or near to the root protection zone are detailed in this chapter. This will form the method statement of works and will be the exact principle/methodology utilized during construction periods.

4.1 Tree works prior to construction

4.1.1 Following the approval of Stroud District Council's appointed Tree officer, all tree works will be carried out to BS 3998 "*Recommendations for Tree Work*" (2010) or BS 5837 "*Trees in relation to design, demolition and construction - Recommendations*" (2012) or as modified by more recent research. Tree works will be undertaken before commencement of other site operations.

4.2 Protective fencing

4.2.1 Before the commencement of any works on site protective fencing shall be erected to the dimensions shown on the accompanying drawing 'tree protection plan'. Individual root protection areas at the measured m² will be erected for the duration of the development around retained trees. Although these protection measures will be in place for the duration of the development on site monitoring will allow for the successful retention of the subject trees.

4.2.2 Tree protection fencing will be constructed to the specification as set out in Appendix 4 of this report. It is imperative that the fencing is constructed in such a way that it cannot be easily moved or opened during construction work.

4.2.3 Signs will be affixed to the fencing to inform on-site contractors of the importance of the fencing barriers (Appendix 5).

4.2.4 The construction exclusion zones (CEZs) are to be treated as sacrosanct and the following guidelines must be followed:

- NO mechanised excavations
- NO movement of construction traffic or parking of vehicles
- NO storage of building materials
- NO storage of chemicals or fuels
- NO fires to be lit in close proximity to trees

4.2.5 Fences must only be removed following a site visit from the Local Authority officer to confirm on-site construction activity has been completed.

4.3 Site access

4.3.1 The site shall be accessed via Claypits Lane.

4.4 Contractors car parking

4.4.1 No vehicles shall be parked on un-surfaced ground within the RPA of retained trees.

4.5 Site huts and storage

4.5.1 Any storage required for materials, spoil, plant or welfare facilities shall be positioned outside the RPA of retained trees. Mixing of cement shall be in a designated area where runoff will not enter the RPAs of retained trees. Ground protection in the form of a geotextile membrane will ensure no leaching of mixings enters the soil and kick boards around the perimeter will ensure that runoff is contained.

4.6 Demolition of the existing summer house

4.6.1 The existing summer house lies within the RPA of T1 and so the following method of works shall be undertaken to ensure the rooting area is not adversely impacted by this operation.

4.6.2 The summer house will be carefully demolished using hand tools.

4.6.3 If heavy machinery is to be used it shall be stationed outside the RPA of retained trees. No scraping of the ground shall be undertaken by heavy machinery.

4.6.4 The spoil will be stored away from the RPA of retained trees.

4.7 Service installation

4.7.1 I have not been supplied with details of the routing of underground services that may affect the trees on site. The provision of underground services must be led by the site's tree constraints. Should the routing of services cause conflict with the specified RPAs, a detailed and specific method of work will be provided in writing to the LPA for approval prior to installation of services.

4.8 Ground level changes

4.8.1 There shall be no changes in ground levels during the construction.

4.9 Foundations within Root Protection Areas

4.9.1 The proposed garage sits within the RPA of T1 and so the structure will bear upon piled foundations with the finished base of the structure being above ground level. The design and installation of these is beyond the scope of this report and should be undertaken by the project structural engineer. However, piling operations can still be damaging to trees unless protective measures are taken.

- 4.9.2 The following methodology shall be followed along with that of the piling contractor to ensure minimal disruption to the rooting area of T1:
- 4.9.3 Piling holes to be marked out on site by the project structural engineer
- 4.9.4 If the piling rig needs to enter the RPA of T1 a piling mat is required to reduce compaction. This should be designed and installed by the piling contractor and signed off by the project arboriculturist.
- 4.9.5 All piling holes should be sleeved, if within retained tree RPAs, to prevent sideways contamination of the root zone by cement / concrete.
- 4.9.6 Once the piles have been installed the ground protection can be removed, retaining the geotextile membrane in situ to avoid ground contamination. The base of the building can then be completed.

4.10 Hard surfaces within Root Protection Areas

- 4.10.1 There shall be no hard surfaces within RPAs of retained trees.

4.11 Soft landscaping within exclusion zones

- 4.11.1 Soft landscaping must respect the rooting areas of retained trees. Removal of spoil and the import of materials must be outside the specified RPAs.
- 4.11.2 No level changes or disturbance to the soil will take place within RPAs of retained trees. This includes in particular any rotavating of the ground. Should the soils require cultivating, the use of an airspade can be employed under an arboricultural watching brief.

