

Arboricultural Appraisal

(Incorporating an Arboricultural Impact Assessment and Tree Protection Measures in accordance with BS5837:2012: *trees in relation to design, demolition and construction – Recommendations*)

Project: Moss Villa, Chapel Lane, Bronington, Whitchurch, SY13 3HR

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On Behalf of: [REDACTED]

Foreword

Salopian Consultancy Ltd is an Arboricultural/Ecological consultancy which provides inputs to guide developers and architects during the planning process.

Core services include BS5837:2012 tree surveys, condition assessments, mortgage applications and woodland management. In addition, Salopian Consultancy Ltd have in house ecological expertise enabling them to perform a range of Phase 1 and Phase 2 ecological surveys.

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Executive summary

Brief of the study and context of development

This report has been prepared to identify the key arboricultural constraints to inform a planning application for the extension of the property refer to as Moss Villa, removal of a Dutch barn and construction of a car port. The aim of the study has been to highlight those arboricultural constraints so that significant impacts upon trees are avoided or minimised as far as possible whilst identifying opportunities to enhance the tree stock in the long term.

Survey methods

A tree survey was undertaken in accordance with the methodology set out in **BS5837:2012 Trees in relation to design, demolition and construction – Recommendations**. This information has been presented to the design team to act as a tool to ensure consideration has been given to those trees on and immediately off site during the design process.

An Arboricultural Impact Assessment (AIA) has been performed to provide an informed account on how foreseeable direct and indirect impacts associated with development may impact upon the tree stock. Following completion of the AIA, tree protection measures have been prescribed to demonstrate how those trees proposed for retention can be protected during development.

Findings and recommendations

The AIA identified that the removal of two 'C grade' trees, (**T5** a mature hawthorn and **T30** an early mature apple) are foreseeable to facilitate the construction of the car port and demolition of the Dutch barn respectively.

The use of ground protection has been proposed within the Root Protection Area (RPA) of **T31**, a 'B grade' pear tree to aid access during construction whilst avoiding compaction of the rooting environment. The reduction of the western limbs of this tree is anticipated to provide clearance during construction activities notably to facilitate the erection of scaffolding.

Those remaining trees can be protected during construction by means of protective barrier fencing to maintain a Construction Exclusion Zone (CEZ) that respects the RPA of each tree. Such protection measures and provisions for new planting could be secured by a suitably worded planning condition.

Section 1: Tree Survey

Introduction

- 1.1 This report, its plans and associated appendices have been prepared on behalf of ██████████ 'the client', to meet the requirements of **BS5837:2012 Trees in relation to design, demolition and construction - Recommendations**, at Moss Villa, hereafter referred to as 'the site'.
- 1.2 The tree survey was performed on the 3rd of October 2023 by Douglas Williams, Salopian Consultancy Ltd's Principal Arboriculturalist. Doug has over a decade of experience working within the Arboricultural industry and is a professional member of the Arboricultural Association. He holds a MSc in Biological Recording, a BSc (Hons) in Biological Sciences, and the Arboricultural Association's Professional Tree Inspection Certificate.
- 1.3 The tree survey has been undertaken in accordance with the methodology set out in **Section 4.4 of BS5837:2012** which is summarised in **Appendix 1**.
- 1.4 The data obtained from this survey is presented within the Tree Schedule and depicted in the Tree Constraints Plan (**Plan 1**) towards the end of the report. The position of those trees surveyed are derived from topographical data included in **Appendix 2**. Each item surveyed has been allocated a sequential identification number which correlates with the Tree Schedule.
- 1.5 **Plan 1** depicts the theoretical rooting system of each tree using a yellow circle or polygon with the crown spreads of high-grade trees illustrated in green, moderate quality trees shown in blue and low-grade trees in grey. Those trees which have a limited life expectancy due to either a compromised structure or poor physiological condition are shown with red canopy spreads and referred to as 'U grade' trees.
- 1.6 The classification of trees has been undertaken in accordance with **Table 1 Cascade Chart for Tree Quality Assessment** described in **BS5837:2012** to provide a hierarchy system for tree retention based on their condition and contribution to the amenity of the local area.
- 1.7 The theoretical RPA for each tree has been calculated using formulas provided in **Section 4.6 of BS5837:2012**. Both **Plan 1** and **Plan 2** acknowledge that pre-existing site conditions may prevent tree roots distributing asymmetrically. In such instances RPAs may be modified but not reduced based on arboricultural reasoning.
- 1.8 The findings of the tree survey have been used to highlight initial design implications with the aim of guiding the design process to encourage a harmonious relationship between trees and development.

Scope of the study

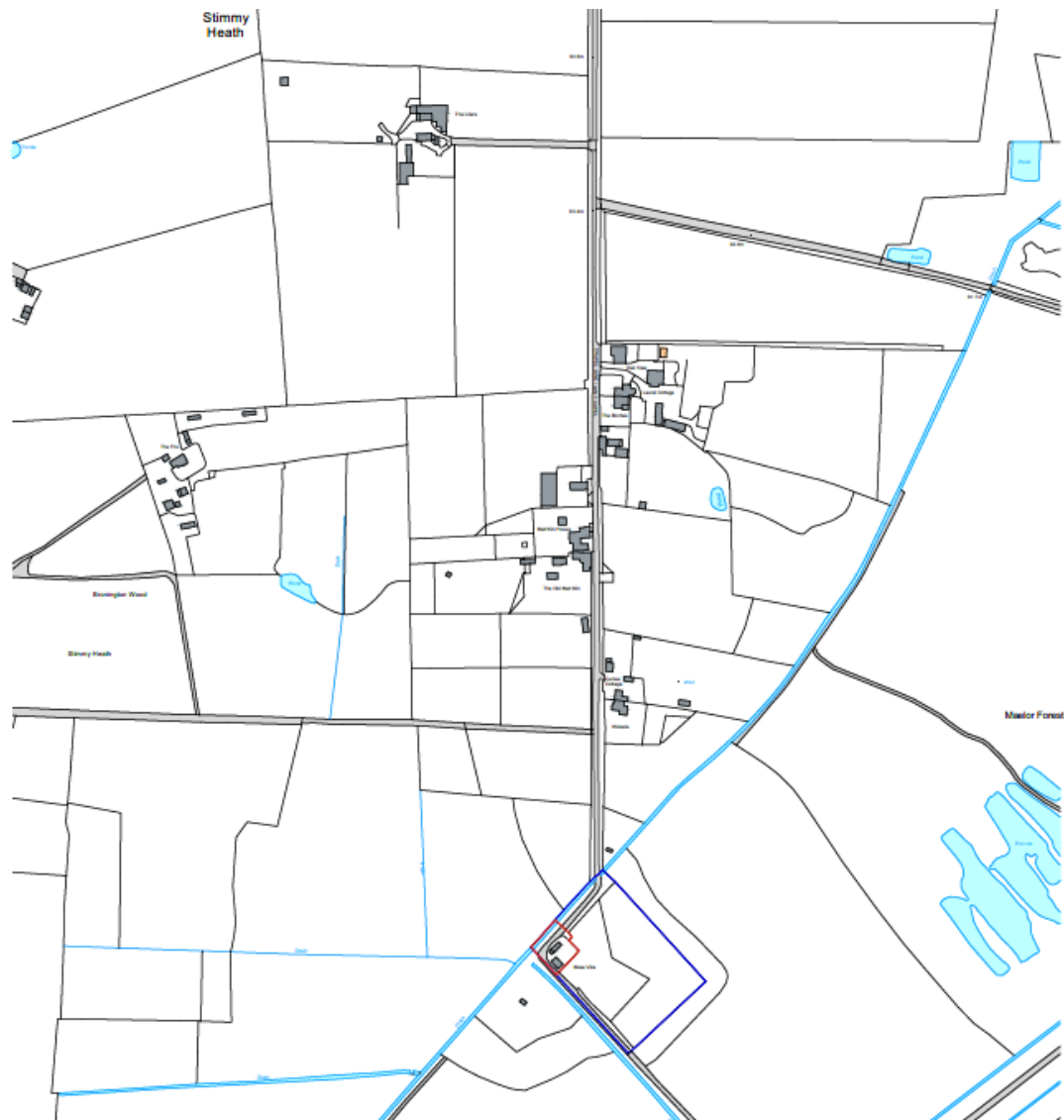
- 1.9 The primary focus of the study is to inform the planning process by;
- Meeting the validation requirements of Shropshire Council by presenting the findings of a tree survey undertaken in accordance with **BS5837:2012**.
 - Present those arboricultural constraints in a clear and concise manner to aid the design process.
 - Perform an assessment of those likely impacts associated with proposed site layout DRG.**SA48179 – BRY- XX- SK – A- 06 _C**
 - Detail appropriate tree protection measures and working methodologies to safeguard trees proposed for retention during construction.

