HAYDEN'S
Arboricultural Consultants

Arboricultural Method Statement & Tree Protection Plan – In Accordance with BS 5837:2012

Proj. No **10443**	**37 St Martins Approach, Ruislip, HA4 7QH**		
Client:		Daniel Patel	
Date of Report:	04/09/2023	Revision:	Original

Arboricultural Method Statement & Tree Protection Plan In Accordance with BS 5837:2012

Contents

1.0 Introduction

1.1 Terms of Reference

1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Daniel Patel to prepare a detailed Arboricultural Method Statement and Tree Protection Plan for the approved development at 37 St Martins Approach, Ruislip, HA4 7QH.

1.1.2 This report provides the working details for the proposals submitted in the Tree Survey, Arboricultural Impact Assessment and Preliminary Method Statement & Tree Protection Plan dated 20/12/2022 ref: 9993.

1.1.3 As recommended in the Tree Survey, Arboricultural Impact Assessment and Preliminary Method Statement & Tree Protection Plan dated 20/12/2022 ref: 9993, information is required regarding the following:

(i) Pre-Commencement Meeting
(ii) Tree to Facilitate Development
(iii) Site Access
(iv) Tree Protection Measures
(v) Ground Protection Measures
(vi) Storage of Materials, Equipment and Waste
(vii) Demolition
(viii) Precautionary Linear Root Pruning
(ix) Construction Methods
(x) Services
(xi) Phasing and Monitoring Schedule

2.0 Specific Details

2.1 Pre-Commencement Meeting

2.1.1 Prior to commencing development, it will be necessary to have a site meeting between the developer and/or site manager, project arboriculturalist and council arboricultural officer to discuss the construction methods and tree protection measures.

2.1.2 The project arboriculturalist shall record minutes of the meeting with copies issued to all members of the development team.

2.2 Tree Surgery and Tree Felling to Facilitate Development

2.2.1 The necessary tree surgery and tree felling is fully detailed in the Tree Survey, Arboricultural Impact Assessment and Preliminary Method Statement & Tree Protection Plan dated 20/12/2022 ref: 9993. However, for ease of data management the specification is reproduced at Appendix C.

2.2.2 In addition to the works identified in the Tree Survey, Arboricultural Impact Assessment and Preliminary Method Statement & Tree Protection Plan dated 20/12/2022 ref: 9993, the following tree surgery will also be necessary to facilitate the development phase of the approved design:

Feature No	Description of Works Required	BS Category*
T003	Undertake root pruning (1x 3cm diameter Oak root) at the location shown on the attached drawing no. 10443-D-AMS and 10443-D-ASI.	A

2.2.3 Further to the tree removals identified in the Tree Survey, Arboricultural Impact Assessment and Preliminary Method Statement & Tree Protection Plan dated 20/12/2022 ref: 9993, the following tree will also require removal to facilitate the development phase of the approved design:

Feature No	Reason for Removal	BS Category*
T005	Fell to facilitate construction of the replacement garden room.	C

2.3 Site Access

2.3.1 The location of the site access to the rear garden is shown on the attached drawing no. 10443-D-AMS.

2.4 Tree Protection Measures

2.4.1 After the completion of the necessary tree surgery, protective fencing will be installed on site. This must be fit for purpose, in full accordance with the requirements of BS 5837:2012 and positioned as shown on the attached drawing no. 10443-D-AMS (Appendix G).

2.4.2 Details of the protective fencing to be installed are included at Appendix F and shown on the attached drawing no. 10443-D-AMS.

2.4.3 All detailed tree protection measures will be installed by the relevant site contractor and then inspected by the project arboriculturalist. The tree protection measures will be evidenced by photograph and recorded in an accompanying Arboricultural Monitoring Report. This will be further detailed within Statement of Supervision (Arboriculture) Appendix E.

2.5 Ground Protection Measures

2.5.1 During the construction process, Root Protection Areas (RPA) must not be exposed to compaction or contamination. Where they cannot be enclosed by fencing (for practical site access reasons) it will be necessary to provide temporary ground protection that is fit for purpose.

2.5.2 In this instance heavy duty ground guards will be installed. These will be installed prior to the commencement of development and as shown on the attached drawing no. 10443-D-AMS. The ground guards will not be removed until completion of construction.

2.5.3 Details of ground protection are included at Appendix F and shown on the attached drawing no. 10443-D-AMS.

2.5.4 All detailed ground protection measures will be installed by the relevant site contractor and then inspected by the project arboriculturalist. The ground protection measures will be evidenced by photograph and recorded in an accompanying Arboricultural Monitoring Report. This will be further detailed within Statement of Supervision (Arboriculture) Appendix E.

2.6 Storage of Material, Equipment and Waste

2.6.1 All materials, equipment and waste will be stored outside the RPA of the retained trees. The location identified for storage is shown on the attached drawing no. 10443-D-AMS.

2.7 Demolition

2.7.1 Demolition of the existing garden room and associated decking will commence following the installation of the tree protection and ground protection measures specified at items 2.3 and 2.4 above. All walls and material must be demolished inwards into the footprint of the building and removed from site by hand.

2.8 Linear Root Pruning

2.8.1 It was initially proposed that the replacement garden room would be constructed on specialised foundations. However, subsequent to planning permission being granted, secondary investigations have been undertaken.