4.12 Responsibilities

- 4.12.1 It will be the responsibility of the main contractor to ensure that any planning conditions attached to planning consent are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site.
- 4.12.2 The main contractor will be responsible for contacting the Local Planning Authority at any time issues are raised related to the trees on site.
- 4.12.3 If at any time pruning works are required permission must be sought from the Local Planning Authority first and then carried out in accordance with BS 3998 Recommendations for Tree Works 2010.
- 4.12.4 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes.

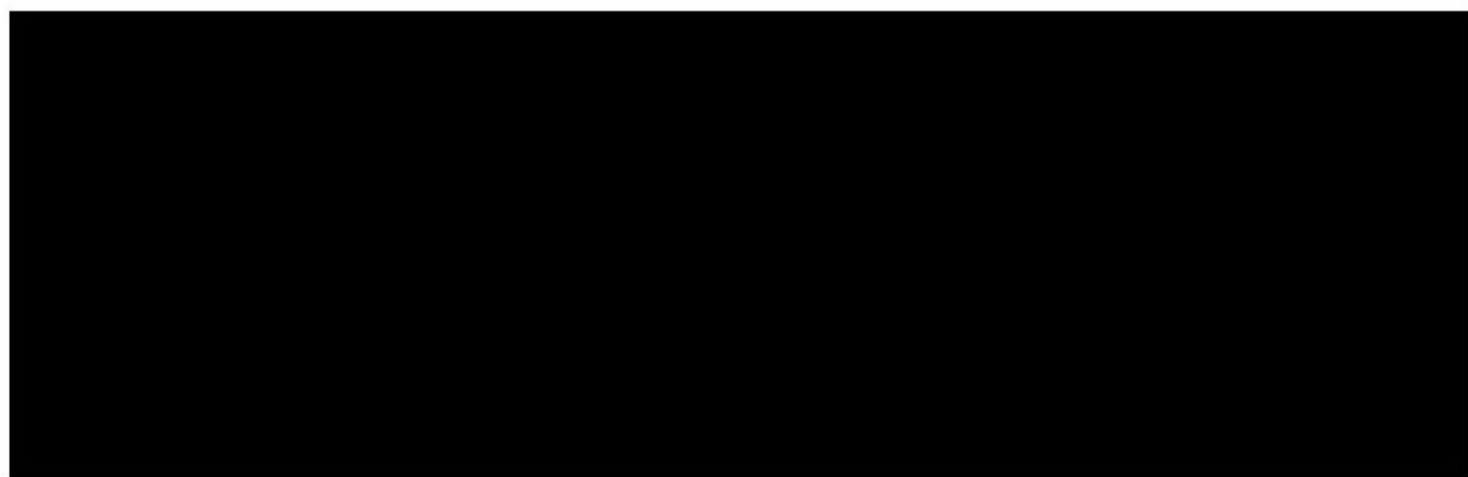
Protective fences will remain in position until completion of ALL construction works on the site.

4.12.5 The fencing and signs must be maintained in position at all times and checked on a regular basis by an onsite person designated that responsibility.