Limitations

- 1.10 This report does not;
- Provide an assessment of the likelihood of subsidence caused by the interactions between water availability, soils and tree roots, at present or in future years. Foundation design should be undertaken in accordance with the guidance available in **National House Building Council (NHBC) publication Building near trees, Chapter 4.2** following a soil assessment by competent personnel.
 - Carry out a detailed structural assessment of each tree surveyed. The absence of recommended tree work in **Schedule 1** does not imply that a tree is safe. Trees are dynamic structures and even those trees in good condition can fail or enter decline under extraordinary physical stress or following infection by pests and disease.
 - The accuracy of the findings of this report are reliant on the information presented in the topographical survey and site layout. Checks of the accuracy of third-party information have not been undertaken.

Site location and context of development

- 1.11 The site is located to the south of Chapel Lane, accessed from the A495 and is situated within the north western fringes of the Fenn's Whixall & Bettisfield Mosses National Nature Reserve. The survey area encompasses those trees within the immediate vicinity of the property and those which denote the boundaries of the field to the east of the property.
- 1.12 An initial assessment of the proposal identified that planning permission is sought for the extension of the existing property. Removal of a Dutch barn and construction of a car port.

Figure 1 Site location plan

Overview of the tree stock

- 1.13 The tree stock associated with the property and the gardens largely comprises of medium sized apple and pear trees.
- 1.14 Within the wider vicinity of the property lies a number of prominent specimen of Scots pine and pedunculate oak. The items include **G2**, **G7**, **T11** and **T25** which are impressive in their size and stature such that they have been given either 'A or B' grade classifications based on their perceived amenity value, longevity and overall excellent – good example of their species.
- 1.15 Conversely, **T14** and **T15** were noted to be in poor physiological condition such that their longevity is deemed to be limited as living trees. They do however have the potential to develop into a significant ecological resource as standing deadwood following their ultimate demise in the short term; therefore are valuable as an ecological asset.

Statutory legislation & planning policy

- 1.16 Necessary checks prior to all tree works must be undertaken by the appointed tree work contractors to ensure statutory laws are not contravened. In addition to individual protection by virtue of TPOs or Conservation Areas (CA) consideration should also be given to restrictions to tree removal imposed by the Forestry Act (1967) and the potential to support protected species (notably nesting birds and roosting bats) governed by the Wildlife and Countryside Act (1981) and EU Habitats directive, detailed further in **Appendix 3**.
- 1.17 Trees have many social, ecological and cultural benefits and are recognised for their economic value through the ecosystem services they provide. Such services include, but are not limited to; shade provision, pollution absorption/interception¹, carbon sequestration/storage and stormwater attenuation reducing the risk of flooding and soil erosion². In addition, numerous studies³ have shown that the presence of mature trees provides significant physiological and psychological benefits. The demand for properties set within neighbourhoods with mature trees is also reflected by higher average house prices, as is the investment in areas with established green infrastructure “environmental attractiveness”^{4 5}.
- 1.18 The importance of trees are recognised in various European and UK legislation such as; EU Habitats directive, National Planning Policy (2021) and the Town and Country Planning Act (1990). These policies refer to trees in respect to conserving and enhancing the natural environment and indirectly in relation to issues such as climate change, biodiversity and biosecurity.
- 1.19 Para 175 of the NPPF states that local authorities should reject any application where *“development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;*
- 1.20 Natural England⁶ and the Forestry Commission standing advice is that a minimum buffer of 15m should be kept from ancient woodland to avoid impacts upon ancient woodland. There may be instances where this buffer is increased to negate impact associated with air pollution and other non-direct impacts. Individual Ancient or veteran trees require a buffer area of 15 times the tree’s diameter or 5m greater than the edge of the tree’s canopy, whichever is greater.
- 1.21 Trees should be valued as assets given the valuable ecosystem services they provide and therefore provisions for new tree planting should be seen as an investment. Local planning

¹Nowak *et al.* (2006) Air pollution Removal by Urban Trees and Shrubs in the United States. *Urban Forestry and Urban Greening* 4, p115-123

² <http://www.woodlandtrust.org.uk/en/moretrees-moregood/Documents/Trees-flooding.pdf>

³ R.S.Ulrich Health Benefits of Gardens in Hospitals Chalmers University of Technology

⁴ CABI (2005) Does money grow on trees?

<http://webarchive.nationalarchives.gov.uk/20110118095356/http://www.cabi.org.uk/files/does-money-grow-on-trees.pdf>

⁵ Gripiaios *et al.* (1997) The Role of Inward Investment in Urban Economic Development: The Cases of Bristol, Cardiff and Plymouth

⁶ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

policy CS6 Sustainable Design and Development Principles, CS17 Environmental Networks, MD2 Sustainable Design and MD12 Natural Environment recognise the importance of safeguarding and protecting those natural features that contribute towards the local area, of which trees form an important component. The retention and where possible the addition of new tree planting to bolster and increase the existing canopy cover of a site should be seen as a contribution to sustainable development.

Section 2: Arboriculture Impact Assessment

Summary of impacts

- 2.1 The Arboricultural Impact Assessment (AIA) is a desk-based study which has been undertaken by superimposing the final site layout (**Appendix 4**) onto **Plan 1** to produce **Plan 2** which illustrates the foreseeable impacts associated with development.
- 2.2 Development has the potential to cause a number of direct and indirect impacts upon trees that can be detrimental to their health. This section highlights those impacts that the construction process is likely to have upon the tree stock and gives consideration to the likely conflicts that the built form may have with those retained trees in future years.
- 2.3 **Plan 2** depicts those trees which are to be retained with their sequential numbering, full RPAs and crown spreads intact. Those trees and hedgerows which will need to be removed to implement the proposal are illustrated with a infilled red canopy spread and their RPAs omitted.
- 2.4 Impacts associated with construction activities can in most cases be reduced or completely mitigated for in the first instance through the installation of protective barrier fencing to maintain a stand-off area from trees. This stand-off area is referred to as the Construction Exclusion Zone (CEZ). Where activities within the RPAs of retained trees are necessary, specialised construction methods and working practices will be required to mitigate impacts to an acceptable level as detailed in **Section 3**.

Table 1 Summary of tree removal/impacts

Impacts	A Grade Items	B Grade Items	U/C Grade Items
Trees/Hedgerow loss	N/A	N/A	T5, 30T
Tree pruning	N/A	T31	N/A
Activities within RPAs	N/A	N/A	N/A
Temporary RPA set back	N/A	T31	N/A
Conflicts with shading	N/A	N/A	N/A

Tree removal

- 2.5 Review of the proposed site layout identifies that the demolition of the Dutch barn would trigger the need to remove **30T** as this tree is effectively using the structure as a crutch. Construction of the car port and upgrading of the driveway would also likely result in the need to remove **T5**. Both items are considered to be of low arboricultural merit and amenity value.

Tree pruning

- 2.6 The pruning of the western lateral limbs of **T31** is envisaged to provide sufficient working space during construction of the extension. The reduction of these limbs by 1.5m would provide sufficient space for the erection of scaffolding. A reduction in this order would equate to approximately 18% of the canopy. It is acknowledged that this would result in a degree of vascular dysfunction and provide means for colonisation of fungal pathogens and

development of decay; however, its retention in a lesser form is considered a pragmatic response over its complete removal. Pruning works will need to be undertaken in accordance with **BS3998:2010 Tree work. Recommendations** and in line with those statutory controls and permissions outlined in **Appendix 3** by suitably trained and insured Arborists. Key requirements of the standard include target pruning back to sufficient growth point and minimising the size/number of pruning cuts to achieve the desired clearance.

Figure 3 Footprint of proposed extension



Figure 4 T30 leaning on the dutch barn proposed for removal, effectively propping up T30



Activities within RPAs

- 2.7 A review of the proposed site plan has not identified the need to undertake construction activities within the RPAs of retained trees.

Temporary RPA set back

- 2.8 There will be the need to enter the RPA of **T31** to undertake building activities such as the erection of scaffolding. The installation of ground protection measures will be essential (installed in accordance with **Appendix 6**), to avoid compaction within RPAs by vehicles, machinery and workers. The use of <6 ton tracked excavators may be acceptable (provided the soil is not saturated) as this is generally low enough to avoid soil compaction, avoiding turning within the RPAs to prevent surface smearing⁷.

Shading and future growth of trees

- 2.9 The south eastern aspect of the extension falls within the shade arc of **G2**. The degree of shading is not considered excessive or a major constraint to the 'reasonable enjoyment' or use of the building in a domestic context. Whilst there can be negative issues associated between residential development adjacent to large trees in terms of 'overbearing influence' or 'future pressures to prune'; **Paragraph 5.3.4 b and e of BS5837:2012** also acknowledges

⁷ Guidance Note 12 The Use of Cellular Confinement Systems Near Trees: A Guide to Good Practice Section 2.2 para 3.2

these benefits of shading and screening as well as design options by way of non-slip paving and provisions of leaf guards or grills on gutters to reduce seasonal nuisance of leaf fall.