2.8.2 Shown on the attached drawing no. 10443-D-ASI, which is included at Appendix H, are the findings of the secondary investigations undertaken on 1st August 2023. As can be seen, only one Oak root measuring 3cm in diameter was unearthed during excavation of the exploratory trench. Given only a single Oak root was exposed, it is considered this can be severed and traditional foundations installed without having an adverse impact on the longevity of T003.

2.8.3 The root will therefore be pruned back to the side wall of the trench by making a clean cut with suitable sharp tools such as bypass secateurs or pruning saw. A suitable root barrier will then be inserted to prevent both the chemical contamination to roots and the future risk of root damage to the structure.

2.8.4 The root pruning will be undertaken with the project arboriculturalist in attendance to oversee the work. The work will be evidenced by photograph and recorded in an accompanying Arboricultural Monitoring Report. This will be further detailed within Statement of Supervision (Arboriculture) Appendix E.

2.9 Construction Methods

2.9.1 The proposed foundation design is shown on drawing no. 7865846/28 rev. A prepared by Versi Associated Ltd. A copy of the drawing is included at Appendix I.

2.10 Services

2.10.1 The location of the service corridor is shown on the attached drawing no. 10443-D-AMS.

2.11 **Phasing and Monitoring Schedule**

2.11.1 The proposal involves the integration of several aspects that affect tree protection. Accordingly, Hayden's Arboricultural Consultants have produced a method statement flowchart/checklist to cover the major operations on site as they affect retained trees. This is included on drawing no. 10443-D-AMS. This complies with the Statement of Supervision (Arboriculture) included at Appendix E.

2.11.2 In accordance with item 6.3 of BS 5837:2012, the site and associated development must be monitored regularly by a competent project arboriculturalist to ensure compliance with the arboricultural aspects of the planning permission. As such, the method statement flowchart/checklist included on drawing no. 10443-D-AMS should be used as an auditable monitoring schedule to assess the progress of key site events/activities. This is commensurate with the Statement of Supervision (Arboriculture) in Appendix E.

2.11.3 In addition to the method statement flowchart/checklist, it is beneficial to identify the key arboricultural responsibilities associated with the progression of the development. Accordingly, a "Statement of Supervision (Arboriculture)" has been included at Appendix E. The purpose of this document is to identify a definite decision making and data recording structure in the monitoring process, together with providing a list of specific inspection trigger points. Prior to works commencing on site, this document should be re-issued with contact names and document reference numbers included.

2.11.4 It is the responsibility of the Site Manager, with authorisation from their client, to commission and plan Arboricultural Monitoring site visits as listed in the Statement of Supervision (Appendix E) and on the attached drawing no. 10443-D-AMS.

3.0 Appendices

Appendix	**A**	Species List
Appendix	**B**	Schedule of Trees
Appendix	**C**	Schedule of Works to Allow Development
Appendix	**D**	Explanatory Notes
Appendix	**E**	Statement of Supervision (Arboriculture)
Appendix	**F**	Advisory Information & Sample Specifications

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
2. European Protected Species and Woodland Operations Checklist (v.4)
3. BS 5837:2012 Figure 2 - Default specification for protective barrier
4. BS 5837:2012 Figure 3 - Examples of above-ground stabilising systems
5. Figure 4 Detail of protective barrier where construction encroaches within BS5837:2012 Root Protection Area
6. Ground Guards Ground Protection

Appendix	**G**	Drawing no. 10443-D-AMS
Appendix	**H**	Drawing no. 10443-D-ASI
Appendix	**I**	Drawing no. 7865846/28 rev. A

Appendix A - Species List

Species List:

Apple	*Malus sp*
Bay Laurel	*Laurus sp*
Beech	*Fagus sp*
Birch	*Betula sp*
Blue Atlas Cedar	*Cedrus sp*
Box	*Buxus sp*
Cypress	*Cupressus sp*
Elder	*Sambucus sp*
Hawthorn	*Crataegus sp*
Hazel	*Corylus sp*
Holly	*Ilex sp*
Hornbeam	*Carpinus sp*
Oak	*Quercus sp*
Purple Plum	*Prunus sp*
Tamarisk	*Tamarix sp*

Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA) 37 St Martins Approach, Ruislip,