4.13 Arboricultural supervision

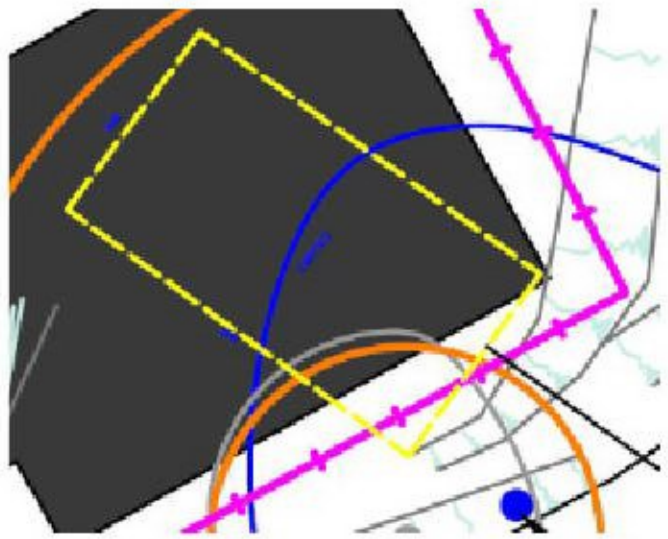

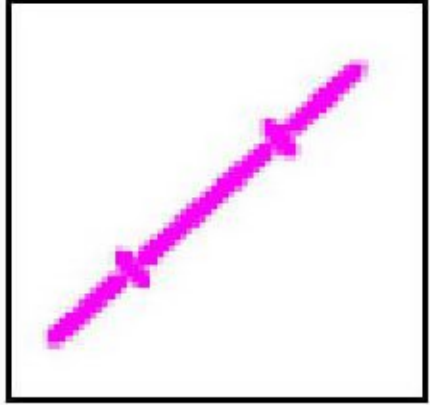
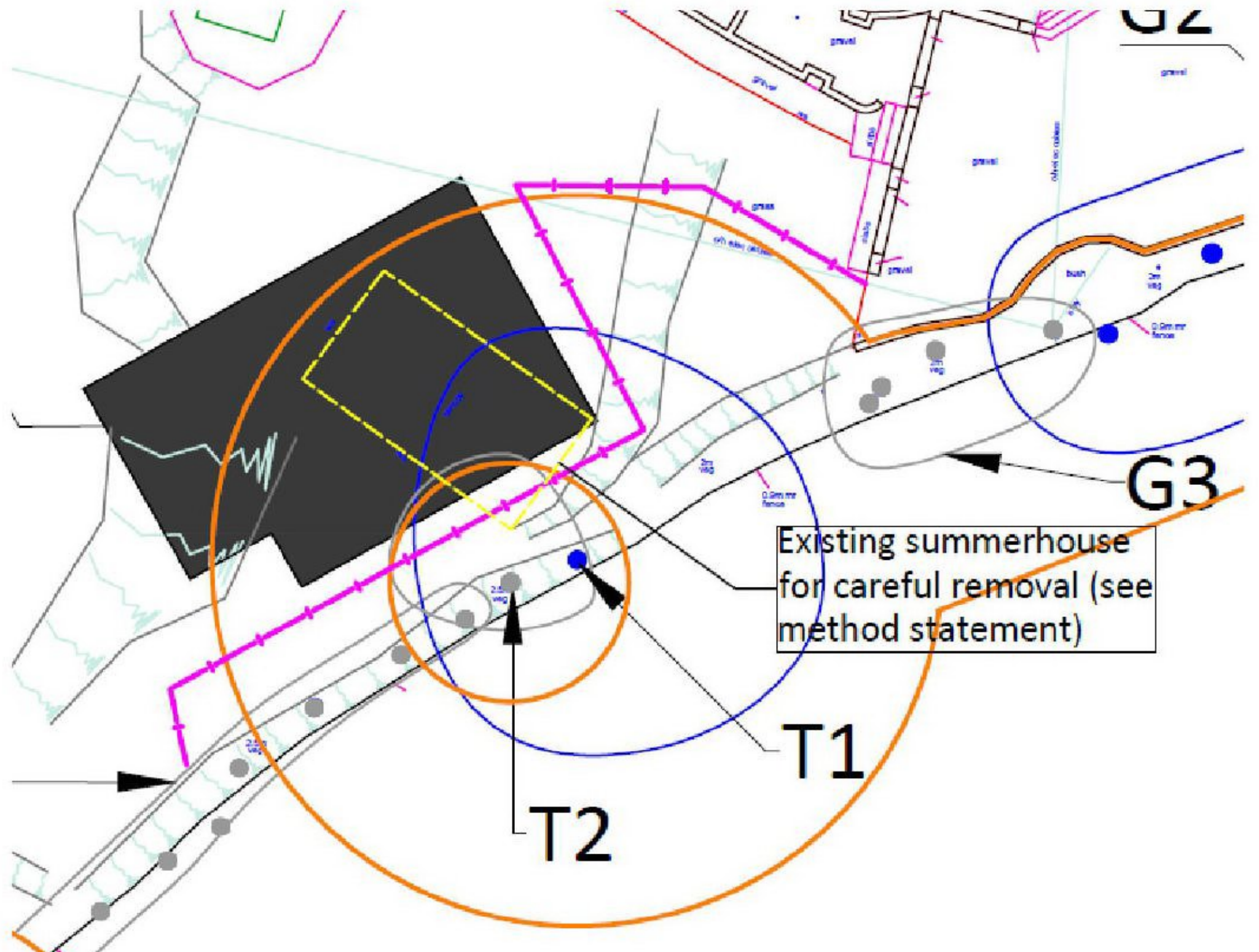
4.13.1 It is recommended a number of short inspections of the subject trees should be undertaken by the project arboriculturist familiar with BS5837:2012 operations during the extent of the project to ensure that methods of works are in accordance with this method statement.

4.13.2 Any works required within the RPA of retained trees that is not covered in this document can only be done so with the written permission of the Local Planning Authority, in accordance with a detailed arboricultural method statement and under an arboricultural watching brief.