Utilities

- 2.10 It is anticipated that underground and overhead services can be located outside the RPAs and canopies of retained trees. Where unavoidable, allowances are made for the use of hand dig methodologies or trenchless insertion methods so that roots can be retained, and desiccation avoided as permitted in **Section 7.1** and **7.7** of **BS5837:2012**

Storage of materials

- 2.11 Space for the storage of materials and vehicles during site preparation and construction is limited within the site. It is envisaged however that the delivery of materials and removal of arisings, will be managed via a phased programme particularly for ground works to make best use of the space available, and that a sub section of the field to the east could be used for this purpose.

New tree planting

- 2.12 The planting of diverse mix of broadleaved species would aid in providing a robust future tree population resilient to pests and disease. A key consideration of any future tree planting scheme will be the planting of species in areas where they can achieve their full potential and expected stature without outgrowing their environment. Planting trees in close proximity to structures and existing trees or in high densities often results in tall etiolated standards or stunted growth forms, both of which should be avoided.
- 2.13 New Tree and hedgerow planting should meet the requirements of **BS8545: 2014 Trees: from nursery to independence in the landscape. Recommendations** with specific reference to the procurement of new trees, species selection, aftercare and maintenance. This could be achieved via planning condition through a formal Tree Planting Scheme.

Figure 5 Poor planting practices to avoid: Examples of poor planting design, involving medium growing species in close proximity to structures and paved surfaces, likely resulting in the need for tree removal/cyclical pruning before maturity is reached



Figure 6 Poor planting practices to avoid: Restricted rooting volumes, impermeable surfacing and planting trees near underground services/drainage runs



Section 3: Arboricultural Method Statement

Schedule of development

- 3.1 The AMS details specific solutions to those impacts raised in **Section 2** in order to mitigate/reduce potential impacts upon those trees proposed for retention. An outline program of management and an auditable process has been prepared to demonstrate that those tree protection measures proposed are capable of providing sufficient protection for trees pre, during and post development.
- 3.2 Such a program of activities is advised under the guidance of an experienced Arboricultural Clerk of Works (ACW) to ensure that the content of this method statement is understood and implemented effectively.
- 3.3 Direct supervision by the ACW is advised at pre-determined phases to assist with the development process and ensure correct implementation of tree-protection measures as illustrated within **Plan 2**. A copy of this report plans and appendices will be available on site throughout the duration of construction.

Stage 1: Pre-commencement meeting

- 3.4 An appropriately experienced ACW will be appointed at the cost of the developer to ensure tree-protection measures are understood and enforced which could be secured using a suitably-worded planning condition. Monthly site meetings will be scheduled to identify any issues associated between trees and construction before conflicts occur. A pre-commencement meeting will be held before the commencement of works, normally attended by the ACW, the site manager and a Local Planning Authority (LPA) representative.
- 3.5 The sequence of construction and implementation of tree-protection measures will be discussed further to identify any changes or difficulties that may arise. The extent of the CEZ/Protective Barrier Fencing will be double checked during this meeting and an inspection regime will be agreed upon by all parties and the timing of protection/mitigation measures will follow the time table below.

Table 2: Implementation and timings of tree protection/mitigation measures

Actions	Timing					
Installation of protective barrier fencing and ground protection						
Tree removal						
Monthly check to ensure tree protection measures are upheld						
Ground works and construction phase						
Removal of protective barrier fencing						
Post development tree survey						

Stage 2: Pre commencement tree works and Installation of tree protection measures

- 3.6 The removal of those trees listed in **Table 1** and depicted within **Plan 2** with a red infilled canopies will be completed prior to any construction works as will the installation of tree protection measures e.g protective barrier fencing and ground protection measures
- 3.7 The appointed tree contractor must hold adequate public liability, product liability and employer's liability insurances, with the relevant qualifications for the tasks at hand. All tree work operations will be undertaken in accordance with **BS3998: 2010 Tree works. Recommendations**. All necessary checks prior to all tree works must be undertaken by the appointed tree work contractors to ensure statutory laws are not contravened which includes the potential for trees to support protected species (notably nesting birds and roosting bats) governed by the Wildlife and Countryside Act (1981) and EU Habitats directive, detailed further in **Appendix 3**.
- 3.8 Construction activities have the potential to cause long-term detriment to trees. It is therefore essential that appropriate tree-protection measures are installed and maintained throughout the duration of construction to prevent avoidable impacts upon trees. The position of these measures will be confirmed by an appointed ACW prior to the implementation of construction activities.
- 3.9 The majority of a trees rooting system is located within the upper 50cm of the soil horizon. This layer provides the optimal level of organic material, water, enabling tree roots to respire, grow, repair and drive photosynthesis. Compaction or disturbance of this layer can have a serious effect on a trees ability to perform these functions. Root severance must be avoided to prevent undermining a tree's stability in addition to causing physiological stress.
- 3.10 To ensure adequate protection is afforded to the root system, stem and canopy of retained trees, the extent of the RPA will be enclosed using a protective barrier fencing as illustrated in **Appendix 5**. **Plan 2** depicts the position of protective barrier fencing as a solid pink line and must be checked against the RPA measurements provided in the Tree Schedule. Once installed the ACW will inform the LPA that protective barrier fencing is in place and fit for purpose to allow works to commence.
- 3.11 The area within the line of protective barrier fencing is referred to as the CEZ, illustrated as an Transparent grey area in **Plan 2**. This area will be treated as sacrosanct and will not be entered during construction. Once installed, protective barrier fencing must not be removed or altered without the prior approval of the ACW and LPA.
- 3.12 Access to the site will be restricted to the existing vehicular access from Chapel Lane. Parking of vehicles, plant and storage of materials will be located within a designated compound, 2m from the RPA of any tree.
- 3.13 Lighting of fires or mixing of materials will not be permitted within 2m of the CEZ. No mixing of materials will take place uphill from the CEZ to prevent leakage into these areas. In the event of spillage, all works will halt and the ACW will be contacted for advice. All plant and

machinery will be fitted with spill kits and water will be available to flush spilt material to avoid contamination of the rooting environments.

- 3.14 The placement of cranes and lifting machinery will be outside of the RPA of any retained trees. The use of a banksman and additional workers to assist with tag lines will be undertaken to control loads and avoid twisting in the wind, which poses the risk of inadvertently striking parts of trees.
- 3.15 Biosecurity control measures shall be implemented to avoid transportation of pest or disease to and from the site in line with the **Arboricultural Associations Guidance Note 2 Application for Biosecurity**. This broadly involves cleaning machinery, uniform, PPE and vehicles using a disinfectant to minimise transportation of soil, water and plant materials from the works site.
- 3.16 Cases of ill health in trees must be brought to the attention of the ACW. The presence of a pest or disease will then be reported using the Forestry Commission Tree Pest and Pathogen sighting reporter (Tree Alert) <https://treealert.forestry.gov.uk>.

Stage 3 Works to be performed under supervision by ACW.

- 3.17 Where construction activities are undertaken within the RPA of retained trees, direct supervision by the appointed ACW is required. The ACW will be given a minimum of two weeks' notice prior to such works.

Temporary Access Within RPAs

- 3.18 Ground protection measures must be installed as specified in **Appendix 6** within where access is required within exposed RPAs such as in the case of **T31**. For pedestrian use the installation of single scaffold boards placed on top of a compression resistant, layer such as 100mm of wood chip would provide sufficient ground protection during pedestrian movement. Alternatively scaffold boards placed on top of a scaffold frame to form a suspended walkway would also be sufficient. The set back of protective barrier fencing will only be permitted during those specific actions which require it after which the line of protective barrier fencing will be reinstated.

Landscaping and other matters

- 3.19 In the event the installation of boundary fences is required within RPAs of retained trees, new fence posts and panels will be installed undertaken by hand, any concrete post holes will be lined with plastic to ensure no leakage into the surrounding soil of those trees to be retained and ground protection used where access is necessary within RPAs.
- 3.20 Any landscaping works such as grading of soil levels, application of top soil will not be undertaken within RPAs unless specifically agreed with the ACW.
- 3.21 Any planting of shrubs, or seeding/laying of turf within the RPAs of retained tree will be undertaken by hand, with no machinery or vehicles permitted within these areas

Stage 4 Monitoring of tree protection measures

- 3.22 The ACW will undertake predetermined site visits agreed during the pre-commencement meeting, to ensure tree protection measures remain intact and fit for purpose. In the event that conflicts arise between trees and construction activities, it is the responsibility of the site manager to contact the ACW to seek advice on alternative working methods.