Surveyed By: Nick Hayden Date: 01/08/2023
Managed By: Nick Hayden

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
A001	Apple, Birch, Box Elder, Hazel, Purple Leaved Cherry Plum,	200	5		Low	N2.5, E2.5, S2.5, W2.5	Area of mixed species, semi-mature trees. As individuals, trees of little merit.	C2		4	Fell section shown on drawing no. 10443-D-AMS to facilitate construction of the replacement garden room.	0
		2.4	0-2m		SM	Moderate						
Yes		18.1			10+ years	Grass						
H001	Bay Laurel	100	2.5		Low	N0.8, E0.8, S0.8, W0.8	Well maintained boundary hedge.	C2		4		
		1.2	0-2m		SM	Moderate						
Yes		4.5			10+ years	Grass						
H002	Bay Laurel, Cypress	150	2.5		Low	N0.8, E0.8, S0.8, W0.8	Well maintained boundary hedge.	C2		4	Fell section shown on drawing no. 10443-D-AMS to facilitate construction of the replacement garden room.	0
		1.8	0-2m		SM	High						
Yes		10.2			10+ years	Bare earth, Grass						
H003	Beech, Cypress, Hawthorn, Hazel, Holly	150	4		Low	N1, E1, S1, W1	Located part on / offsite. Partially maintained hedge.	C2		4	Tip back on northern aspect as shown on drawing no. 10443-D-AMS to permit construction of the replacement garden room.	0
		1.8	0-2m		SM	High						
Yes		10.2			10+ years	Bare earth, Grass						
H004	Cypress	100	2		Moderate	N0.5, E0.5, S0.5, W0.5	Well maintained hedge.	C2		4		
		1.2	0-2m		SM	High						
Yes		4.5			10+ years	Bare earth						
H005	Bay Laurel	150	1.5		Moderate	N0.5, E0.5, S0.5, W0.5	Well maintained hedge.	C2		4		
		1.8	0-2m		SM	High						
Yes		10.2			10+ years	Bare earth						
T001	Cypress	350	10		Moderate	N3, E3, S3, W3	Located in neighbouring rear garden. Restricted access impeded a detailed inspection. All dimensions estimated. Reasonable vigour.	C2		4		
		4.2	0-2m		EM	High						
No		55.4			10+ years	Grass						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T002	Cypress	330	9.5		Moderate	N2.5, E2.5, S2.5, W2.5	Located in neighbouring rear garden. Restricted access impeded a detailed inspection. Twin-stemmed. All dimensions estimated. Reasonable vigour.	C2		4		
		3.96	0-2m		EM	High						
No		49.3			10+ years	Grass						
T003	Oak	970	23		Moderate	N10.5, E11.5, S10, W10	Exposed buttress roots. Good wound wood / occlusion evident at old pruning wounds. Branch wounds and decay on southern aspect of second lowest primary branch extending east. Historic evidence of reduction. Moderate deadwood. Reasonable vigour. Squirrel Drey.	A2		3	Undertake root pruning (1x 3cm diameter Oak root) at the location shown on the attached drawing no. 10443-D-AMS and 10443-D-ASI.	0
		11.64	4.1-6m		M	High						
Yes		425.7			40+ years	Gravel						
T004	Birch	240	11		Moderate	N2.5, E2.5, S3, W3	Historically topped at circa. 4.5m above ground level. Reasonable vigour.	C2		4	Fell to facilitate construction of the replacement garden room.	0
		2.88	2.1-4m		EM	Low						
Yes		26.1			10+ years	Bare earth						
T005	Cypress	220	9.5		Moderate	N2, E1.5, S2, W2	Twin-stemmed from circa. 1m above ground level. Bark inclusion at fork but union currently appears stable. Tight forks throughout crown.	C2		4	Fell to facilitate construction of the replacement garden room.	0
		2.64	0-2m		SM	High						
Yes		21.9			10+ years	Bare earth, Shrub bed						
T008	Blue Atlas Cedar	920	16		High	N8, E7.5, S9.5, W8	Boundary wall cracked to east of stem. Damage most likely attributable to the tree's roots. Small stem wounds. Evidence of minor crown reduction, very sympathetic and natural tracery retained. Service wires run through crown. Reasonable vigour.	A1		2		
		11.04	2.1-4m		M	Moderate						
Yes		382.9			40+ years	Bare earth, Shrub bed, Gravel						
T011	Cypress	400	11		Moderate	N3, E3, S3, W3	Located off-site. Restricted access impeded a detailed inspection. Reasonable vigour.	C2		4		
		4.8	0-2m		EM	High						
No		72.4			10+ years	Bare earth, Tarmac						

Appendix C

Schedule of Works to Allow Development

SCHEDULE OF WORKS (AIA)

37 St Martins Approach, Ruislip,

Surveyed By: Nick Hayden
Surveyed: 01/08/2023
Managed By: Nick Hayden

Tree No.	Species	Work required	Priority
A001	Apple, Birch, Box Elder, Hazel, Purple Leaved Cherry Plum,	Fell section shown on drawing no. 10443-D-AMS to facilitate construction of the replacement garden room.	**0**
H002	Bay Laurel, Cypress	Fell section shown on drawing no. 10443-D-AMS to facilitate construction of the replacement garden room.	**0**
H003	Beech, Cypress, Hawthorn, Hazel, Holly	Tip back on northern aspect as shown on drawing no. 10443-D-AMS to permit construction of the replacement garden room.	**0**
T003	Oak	Undertake root pruning (1x 3cm diameter Oak root) at the location shown on the attached drawing no. 10443-D-AMS and 10443-D-ASI.	**0**
T004	Birch	Fell to facilitate construction of the replacement garden room.	**0**
T005	Cypress	Fell to facilitate construction of the replacement garden room.	**0**

Appendix D

Explanatory Notes

Explanatory Notes

HAYDEN'S Arboricultural Consultants

Categories

Below is an explanation of the categories used in the attached Tree Survey.

No Identifies the tree on the drawing.

Species Common names are given to aid understanding for the wider audience.

BS 5837 Main Category Using this assessment (BS 5837:2012, Table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing:

Category A - Those of high quality with an estimated remaining life expectancy of at least 40 years;

Category B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years;

Category C - Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm;

Category U - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS 5837 Sub Category Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of the determining classification as follows:

Sub Category 1 - Mainly arboricultural qualities;

Sub Category 2 - Mainly landscape qualities;

Sub Category 3 - Mainly cultural values, including conservation .

Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category.

DBH (mm) Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.

Age Recorded as one of seven categories:

Y Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.

S/M Semi-mature. An established tree, but one which has not reached its prospective ultimate height.

E/M Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.

M Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.

O/M Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.

D Dead.

Height	Recorded in metres, measured from the base of the tree.
Crown Base	Recorded in metres, the distance from ground and aspect of the lowest branch material.
Lowest Branch	Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.
Life Expectancy	Relates to the prospective life expectancy of the tree and is given as 4 categories: 1 = 40 years+; 2 = 20 years+; 3 = 10 years+; 4 = less than 10 years.
Crown Spread	Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.
Minimum Distance	This is a distance equal to 12 times the diameter of the tree measured at 1.5 metres above ground level for single stemmed trees and 12 times the average diameter of the tree measured at 1.5 metres above ground level tree for multi stemmed specimens. (BS 5837:2012, section 4.6).
RPA	This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as "a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority". The RPA is shown on the drawing.. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority's tree officer.
Water Demand	This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 "Building Near Trees".
Visual Amenity	Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance. The usual definitions are as follows: Low — An inconsequential landscape feature. Moderate — Of some note within the immediate vicinity, but not significant in the wider context. High — Item of high visual importance.
Problems/ Comments	May include general comments about growth characteristic, how it is affected by other trees and any previous surgery work; also, specific problems such as deadwood, pests, diseases, broken limbs, etc.
Work Required (TS)	Identifies the necessary tree work to mitigate anticipated problems and deal with existing problems identified in the "Problems/comments" category.

Work Required (AIA)	Identifies the tree work specifically necessary to allow a proposed development to proceed.
Priority	This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey. **1** Urgent – works required immediately; **2** Works required within 6 months; **3** Works required within 1 year; **4** Re-inspect in 12 months, **0** Remedial works as part of implementation of planning consent.

BS 5837:2012 Terms and Definitions

Access Facilitation Pruning	One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Competent Person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached. *NOTE - a competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented.*
Construction	Site-based operations with the potential to affect existing trees.
Construction Exclusion Zone	Area based on the root protection area from which access is prohibited for the duration of a project.
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Service	Any above or below ground structure or apparatus required for utility provision. **NOTE** - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
Stem	Principal above ground structural component(s) of a tree that supports its branches.
Structure	Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.
Tree Protection Plan	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures.
Veteran Tree	Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. **NOTE** - these characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.

Appendix E

Statement of Supervision

37 St Martins Approach, Ruislip, HA4 7QH

Statement of Supervision (Arboriculture)

Introduction

In accordance with Planning Permission ref: 49880/APP/2022/3893 (dated 28/02/2023), Daniel Patel undertaking the development of the above site.

The purpose of this document is to ensure that all works that have an impact on retained trees are undertaken in accordance with the approved Method Statement and Tree Protection Plan. As such, the purpose of the Statement is to identify the following arboricultural issues:

- Approved documents
- Key staff and contacts
- Critical phases of pre-commencement, induction and construction

Approved Documents

The following documents must be available to all those with responsibility for arboricultural matters during construction:

- BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations
- Notice of Planning Decision ref: 49880/APP/2022/3893 (dated 28/02/2023)
- Preliminary Arboricultural Method Statement & Tree Protection Plan for this project – produced by Hayden's Arboricultural Consultants dated 20/12/2022, ref. 9993
- Arboricultural Method Statement & Tree Protection Plan for this project – produced by Hayden's Arboricultural Consultants dated 31/08/2023, ref. 10443

Key Staff

The following have or are to be appointed responsible for arboricultural matters at the site:

- Developer: TBC
- Arboricultural Consultant: Nick Hayden (Arboricultural Manager)
  Contact details - 07843 247585 / nick@treesurveys.co.uk
- Site Manager/Agent: TBC

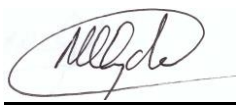
Critical phases of pre-commencement, induction, construction & completion

REF*	ACTIVITY	ONE OFF /REPEAT	ATTENDEES	ACTION
1	Pre-commencement meeting (to discuss working methods, timescales and tree protection schemes)	One off	Developer, Arboricultural Consultant, Site Manager, Ground Works Contractor, Tree Officer	Arboricultural Consultant to record minutes – copies to be submitted to attendees
2	Inspection of completed tree work as per section 2.2 of AMS ref. 10443	One off	Arboricultural Consultant, Site Manager	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Tree Officer
3 & 4	Inspection of fencing/ground protection as per section 2.4 and 2.5 of AMS ref. 10443	One off (for each identified item)	Arboricultural Consultant, Site Manager	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Tree Officer
6	Inspection of proposed root pruning as per section 2.2 and 2.8 of AMS ref. 10443	One off (for each identified item)	Arboricultural Consultant, Site Manager	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Tree Officer
8	Completion of construction – prior to removal of fencing	One off	Arboricultural Consultant, Site Manager	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Tree Officer
9	Final tree assessment – after fencing removal	One off	Developer, Arboricultural Consultant, Site Manager, Ground Works Contractor, Tree Officer	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Tree Officer

*REF numbers correlate with the Method Statement Flow Chart shown on drawing no. 10443-D-AMS

Variations and Incidents

Any proposed variations to the proposed working method (relating to arboricultural matters) will be referred by the on-Site Manger/Agent to the Developer who will seek advice from the Arboricultural Consultant. The Arboricultural Consultant shall advise on minor amendments (e.g. realignment of fencing etc) and will subsequently report these to the LPA Tree Officer by email or minutes. Issues directly relating to tree surgery or tree retention will be forwarded by the Arboricultural Consultant (with recommendations) to the LPA Tree Officer for approval. Except in an emergency **and** when the LPA Tree Officer is unavailable, no such actions will occur without the written approval of the LPA Tree Officer.