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23rd February 2021

Phase	Requirements	Method
<p>1 Demolition</p>	<p>Demolition of existing summer house (Yellow dotted line)</p> 	<p>The existing summer house to be removed in accordance with section 4.6 of this report which is as follows:</p> <ol style="list-style-type: none"> 1. The existing summer house lies within the RPA of T1 and so the following method of works shall be undertaken to ensure the rooting area is not adversely impacted by this operation. 2. The summer house will be carefully demolished using hand tools. 3. If heavy machinery is to be used it shall be stationed outside the RPA of retained trees. No scraping of the ground shall be undertaken by heavy machinery. 4. The spoil will be stored away from the RPA of retained trees.
<p>2 Prior to any construction works on site</p>	 	<p>Protective fencing is to be erected in accordance with 4.2 of this report.</p> <p>The fencing must comply with the positions shown in the Tree Protection Plan and agreed at the pre-commencement site meeting.</p> <p>No works, no storage of materials, no access, or any ground disturbance is to take place within the Tree Protection Barrier Fencing. Fenced areas are to be treated as Construction Exclusion Zones.</p> <p>Warning signs to be placed on all protective fencing. For large sections of fencing the signs must be placed at 15m intervals.</p> <p>Signs must be laminated and securely attached at all corners. Two signs are to be placed side by side; copies of which are attached within Appendix 5.</p> 
<p>3 Start of development</p>	<p>Commencement of development</p>	<p>Protective fencing to remain in situ during development phase.</p>

Phase	Requirements	Method
<p>4 Start of development</p>	<p>Installation of piled foundations</p>	<p>Screw piled foundations to be installed in accordance with both the contractor's method statement and that contained within section 4.9 of this report.</p>
<p>5 Completion of main construction and undertaking of landscaping</p>	<p>Landscaping and Dismantling of tree barrier protective fencing.</p>	<p>It is essential that ground levels within the root protection areas are not altered, either by raising or lowering soil levels; even at the landscaping stage.</p> <p>Landscaping operations must be undertaken in a manner that will not impact trees.</p> <p>Landscaping within the root protection area of trees must be undertaken in the following manner:</p> <ol style="list-style-type: none"> 1. Any existing ground flora (grass/weeds/scrub) is to be sprayed with a systemic herbicide and left to die-off. 2. Dead flora is to be strimmed as hard as possible with a brush cutter or similar. The bulk of the strimmed material is to be removed by raking. 3. A good quality organic topsoil layer may be placed down. Small depressions may be filled (and lightly compacted underfoot). Placed topsoil soil layers must not exceed 100mm depth. 4. No plant machinery operating within the root protection areas to exceed 1 tonne gross weight and must only operate from propriety ground protection boards such as DuraMatt Access Matts. 5. Turf and other planting to proceed thereafter.

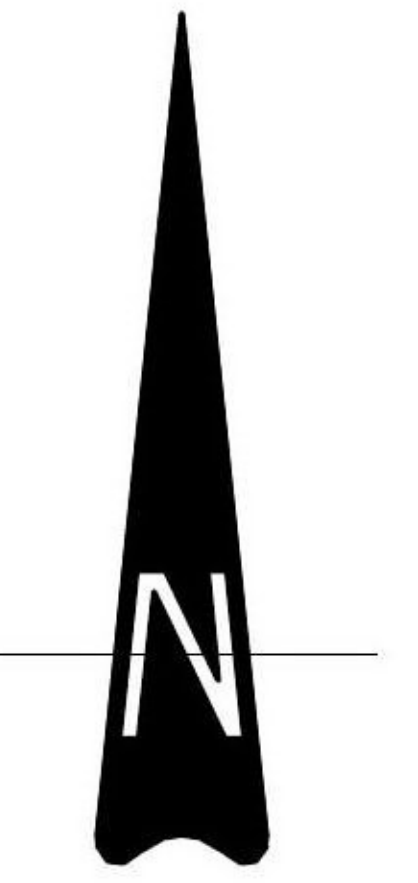
APPENDIX 1: Tree schedule

Tree ID	Species	Ht (m)	Stem Dia. (mm)	Spread (m)				Avg. Canopy Height (m)	Life Stage	Health & vitality	Struct. cond.	General Observations	Preliminary Recommendations	Estimated safe useful life expectancy (Years)	BS5837: 2012 Category	RPA Radius (m)	RPA m ²
				N	E	S	W										
G1	Yew, sycamore, holly, ash	10	300	-	-	-	-	4	Early-mature	Good	Fair	Group of trees on island of raised ground	-	20+	B2	3.6	41
G2	Ash, sycamore, hazel, horse chestnut, cherry	13	350	-	-	-	-	4	Mature	Good	Fair	Linear group. Driveway immediately to the north with large area of lawned garden to the south.	-	20+	B2	4.2	55
G3	Hazel, elm and sycamore	7	150	-	-	-	-	2	Semi-mature	Fair	Fair	Extension of G2	-	10+	C2	1.8	10
T1	Walnut	11	820	6	6	5	4	3	Mature	Good	Good	-	Crown lift to 4m over proposed summer house	20+	B2	9.8	304
T2	Elm	6	270	3	2	1	3	1	Early-mature	Fair	Fair	Growing through canopy of T1. Dense ivy	-	10+	C2	3.2	33
H1	Ash	2	30	-	-	-	-	0	Mature	Fair	Fair	Formerly a row of ash trees, Norway cut down to 1m and partially laid as a hedge	-	10+	C3	0.0	0
T3	Ash	9	450	4	3	4	4	3	Early-mature	Fair	Fair	Off site tree. Diameter estimated. Dense ivy	-	10+	C2	5.4	92