Stage 5 Removal of tree-protection measures

- 3.23 Following completion of works, tree protection measures can be dismantled and removed from site. A post-construction tree survey undertaken by the project ACW is advised to highlight any remedial tree work required prior to occupation of the site.

Concluding statement

- 3.24 Provided that the tree protection measures and working methodologies detailed in the AMS are adhered to, no adverse effects upon trees proposed for retention or conflicts with construction activities are envisaged. Such protection measures and provisions for new planting could be secured by a suitably-worded planning condition.
- 3.25 The tree survey and arboricultural appraisal is valid for two years. It is recommended that a biennial survey of the tree stock is undertaken as part of the proactive management of those trees on site to help maintain a healthy tree population and sufficient safety threshold.
- 3.26 In the event that the development proposals alter significantly, an updated impact assessment must be undertaken to identify the likely impacts upon the tree stock and amendments made to the AMS accordingly.

Tree Schedule

Site Moss Villa
 Client C. Grice
 Surveyor D.Williams
 Survey date 03/10/2023
 Climatic conditions Clear and dry

			Tree Constraints Information												
Tree Reference No.	Species	Stem Diameter (mm) at 1.5m	Category Grade	Radius of RPA (m)	Area of RPA (m2)	Height (m)	Canopy Spread (m)				Life Stage	Physiological Condition	Structural Condition	Recommendations	Priority Code
							N	E	S	W					
T1	Hazel	120, 150, 100, 120	C1	3.0	27.7	8	2	2	2	2	Early mature	Fair	Multi-stemmed, set adjacent to track.	N/A	N/A
G2	Scots Pine	890	A2	10.7	358.4	13	5	5	5	5	Mature	Good	Linear group adjacent to track, some storm damage noted.	N/A	N/A
T3	Silver Birch	550	B1	6.6	136.9	13	4	5	5	5	Mature	Good	No significant defects recorded.	N/A	N/A
H4	Holly	75	C1	0.9	2.5	1.25	0.25	0.25	0.25	0.25	Semi-mature	Good	Denotes curtilage of the cottage`s front garden.	N/A	N/A
T5	Hawthorn	220, 230, 180, 200	C1	5.0	78.6	7	3	3	3	2	Mature	Fair	Multi-stemmed at 1.25m	N/A	N/A
T6	Wild Cherry	270	C1	3.2	33.0	7	4	4	1	0.5	Early mature	Fair	Graft point 0.5m pruning wounds 2m south, canopy bias east.	N/A	N/A
G7	Scots Pine	760	A2	9.1	261.3	15	5	5	5	5	Mature	Good	Track to east ditch to south central member has tree tag 1936. Moderate deadwood within canopy typical of age and species	Reduced lower eastern limb of central member which over hangs track by 1m to alleviate end loading	2
G8	Damson & Holly	100	C1	1.2	4.5	4	1.5	1.5	1.5	1.5	Semi-mature	Fair	No significant defects recorded.	N/A	N/A
T9	Pedunculate Oak	520	B1	6.2	122.3	14	4	7	3	2	Mature	Fair	Tear out of medium diameter limb at 9m north east, asymmetric canopy indicates loss of companion shelter north east.	N/A	N/A
T10	Silver Birch	540	B1	6.5	131.9	14	4	4	4	3.5	Mature	Fair	Moderate deadwood at 3m east.	N/A	N/A

- The tree survey process has been undertaken in accordance with [Section 4.4 of BS5837:2012 Trees in Relation to Design, Demolition and Construction Recommendations](#), summarised in [Appendix 1](#) of the Arboricultural Appraisal.
- Each item surveyed has been given a sequential number with the respective prefix 'T' for trees 'G' for groups of trees, 'H' for hedgerows and 'W' for woodland which corresponds to the Tree Constraints Plan ([Plan 1](#)) and Tree Protection Plan ([Plan 2](#)).
- The Root Protection Area (RPA) values have been calculated using the methodology set out in [Section 4.6](#) and [Annexes C & D of BS5837:2012](#). Where pre-existing site conditions may indicate that the rooting system is not asymmetric, the RPAs may be modified in [Plan 1](#) and [Plan 2](#) but the area not reduced based on arboricultural reasoning. Such instances include the physical obstruction to root development or inhospitable rooting environments.
- Where trees are located outside of the client land ownership, or access is not achievable stem diameter have been estimated, highlighted using the suffix #
- Category Grading afforded to each item surveyed provides a hierarchy system for retention based on condition, amenity value and longevity in accordance with [Table 1 Cascade Chart for Tree Quality Assessment described in BS5837:2012](#). **A** = High value, **B** = Moderate value **C** = low value & **U** compromised condition. Suffix 1,2 & 3 related to Arboricultural, Cultural and Ecological value respectively.
- Priority codes provide a classification of the urgency of works; Code 1 = Undertake within 1 month or sooner, Code 2 = Perform within 12 months or sooner, Code 3 = Undertake once all code1 and 2 works are complete, within 12 months
- Where specified small diameter limbs/deadwood refer to a diameter <75mm, moderate deadwood/medium diameter limb equates to that of 75mm – 150mm and large diameter limbs/deadwood are those that exceed a diameter of 150mm

Site Moss Villa
 Client C. Grice
 Surveyor D.Williams
 Survey date 03/10/2023
 Climatic conditions Clear and dry

			Tree Constraints Information												
Tree Reference No.	Species	Stem Diameter (mm) at 1.5m	Category Grade	Radius of RPA (m)	Area of RPA (m2)	Height (m)	Canopy Spread (m)				Life Stage	Physiological Condition	Structural Condition	Recommendations	Priority Code
							N	E	S	W					
T11	Pedunculate Oak	1050 #	B3	12.6	498.8	13	5	4.5	5	7	Over-mature	Poor	Lower stem obscured by bramble, dimensions estimated. Has entered a stage of retrenchment seeing a shift in ratio of dynamic to static mass.	N/A	N/A
T12	Apple	250	C1	3.0	28.3	5	2	2	1.5	1.5	Mature	Fair	No significant defects recorded.	N/A	N/A
T13	Alder	450, 475 #	B1	7.9	193.7	10	3	3	3	4	Mature	Fair	Dense bramble at base of stem, dimensions estimated, stem bifurcates at 0.3m	N/A	N/A
T14	Alder	300 #	U	3.6	40.7	10	0.5	2	2	2	Early mature	Poor	Dense bramble at base of stem. Dimensions estimated, canopy development supressed	N/A	N/A
T15	Silver Birch	350	U	4.2	55.4	12	6	1	1	6	Early mature	Poor	Sparse canopy.	Monitor	3
T16	Alder	375, 380	B3	6.4	128.9	8	3	3	3	3	Early mature	Fair	Stem bifurcates at 1m. Woodpecker holes on western side of eastern stem at 4m to 6m.	N/A	N/A
T17	Apple	210	C1	2.5	20.0	4.5	2	1.5	1	1.5	Mature	Fair	No significant defects recorded.	N/A	N/A
T18	Hawthorn	80	C1	1.0	2.9	3.5	0.5	0.5	0.5	0.5	Semi-mature	Fair	No significant defects recorded.	N/A	N/A
G19	Pedunculate Oak	120	C1	1.4	6.5	4	2	2	2	2	Semi-mature	Fair	No significant defects recorded.	N/A	N/A
T20	Apple	340	B1	4.1	52.3	5	3	3	1.5	3	Mature	Good	No significant defects recorded.	N/A	N/A
T21	Alder	450	B3	5.4	91.6	9	3	3	3	3	Mature	Fair	Dimensions estimated, stem obscured by dense bramble up to 2m.	N/A	N/A
G22	Alder	430	B1	5.2	83.7	12	4	4	4	4	Mature	Fair	Linear group, denotes informal field boundary.	N/A	N/A
T23	Alder	640	B1	7.7	185.3	13	6	4	4	4	Mature	Good	Larger than its counterparts of G22.	N/A	N/A

- The tree survey process has been undertaken in accordance with [Section 4.4 of BS5837:2012 Trees in Relation to Design, Demolition and Construction Recommendations](#), summarised in [Appendix 1](#) of the Arboricultural Appraisal.
- Each item surveyed has been given a sequential number with the respective prefix 'T' for trees 'G' for groups of trees, 'H' for hedgerows and 'W' for woodland which corresponds to the Tree Constraints Plan ([Plan 1](#)) and Tree Protection Plan ([Plan 2](#)).
- The Root Protection Area (RPA) values have been calculated using the methodology set out in [Section 4.6 and Annexes C & D of BS5837:2012](#). Where pre-existing site conditions may indicate that the rooting system is not asymmetric, the RPAs may be modified in [Plan 1](#) and [Plan 2](#) but the area not reduced based on arboricultural reasoning. Such instances include the physical obstruction to root development or inhospitable rooting environments.
- Where trees are located outside of the client land ownership, or access is not achievable stem diameter have been estimated, highlighted using the suffix #
- Category Grading afforded to each item surveyed provides a hierarchy system for retention based on condition, amenity value and longevity in accordance with [Table 1 Cascade Chart for Tree Quality Assessment described in BS5837:2012](#). **A** = High value, **B** = Moderate value **C** = low value & **U** compromised condition. Suffix 1,2 & 3 related to Arboricultural, Cultural and Ecological value respectively.
- Priority codes provide a classification of the urgency of works; Code 1 = Undertake within 1 month or sooner, Code 2 = Perform within 12 months or sooner, Code 3 = Undertake once all code1 and 2 works are complete, within 12 months
- Where specified small diameter limbs/deadwood refer to a diameter <75mm, moderate deadwood/medium diameter limb equates to that of 75mm – 150mm and large diameter limbs/deadwood are those that exceed a diameter of 150mm