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Reasons for a Qualified Monitoring Arboriculturalist

It is essential that the works are monitored by a qualified and experienced Arboriculturalist for the following reasons.

1. An Arboriculturalist has the skill and expertise to identify if the approved tree surgery specification has been complied with and the knowledge to provide appropriate remedial advice.

2. It is necessary for informed decisions to be made regarding the impact of tree surgery, particularly root pruning. The location of roots is assessed via a calculation, but in reality, roots may grow in a more unpredictable fashion dependent on topographic and historic features. Under CDM it is essential that expert individual knowledge is available and can advise on the inevitable unforeseen circumstances that arise.

3. An Arboriculturalist provides the point of liaison and information exchange with the Local Planning Authority's Tree Officer who is also normally a qualified Arboriculturalist. This allows fellow professionals to discuss the technical matters that inevitably arise and agree appropriate and balanced solutions. Having an Arboriculturalist engaged on the supervision of a project provides comfort to the Local Planning Authority that tree protection measures are complied with and hence it is much more likely that there will be less direct scrutiny from the Local Planning Authority (regarding tree matters) during the build of the project than would otherwise be the case.

4. Arboricultural input is essential to confirm that tree protection measures are adequate and fit for purpose. This can often save the client time (and therefore money) by identifying working methods and systems that are site efficient.

5. As living entities sensitive to their environment, the condition of trees changes, and over the course of a project it may be necessary to advise on additional tree surgery or felling as a result of, for example disease or storm damage.

6. An Arboriculturalist will provide detailed briefing notes and "toolbox talks" to site staff to ensure their compliance with conditions and prevent arboricultural breaches of conditions arising which can have severe consequences for project progression.

7. Close liaison between the Site Manager and the Arboriculturalist will ensure that the retained trees are protected but as minimal an inconvenience to construction as possible. This leads to the final outcome which is the completion of the project with retained healthy trees complementing the buildings in the manner that the designers and planners envisaged.

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Tree Protection Briefing Note

Introduction:

The trees that are to remain as part of the development are important and must not be harmed. They have been carefully selected as part of an extensive appraisal, design and planning process and therefore are legally protected by a combination of Tree Preservation Orders and Planning Conditions. This means that any damage caused to retained trees is a serious offence, as is the undertaking of any work to trees that has not been authorised in writing by the Local Planning Authority. Contravention of this legislation is liable to lead to heavy personal or corporate fines together with the imposition of stop notices, expensive mitigation measures and replacement planting instructions. Given this, it is vital that all development staff are familiar with the approved Tree Protection Plan (TPP).

Typical Forms of Construction Damage to Trees:

1. **Physical Injury to Trunk and Crown**. Construction equipment can injure the above-ground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.

2. **Root Cutting*.** Excavation, grading and trenching associated with construction and underground service installation can be very damaging to tree roots which are vital for both anchoring the tree in the ground and gathering moisture and nutrients. Unacceptable levels of damage to the roots will lead to a tree losing vitality, dropping branches, dying or becoming unsafe – either immediately or in the future.

3. **Soil Compaction.** An ideal soil for root growth and development contains about 50% pore space for water and air movement. Tracking by construction equipment and the storage of materials can compact soil and dramatically reduce pore space. Compaction inhibits root growth, limits water penetration, and decreases oxygen needed for root survival. If the compaction is too severe, in addition to preventing effective root growth, it will cause physical injury to both anchor and feed roots.

4. **Smothering Roots by Adding Soil*.** The majority of fine moisture and nutrient absorbing roots are within the top 30 cm of soil. Even a few centimetres of soil piled over the root system to change the grade can smother fine roots and eventually lead to the death of larger roots.

5. **Rooting Zone Contamination*.** Many materials used on development sites (e.g. salt, lime, concrete, cement, oil) are toxic to trees. If such contaminants are spilled or allowed to leach into the RPA, they can quickly kill the roots, thus causing the same effects as root cutting, soil compaction and smothering.

***** As the location of tree roots cannot be seen, each retained tree close to a developable portion of the site has a designated Root Protection Area (RPA) as shown on the approved TPP. No excavation, grading, trenching, storage of materials nor any other activity may take place within the designated RPA unless it is in accordance with the approved Tree Protection Plan and completed under the supervision of Hayden's Arboricultural Consultants.