Tree ID	Species	Ht (m)	Stem Dia. (mm)	Spread (m)				Avg. Canopy Height (m)	Life Stage	Health & vitality	Struct. cond.	General Observations	Preliminary Recommendations	Estimated safe useful life expectancy (Years)	BS5837: 2012 Category	RPA Radius (m)	RPA m ²
				N	E	S	W										
T4	Ash	12	600	3	3	3	3	3	Mature	Fair	Fair	Off site tree. Diameter estimated. Dense ivy	-	10+	C2	7.2	163
T5	Horse chestnut	7	370	4	3	3	3	2	Semi-mature	Fair	Fair	Multi stemmed from base	-	10+	C2	4.4	62
T6	Norway maple	6	210	1	3	2	3	1	Semi-mature	Fair	Fair	Included bark Union at base	Remove smaller stem to abate future potential stem failure.	10+	C2	2.5	20
T7	Hawthorn	6	180	3	2	2	2	2	Early-mature	Good	Good	-	-	20+	C2	2.2	15
T8	Oak	8	1000	5	6	5	5	1	Mature	Good	Good	Off site tree. Diameter estimated	-	20+	B2	12.0	452
T9	Horse chestnut	4	100	0	3	3	2	0	Semi-mature	Fair	Fair	-	-	10+	C2	1.3	5
T10	Abies spp	9	450	3	3	3	3	1	Early-mature	Good	Fair	Off site tree. Diameter estimated	-	20+	B2	5.4	92
T11	Yew	8	380	4	4	4	3	2	Early-mature	Good	Good	-	-	20+	B2	4.5	65

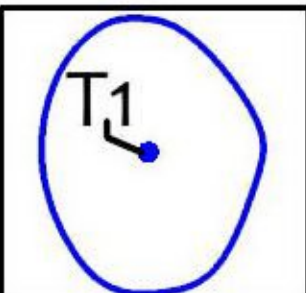
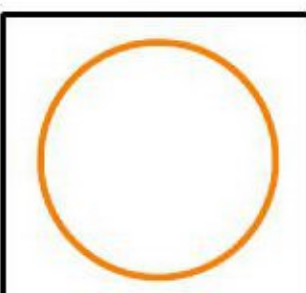
APPENDIX 2: Tree constraints plan

WTC_664.02







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Key

-  Retained tree
-  Root Protection Area

Retention Categories

-  A High quality
-  B Moderate quality
-  C Low quality
-  U Unsuitable for retention