Site Moss Villa
 Client C. Grice
 Surveyor D.Williams
 Survey date 03/10/2023
 Climatic
 conditions Clear and dry

			Tree Constraints Information												
Tree Reference No.	Species	Stem Diameter (mm) at 1.5m	Category Grade	Radius of RPA (m)	Area of RPA (m2)	Height (m)	Canopy Spread (m)				Life Stage	Physiological Condition	Structural Condition	Recommendations	Priority Code
							N	E	S	W					
T24	Wild Cherry	390	B	4.7	68.8	10	2	2	5	5	Mature	Fair	No significant defects recorded.	N/A	N/A
T25	Pedunculate Oak	1070	B1	12.8	518.0	20	8	8	6	10	Over-mature	Good	Storm damage noted with loss of large diameter limbs at 8m to 9m west.	Monitor condition	N/A
G26	Damson & Holly	120	C3	1.4	6.5	4	1.5	1.5	1.5	1.5	Semi-mature	Fair	Mixed species tree group.	N/A	N/A
G27	Holly & Hazel	75	C3	0.9	2.5	7	2	2	2	2	Semi-mature	Fair	Mixed species tree group.	N/A	N/A
T28	Apple	290	B1	3.5	38.1	8	1	3	3	1.5	Early mature	Fair	No significant defects recorded.	N/A	N/A
T29	Apple	320	B1	3.8	46.3	10	2	5	2	1	Early mature	Fair	No significant defects recorded.	N/A	N/A
T30	Apple	290	C1	3.5	38.1	5	3	2	1.5	1.5	Early mature	Fair	Stem leans south up to 1.5m where it abruptly kinks. Stem cavity at this point, canopy supported/resting on wooden framed barn.	N/A	N/A
T31	Pear	310	B1	3.7	43.5	9	2.5	3	3	3	Mature	Good	No significant defects recorded.	N/A	N/A

- The tree survey process has been undertaken in accordance with [Section 4.4 of BS5837:2012 Trees in Relation to Design, Demolition and Construction Recommendations](#), summarised in [Appendix 1](#) of the Arboricultural Appraisal.
- Each item surveyed has been given a sequential number with the respective prefix 'T' for trees 'G' for groups of trees, 'H' for hedgerows and 'W' for woodland which corresponds to the Tree Constraints Plan ([Plan 1](#)) and Tree Protection Plan ([Plan 2](#)).
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- Where trees are located outside of the client land ownership, or access is not achievable stem diameter have been estimated, highlighted using the suffix #
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Appendix 1: Summary of BS5837:2012 survey methodology

The methodology adopted for this survey is based on guidelines set out in **BS5837:2012 Trees in Relation to Design, Demolition and Construction Recommendations**, especially **Section 4.4**, 'Tree Survey'.

The tree survey includes all trees and other significant vegetation with a stem diameter of >75mm at 1.5m within the site, in addition to those located beyond the boundaries within a distance of 12 times their stem diameter. The position of each item is represented in **Plan 1**, are derived from the topographical data included in **Appendix 2**. Those items not recorded on the topographical survey have been annotated by hand and marked using the symbol '*'.

All trees have been visually inspected from ground level, with no climbing or further detailed investigative tests undertaken. All measurements detailed in the Tree Schedule are metric and have been recorded in accordance with **Section 4.4.2.5 of BS5837:2012** summarised below. Where access to trees has been restricted, either as a result of vegetation, ground conditions or third party land ownership, dimensions have been estimated and highlighted using symbol '#' in **Schedule 1**.

Any recommendations given regarding longer-term management have been made on the basis of optimising the life expectancy of trees, given their current situation and any effects, which may arise as the results of the development proposal.

Sequential reference number

All numbering of surveyed items is sequential with the respective suffix 'T' for trees 'G' for groups of trees, 'H' for hedgerows and 'W' for woodland.

Species

Common English names are used wherever possible for simplicity.

Stem diameter (DBH)

This is the measurement of the stem diameter in millimetres taken at 1.5m above ground level in accordance with **Annex C of BS5837:2012**.

Category Grading

Trees have been assigned 'U' or category grading 'A' to 'C' in accordance with the Cascade Chart given in **BS5837:2012** reproduced overleaf.

RPA radius & RPA Area (m²)

Both values been calculated using the methodology set out in **Section 4.6** and **Annexes C & D of BS5837:2012**. Where pre-existing site conditions may indicate that the rooting system is not asymmetric, the RPAs may be modified in **Plans 1** and **2** but the area not reduced based on arboricultural reasoning. Such instances include the physical obstruction to root development or inhospitable rooting environments.

Height

An approximation of height in metres is provided for the highest point of each tree.

Canopy spread

This is taken at four cardinal points, to provide a representative account of the canopy spread.

Life stage

There are six classes to which trees are assigned:

Table A.1: Definition of ages classes

Age class	Description
Young	Newly planted within 0-10 years
Semi mature	A tree in the first third of its normal life expectancy for the species (significant potential for future growth).
Early mature	A tree in the second third of its normal life expectancy for the species (some potential for future growth).
Mature	A tree in the latter third of its normal life expectancy for the species (typically having reached its ultimate size).
Over mature	Beyond the normal life expectancy for the species.
Veteran	A tree that is of interest biologically, aesthetically or culturally because of its condition size and/or age.

Physiological condition

The trees physiological condition is classified as good, fair, poor or dead on the basis of leaf or bud density, taking note of signs of physiological stress.

Structural condition

Details of the trees structural condition are provided identifying structural defects and or signs of decay, pest and pathogens where present.

Proposed tree works

Whilst a formal tree inspection has not been undertaken the survey process does take into consideration implications for damage or injury to persons and/or property; recording defects and assessing the structural condition of those trees surveyed. Where necessary, tree works have been proposed within the tree schedule to mitigate potential hazards as part of proactive management of the tree stock with the aim of optimising the life expectancy of those trees surveyed.

Tree work priority codes

Priority codes from 1 to 3 have been given for those trees requiring tree works detailed in **Table A.2** below. The definition and level of urgency have been determined based on the perceived likelihood of failure and hazards posed to potential or actual targets.