Preventing Damage to Trees During Construction:

The approved TPP provides specific instruction on the tree protection measures required across whole site in order to prevent damage. The primary methods of protection are as follows: -

1. **Installation of Protective Fencing**. The alignment and specification of this is shown to scale on the approved TPP. It must be erected prior to any demolition or development commencing on site and must not be moved or altered without prior written agreement of the Hayden's Arboricultural Consultants or the Local Planning Authority. No activities may take place within the fenced area, and no materials may be stored within the fenced area. The fencing may not be removed until ALL construction activities in the vicinity have been completed and only then with the written agreement of Hayden's Arboricultural Consultants or the Local Planning Authority.

2. **Ground Protection.** Where fencing is impractical the TPP provides instruction on other forms of effective ground protection. An example of this would be the provision of a temporary load bearing surface to prevent soil compaction and contamination. This must be of bespoke design for each situation so as to ensure it is fit for purpose. As with the fencing, this must be installed prior to any demolition or development commencing on site and must not be moved or altered without prior written agreement of the Hayden's Arboricultural Consultants or the Local Planning Authority. The temporary ground protection may not be removed until ALL construction activities in the vicinity have been completed and only then with the written agreement of Hayden's Arboricultural Consultants or the Local Planning Authority.

3. **Monitoring Visits from Hayden's Arboricultural Consultants.** Under the terms of the planning permission the development must be monitored by an Arboriculturalist on a suitably frequent basis. The purpose of this is twofold: -
    a. To ensure that the above tree protection measures are complied with and report findings to the developers AND the Local Planning Authority.
    b. To be available to provide help and advice regarding the inevitable requests for changes and supervision when working around retained tree.

4. **Operational Planning.** Whilst it is understood that trees are far from the only issue to be managed on site, they do represent a significant and potentially costly constraint if the protection measures required in the TPP are not strictly adhered to and as a result construction damage to trees occurs. Therefore, if problems in terms of work space conflicting with tree protection measures are identified, early liaison with Hayden's Arboricultural Consultants is essential so as to agree supervised works, alternate working methods or if necessary seek additional approval from the Local Planning Authority. Failure to identify these matters at an early stage may lead to significant delays as it can be a lengthy procedure in gaining a response from the Local Planning Authority.

Conclusion:

- Tree Protection Measures are there to protect the environment. They are also there to protect you. If they are complied with, trees will not be harmed. Therefore, DO NOT amend the protection unless you have written consent from Hayden's Arboricultural Consultants or the Local Planning Authority.

- If you are unsure on any tree related matter, seek advice before you act. Hayden's Arboricultural Consultants will discuss your concerns and help find practical and timely solutions (where possible).

- Hayden's Arboricultural Consultants, in conjunction with the Local Planning Authority, may change the frequency of Arboricultural Monitoring Inspections if it is deemed necessary to ensure the approved standards of tree protection are adhered to.

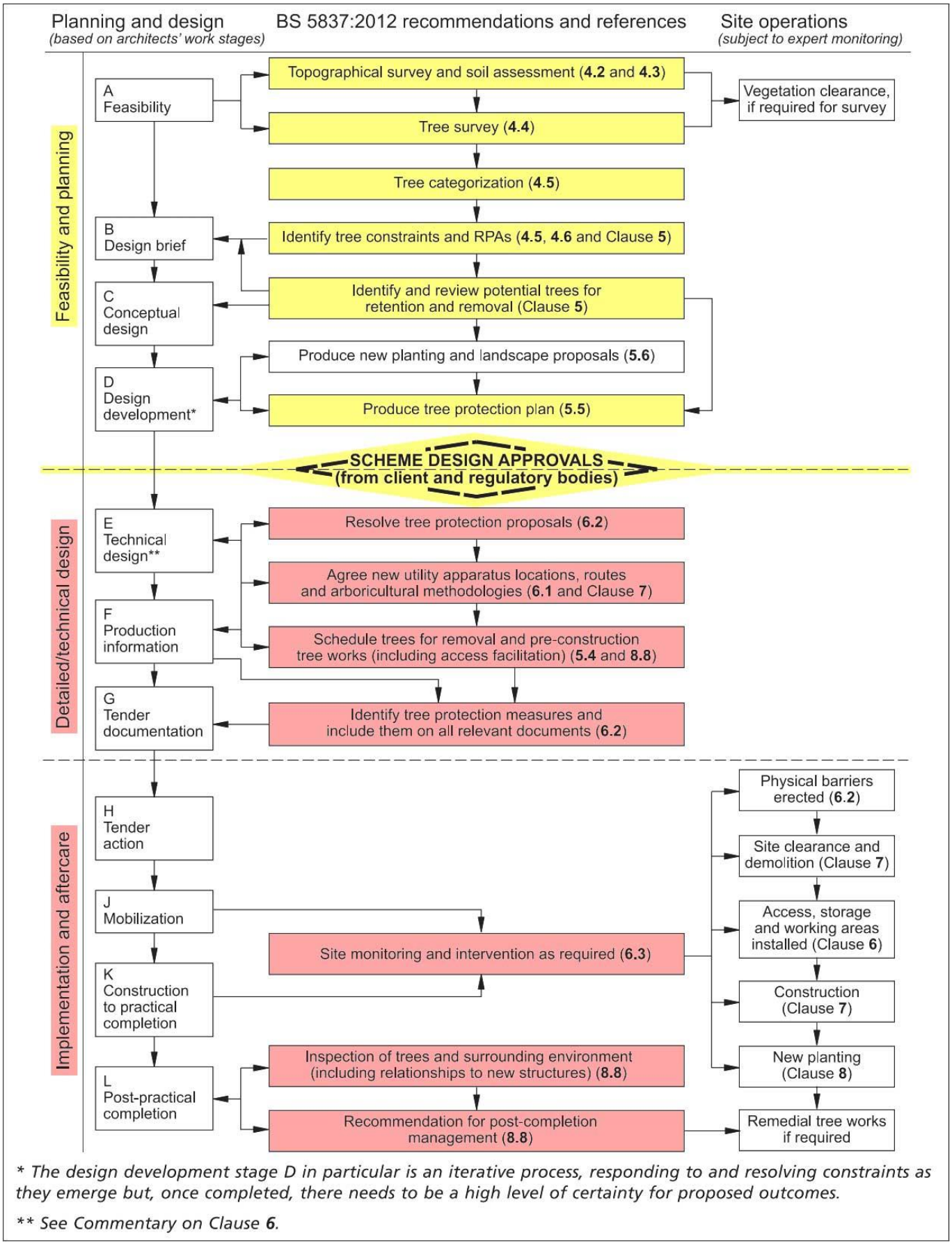
- Hayden's Arboricultural Consultants can be contacted in the first instance at the Head Office on 01284 765391.