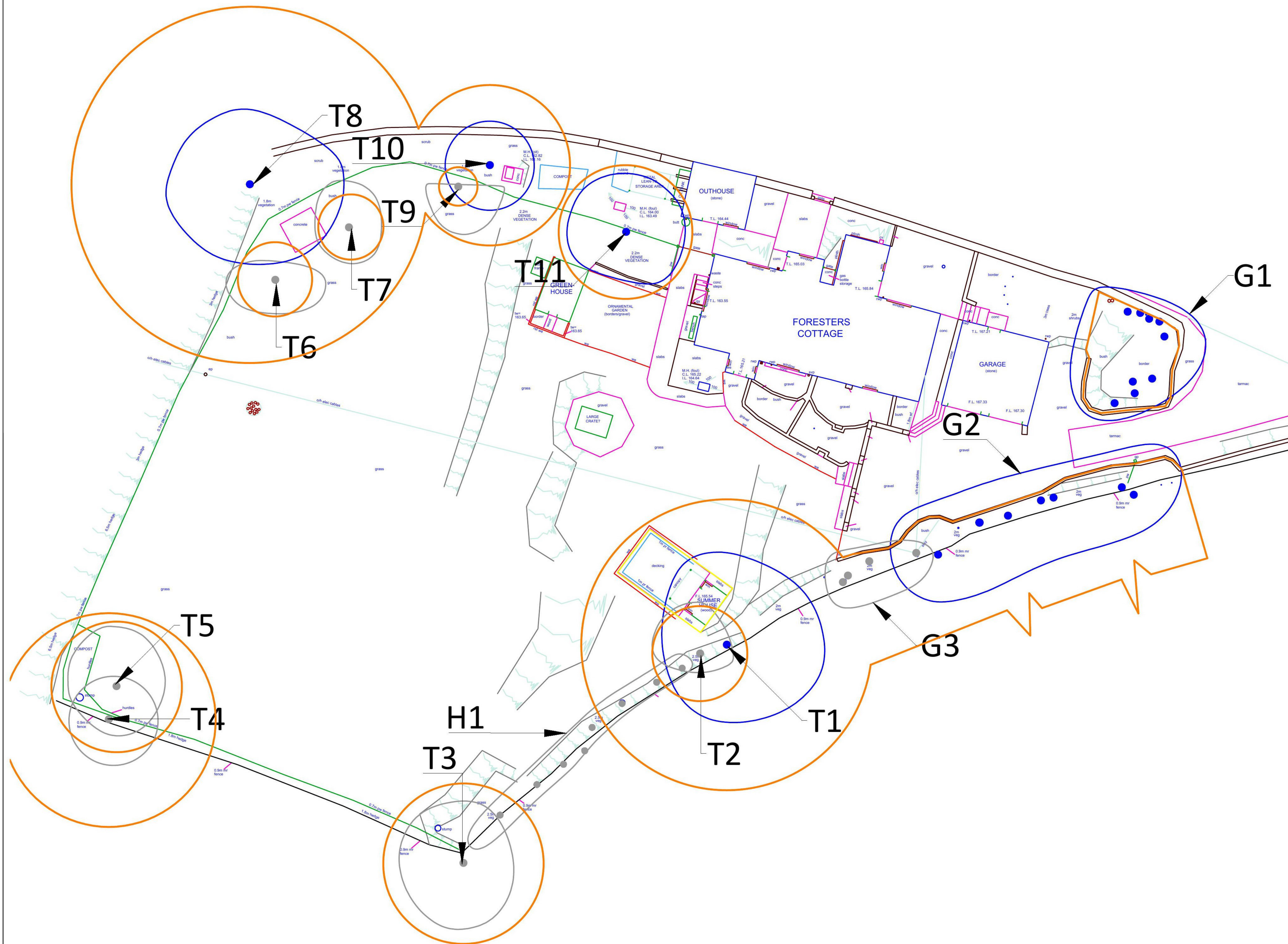
Project

Foresters Cottage
Claypits Lane
Lypiatt

Title

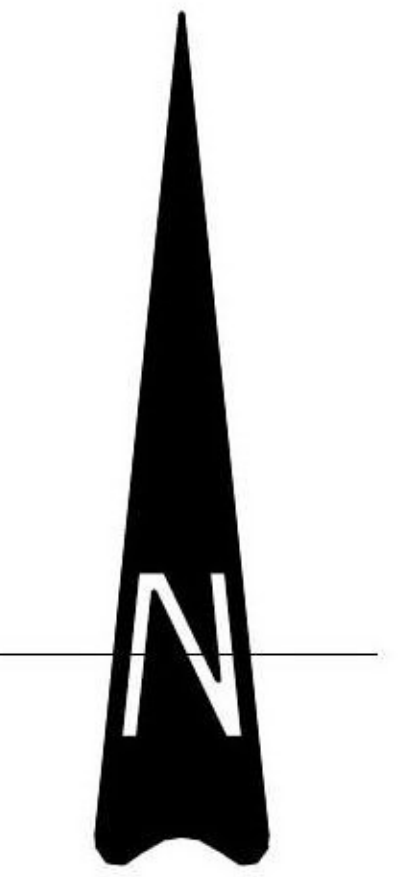
Tree Constraints Plan

		Rev	Rev date
Drg No	WTC_667.02		
Scale @A3	1:250	Drn by	PD
Date	Feb 2021	App	



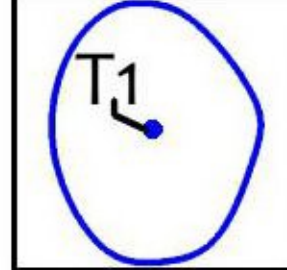
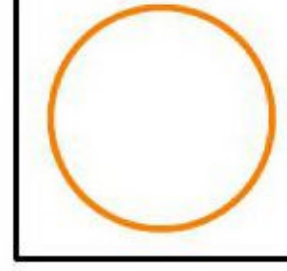
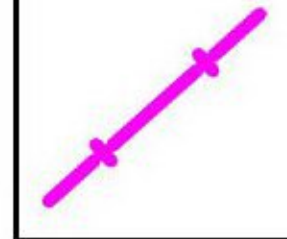
APPENDIX 3: Tree protection plan