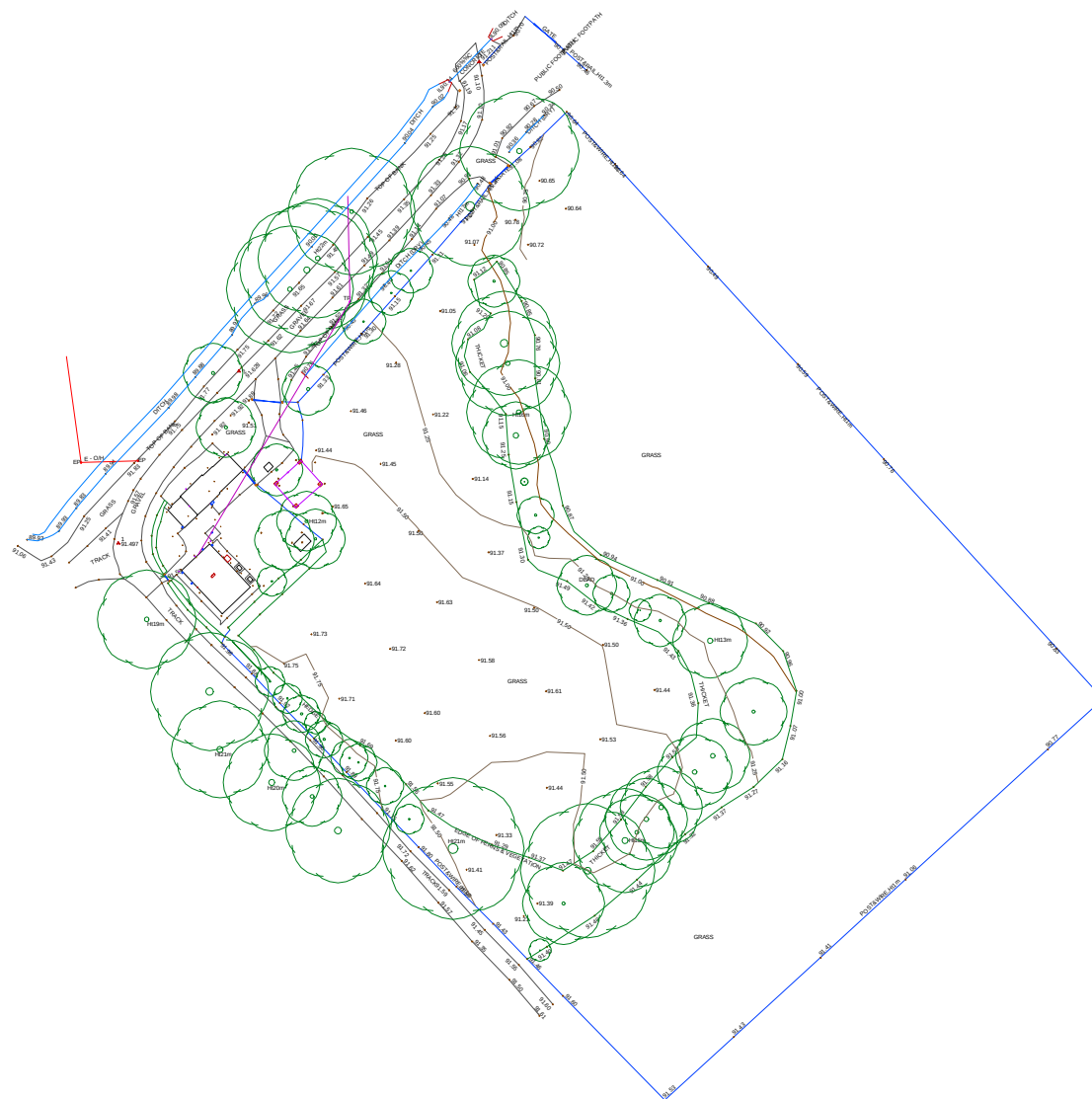
Table A.2: Tree works priority codes

Priority Code	Description
Priority Code 1	An identified hazard considered to pose an imminent or serious risk to person or property in the context of the current land use. Works must be undertaken at the earliest possible opportunity.
Priority Code 2	Works considered necessary to mitigate a perceived hazard from an observed and recorded defect. These tree works should be undertaken prior to any development works commencing on site.
Priority Code 3	Considered to be general maintenance works which should commence post development but prior to residential occupancy.

Table A.3: Summary of Cascade Chart for tree quality assessment

Category and definition	Criteria
Category U	Those trees in such a condition that they that cannot be realistically retained as a living tree in the context of the current land use for longer than 10 years. If they cannot be safely retained as an ecological receptor following proposed remedial works, these trees should be removed for arboricultural reasons followed by appropriate replacement planting.
Category A (High quality of value)	Trees with an estimated life expectancy of at least 40 years. These trees may be of particular good example of their species or contribute an important visual landscape feature or provide significant historical/conservation value.
Category B (Moderate quality and value)	Trees with an estimated life expectancy of at least 20 years. These are trees that may be included within category A, but are downgraded due to the presence of significant but remedial defect. May also include trees present in such numbers that they form a distinctive landscape feature i.e. woodland, or tree of a material conservation/cultural value.
Category C (Low quality and value)	Trees with an estimated life expectancy of at least 10 years. Generally regarded as an unremarkable specimen of its species, or of such an impaired condition that they do not qualify for higher categories providing little landscape/conservation or cultural value.

Appendix 2: Topographical survey



Appendix 3: Statutory Controls

Tree Preservation Orders & Conservation Area

Written consent must be obtained from the local planning (LPA) authority prior to any works upon a tree subject of a Tree Preservation Order unless the tree is;

- Dead or dangerous
- Works are in line with an obligation under an Act of Parliament
- Permission has been granted through a Planning application

A six week notice to the LPA is required under Section 211 of the Town and Country Planning Act (1990) for any tree works within a Conservation area.

It is a criminal offence to cut down, uproot, wilfully destroy or deliberately damage a tree subject of a Tree Preservation Order. Under Section 210(2) of the Town and Country Planning Act (1990) anyone found guilty of the actions above are liable of a fine of up to £20,000 if convicted by a magistrates' court. In serious cases a person may be committed for trial in the Crown Court which will also consider any financial benefits which has or is likely to result from such an offence. In addition there is also a duty requiring landowners to replace a tree removed, uprooted or destroyed in contravention of a Tree Preservation Order.

Where full planning permission is authorised, the statutory obligations above are no longer applicable, transcended by the Town and Countryside Planning act (1990), which permits tree removal for the purpose of development.

Forestry Act 1987

A felling licence is required wherever an excess of 5 cubic metres of timber is felled per calendar quarter. Exceptions to the Forestry Act (1967) include felling trees which when measured at 1.3m above ground that have a stem diameter of 8cm or below. Other exceptions include thinning of woodland trees with a stem diameter of 10cm or below and coppicing of trees with a diameter of 15cm or below.

Exceptions are also afforded to work carried out by statutory undertakers; removal of dangerous and dead trees, prevention of abatement of a nuisance and to prevent the spread of quarantined pests or disease in response to a notice served by a Forestry Commission Plant Health Officer.

The Occupiers Liability Act 1957/1984

Land owners have a duty of care to ensure they have taken practice steps to ensure those trees within the curtilage of their property are reasonably safe for permitted visitors.

Highway Act 1980

The highway authority have the ability to issue a land owner a 14 days notice to carry out works upon tree or hedgerow that overhang a highway road or footpath which the public has access to as to endanger or obstruct the passage/sight lines of vehicles or pedestrians.

Protected species

All species of British bat are listed as a European Protected Species (EPS) on Schedule 2 of The Conservation of Habitats and Species Regulation (Amended) (EU Exit) (2019) which transpose the Habitats Directive making it an offence to:

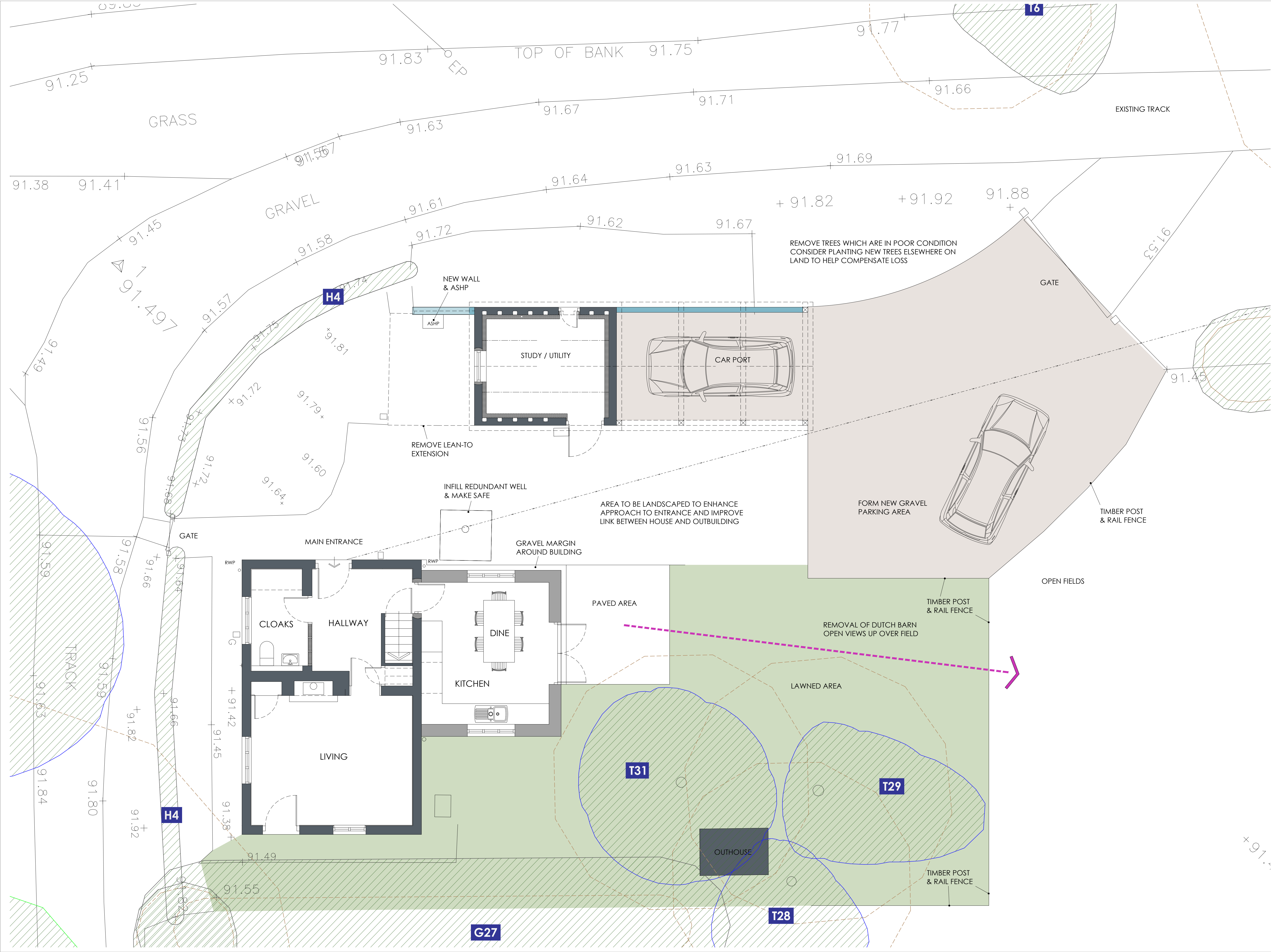
- *Deliberately capture, injure or kill a wild animal of a EPS;*
- *Deliberately disturb wild animals of a EPS wherever they are occurring, particularly any disturbance which is likely to impair their ability to survive, to breed or reproduce, or in the case of hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong;*
- *Deliberately take or destroy the eggs of a wild animal of a EPS; or*
- *Damage or destroy a breeding site or resting place of a wild animal of a EPS.*

Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.