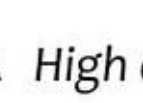

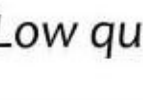
WTC_664.04



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Key

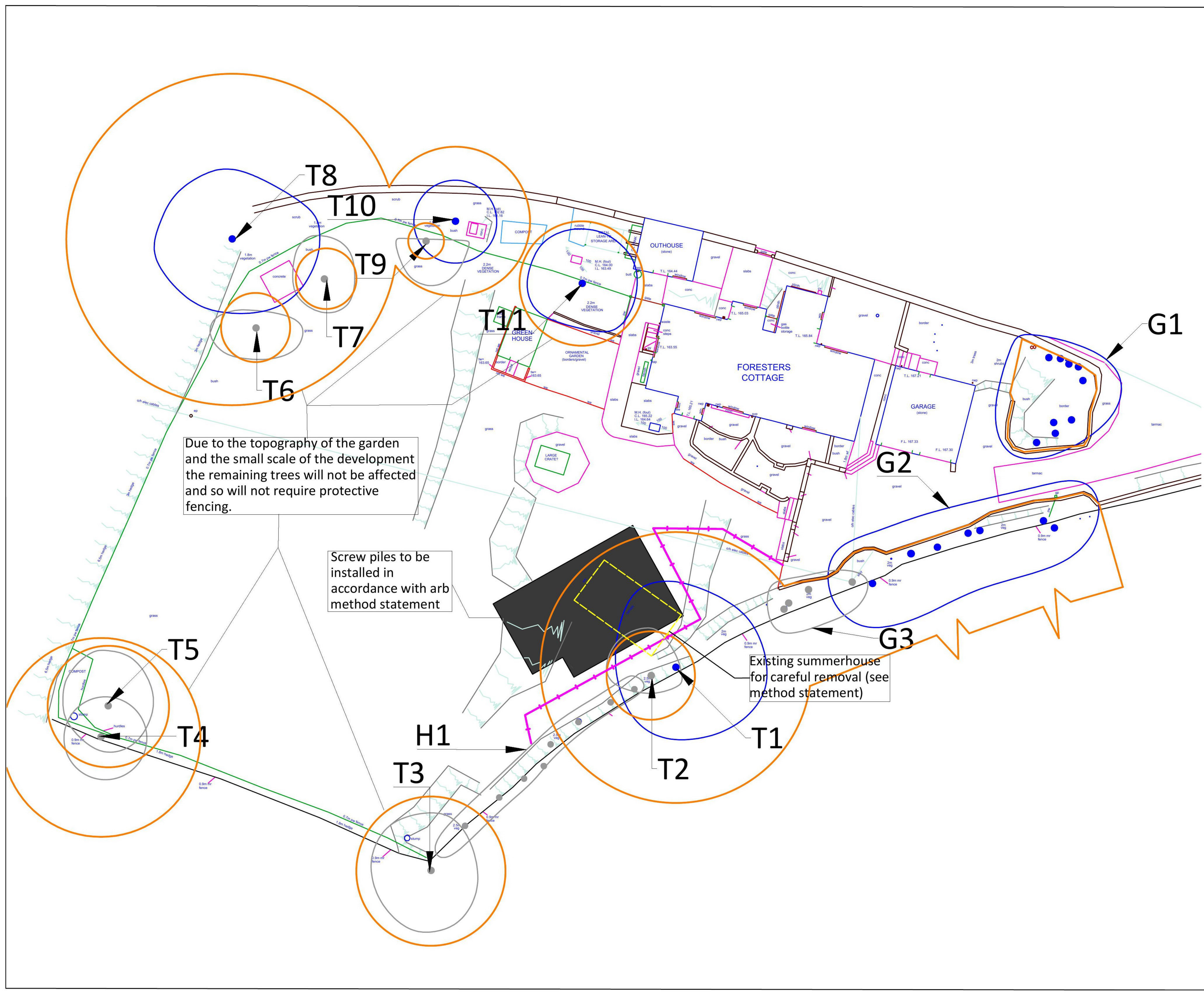
-  Retained tree
-  Root Protection Area
-  Protective fencing

- Retention Categories**
-  A High quality
 -  B Moderate quality
 -  C Low quality
 -  U Unsuitable for retention