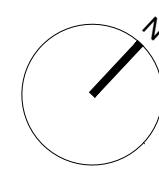
All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), this makes it an offence to:

- *Intentionally kill, injure or take any wild bird;*
- *Take, damage or destroy the nest of any wild bird while it is in use or being built;*
- *Take, damage or destroy the egg of any wild bird; or*
- *To have in one's possession, or control, any wild bird (dead or alive) or egg or any part of a wild bird or egg.*

Appendix 4: Site Layout



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ORIGINATING OFFICE:
PLEASE REFER TO TOPOGRAPHICAL SURVEY DRAWING
DRAWING No. SA47064.BRY.ST.PL.C.0002
FOR FURTHER DETAILS AROUND GROUND FLOOR PLAN

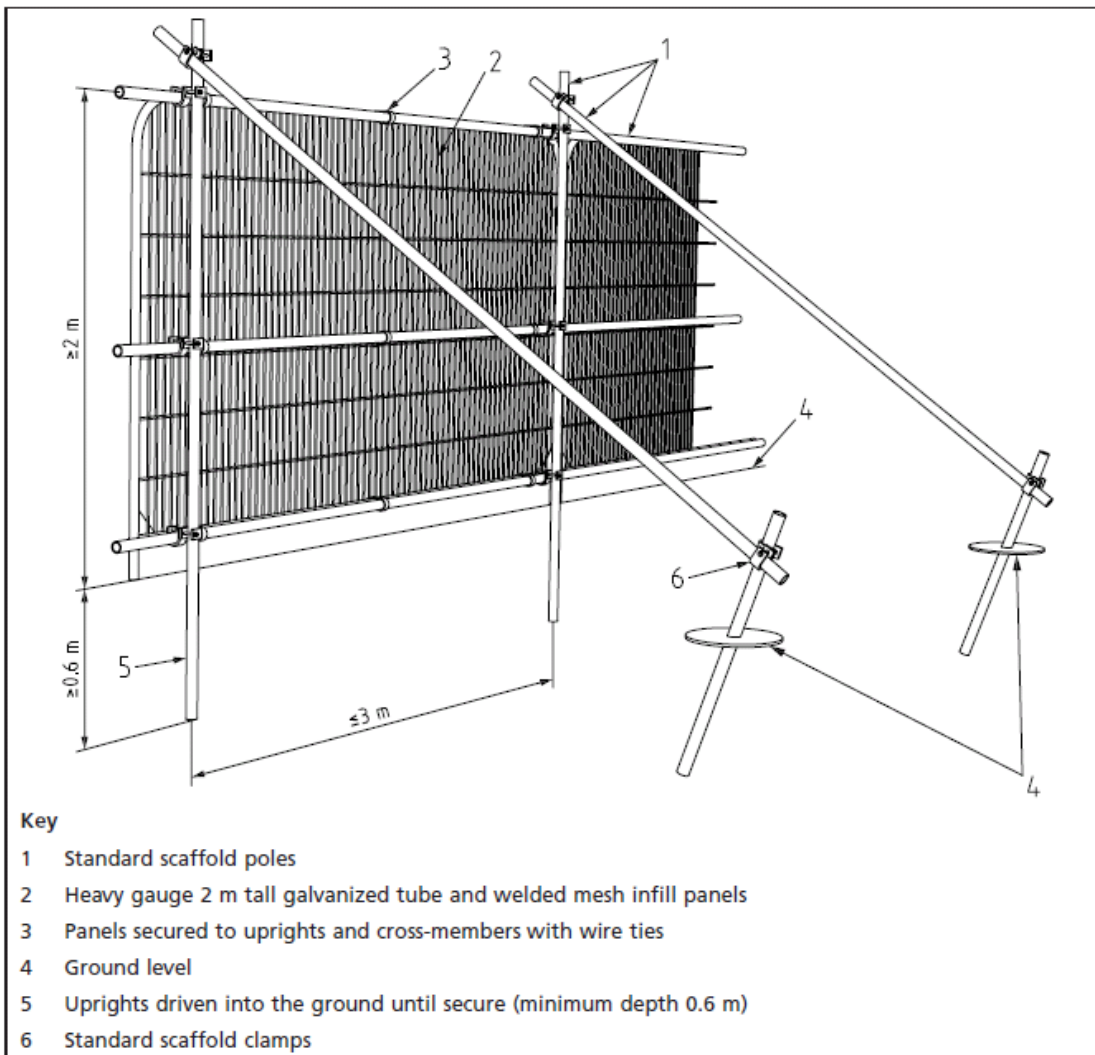
C	Reduce depth of extension by a further 450mm to 4.05m. Amend pair of kitchen windows to single opening (S/E elevation)	25.03.24	OH	PF
B	Remove proposed drylining to existing house	07.02.24	OH	PF
A	Reduce depth of extension by 450mm to 4.5m to help reduce scale whilst improving relationship to existing tree root zone. Amend wall to brick, further to feedback from conservation officer	12.01.24	OH	PF
REV	DESCRIPTION	DATE	BY	CHKD

BERRYS

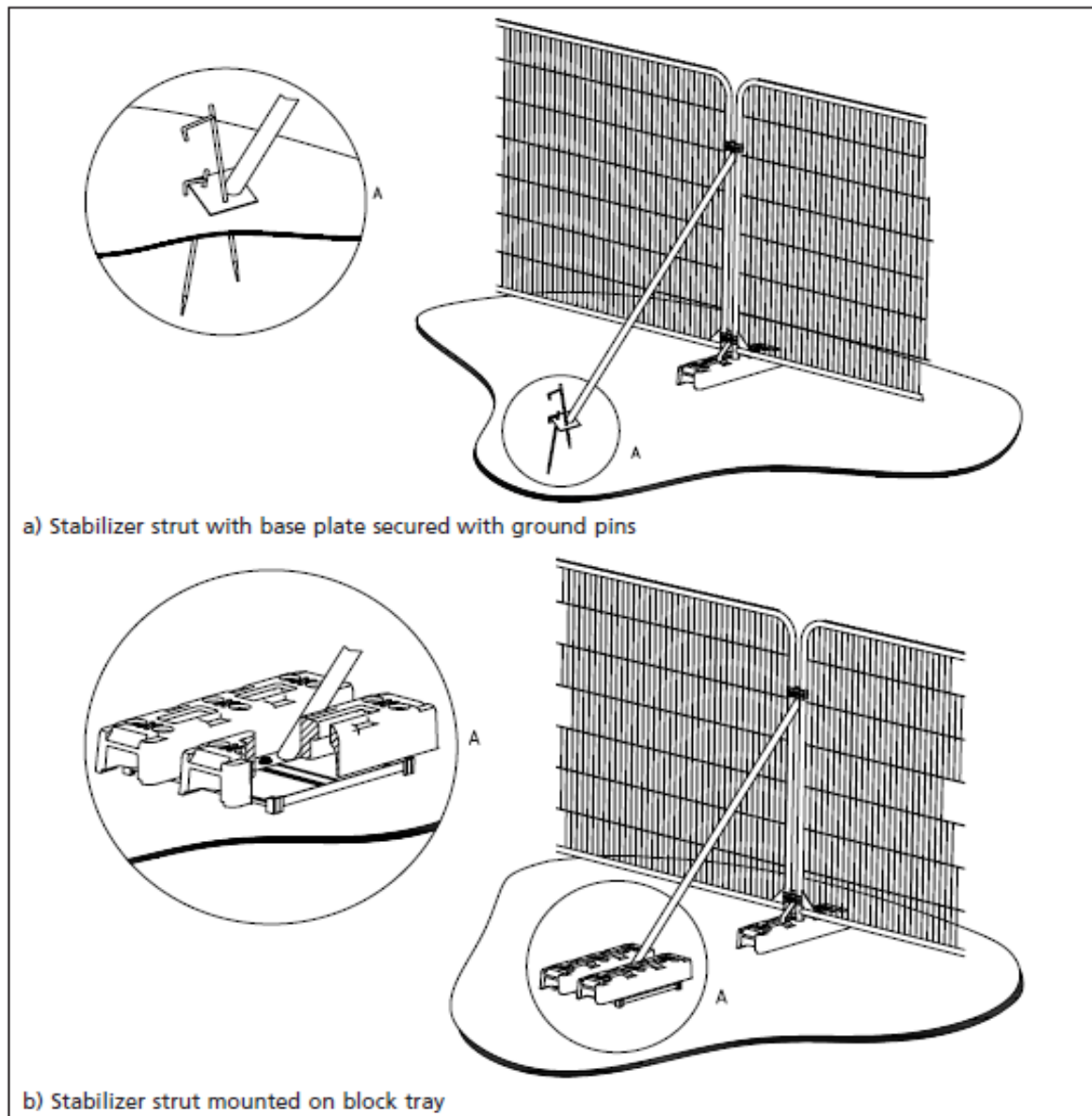
STATUS:	PLANNING
CLIENT:	CLARE GRICE
PROJECT:	MOSS VILLA, CHAPEL LANE BRONINGTON, WHITCHURCH SHROPSHIRE SY13 3HR
DRAWING:	PROPOSED SITE LAYOUT
SCALE @ A1:	DRAWN BY: OH CHKD BY: PF DATE: 27.10.23
DRAWING No:	SA48179 -BRY-XX -SK- A - 06 _C
REVISION:	

Appendix 5: Specification of protective barrier fencing

(Extract from BS 5837:2012, Figure 2)



Alternative options available for securing protective barrier fencing (Extract from BS 5837:2012, Figure 3)



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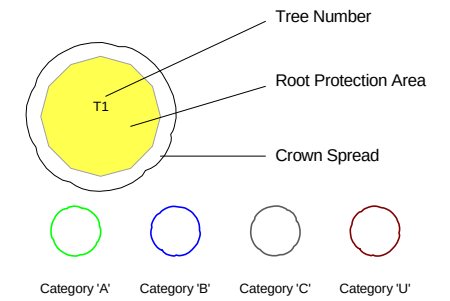
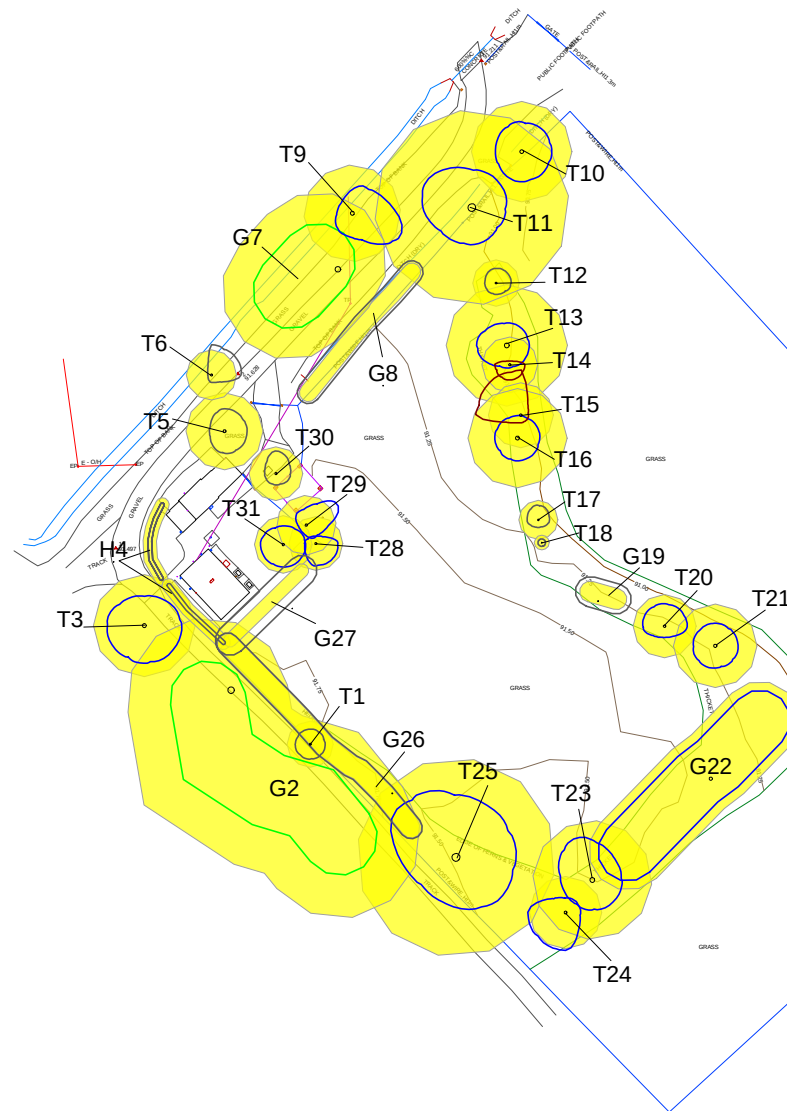
doug@salopianconsultancy.co.uk
M:07939947631

Plan 1: Tree Constraints Plan

SCALE :
1 : 1000 @ A4

DATE :
08/10/2023

MAP FILENAME :
Moss Villa



Salopian Consultancy

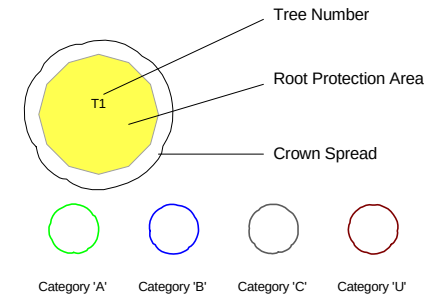
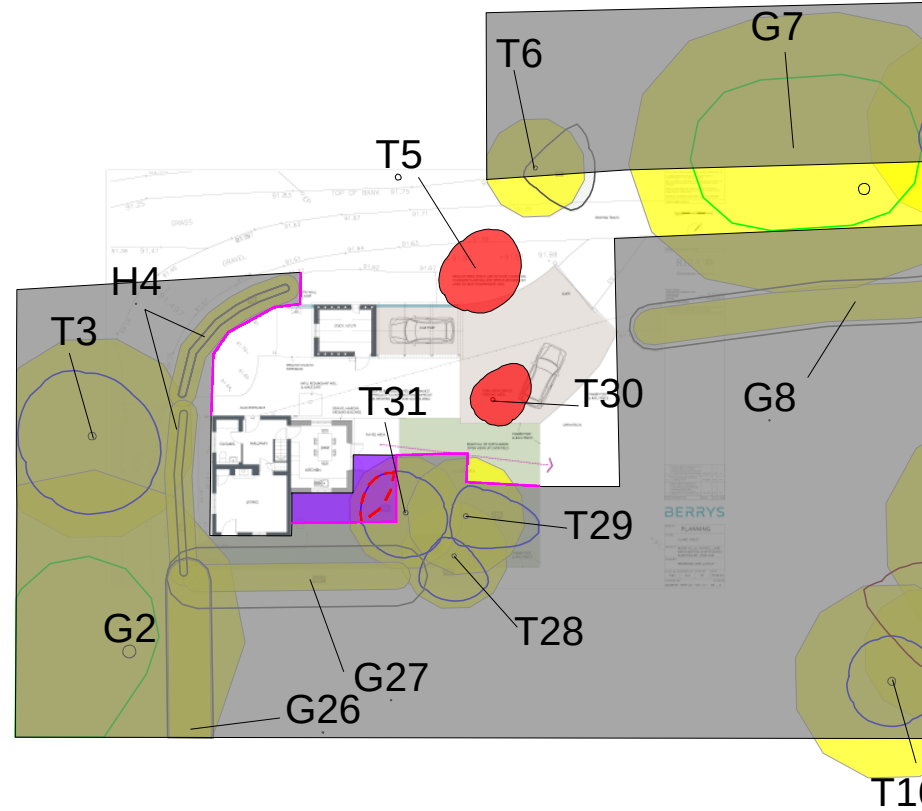
doug@salopianconsultancy.co.uk
M:07939947631

Plan 2: Tree Protection Plan

SCALE :
1 : 500 @ A4

DATE :
02/04/2024

MAP FILENAME :
Moss Villa



Tree Protection Measures/Arboricultural Impact

- Construction Exclusion Zone
- Ground Protection
- Tree Removal
- Tree Pruning
- Protective Barrier Fencing