Project
**Foresters Cottage
 Claypits Lane
 Lypiatt**

Title
Tree Protection Plan

		Rev	Rev date
Drg No	WTC_667.04		
Scale @A3	1:250	Drn by	PD
Date	Feb 2021	App	

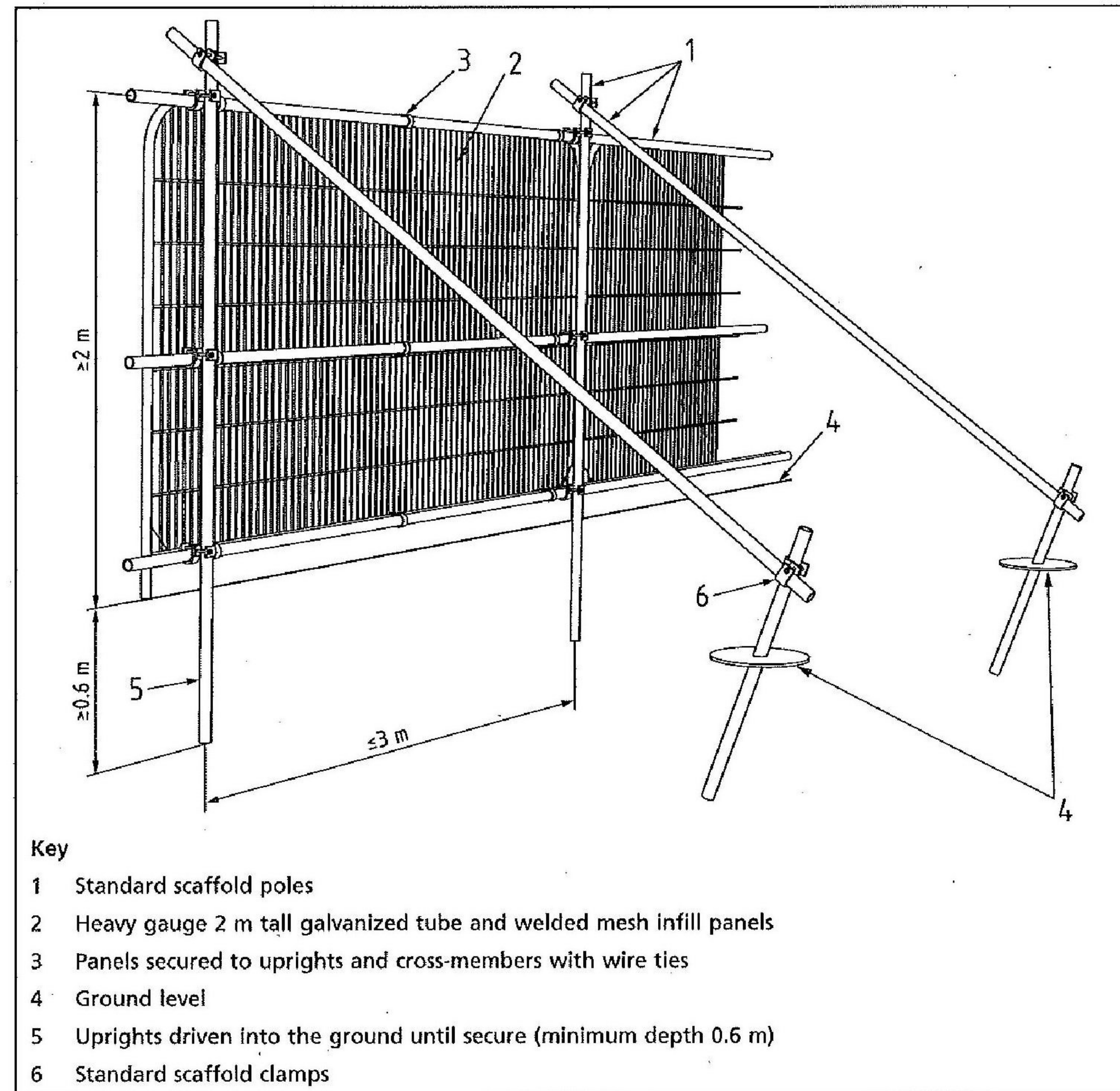


Due to the topography of the garden and the small scale of the development the remaining trees will not be affected and so will not require protective fencing.

Screw piles to be installed in accordance with arb method statement

Existing summerhouse for careful removal (see method statement)

APPENDIX 4: Tree protection fencing (source: BS5837:2012)



APPENDIX 5: Tree protection fencing signs



References

BSI Standards Publication (2012) *BS5837 Trees in relation to design, demolition and construction – Recommendations* BSI: London

BSI Standards Publication (2010) *BS3998 Tree Works – Recommendations* BSI: London

Lonsdale, D (1999) *Principles of Tree Hazard Assessment and Management*, TSO: London

Matheny, N.P & Clark, J.R (1994) *Evaluation of Hazard Trees in Urban Areas* 2nd Ed
ISA Illinois

Mattheck, C & Breloer, H (2003) *The Body language of Trees*, TSO: London

Read, H (2000) *Veteran Trees: A guide to good management*, English Nature: London

Strouts, R.G & Winter, T.G (2004) *Diagnosis of Ill-Health in Trees*, TSO: London

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