David M Carmichael
Practice Manager

Appendix F

Advisory Information & Sample Specifications

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care



** The design development stage D in particular is an iterative process, responding to and resolving constraints as they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.*

*** See Commentary on Clause **6**.*

2.

European Protected Species and woodland operations. (V4)

Complete all sections of the Checklist

✔

Checklist

1 **Are you within, or close to, the known mapped range of any of the protected species OTHER THAN BATS which are potentially everywhere? Tick any that apply.**
See distribution maps in the Good Practice Guidance for each species -

- ☐ Dormice
- ☐ Otters
- ☐ Great crested newts
- ☐ Sand lizards
- ☐ Smooth snakes

YES ☐ NO ☐

2 **Does your wood contain any of the following habitats? Tick any that apply.**

- ☐ Old trees with holes and crevices which might be used bats
- ☐ Species rich scrub/coppice, early growth stage plantations and forest interfaces
- ☐ Rivers on which otters might be found
- ☐ Ponds which might be occupied by great crested newts
- ☐ Open areas on heathy soils

YES ☐ NO ☐

3 **Have any of the protected species been recorded in this wood or on adjoining sites? Tick any that apply.**
Indicate which sources of information you have checked:

- ☐ National Biodiversity Network (www.nbn.org.uk)
- ☐ Local Biological Records Centre
- ☐ Local Wildlife Trust
- ☐ Other

Specify Other:

YES ☐ NO ☐

4 **Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply.**

- ☐ Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts)
- ☐ Sightings (or echo-location)
- ☐ Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood)
- ☐ Confirmed breeding or roosting sites (i.e. evidence of sites actually being used)

Details:

YES ☐ NO ☐

CHECK POINT

If you have answered NO to ALL of the above then only bats need to be considered in your operations.

If you have answered YES to any of the above then the species concerned must be considered as well as bats.

5 **Do the operations comply with Good Practice for bats and any other species found (or likely to be found in your wood) or can the operations be modified to do so?**
Details: Use reverse of form to expand as required:

YES ☐ NO ☐

6 **Whether or not a licence is required...**
Has the information been communicated to operators (including the location of breeding sites and sensitive areas)? Tick any that apply.

- ☐ Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan)
- ☐ Shown to operators and/or their supervisor
- ☐ Marked with paint or hazard tape
- ☐ Shown on the site plan

Other means:

YES ☐ NO ☐

7 **Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations?**
Details:

YES ☐ NO ☐

Details

Name of Wood:

Grid Reference:

Area: (ha) .

Date of Assessment:

Name of Assessor:

Notes

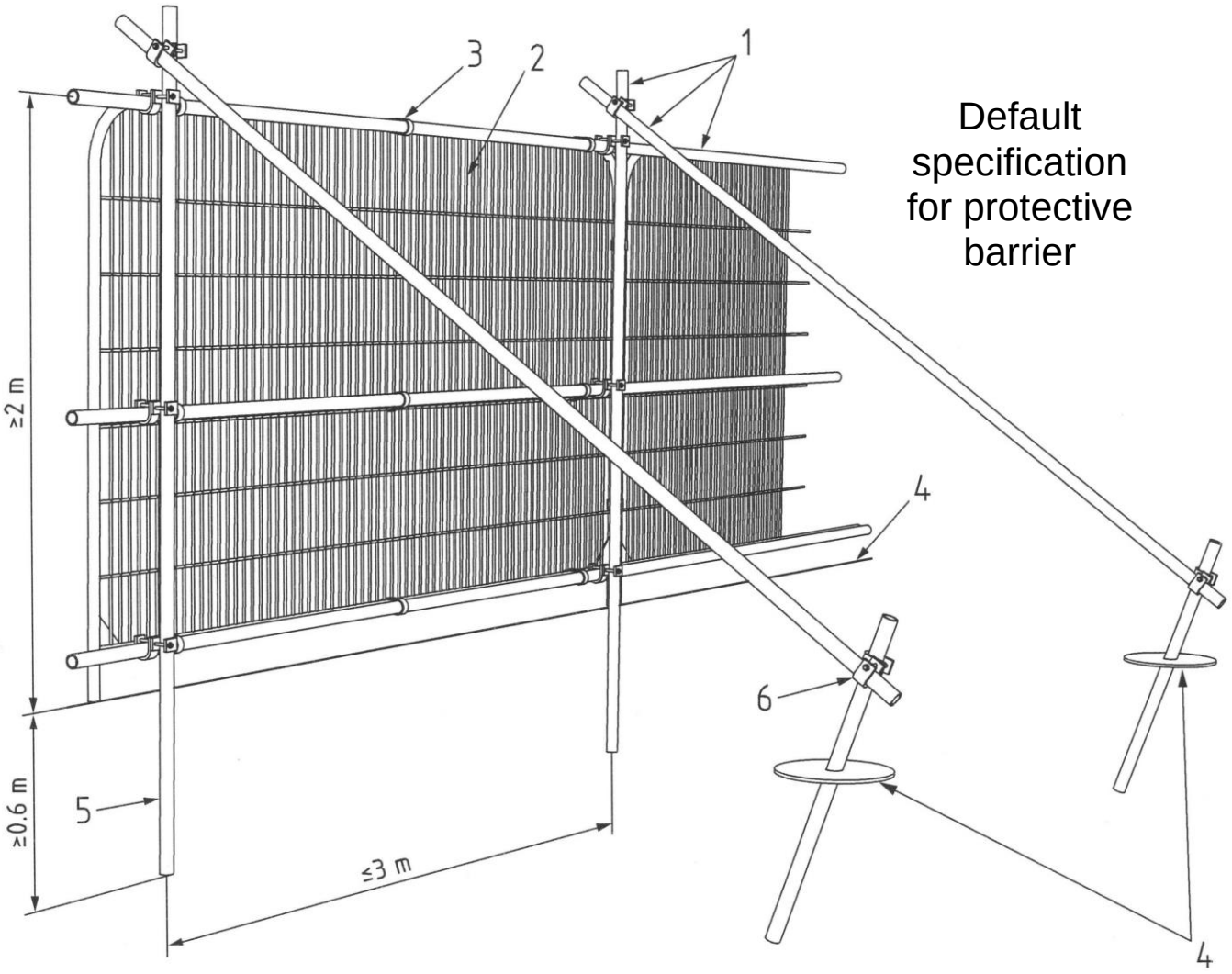
A licence is not required but continue to sections 6 and 7 below

You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)

You may commit an offence if you do not tell your operators about the protected species in your wood.

You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.

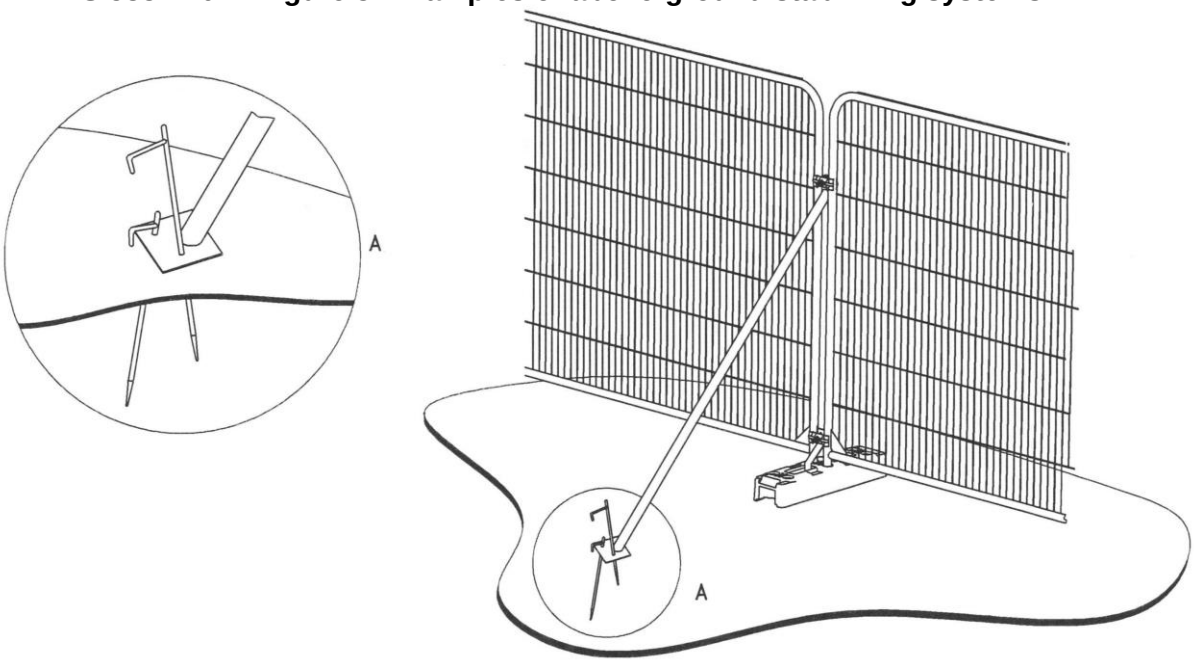
3. BS 5837:2012 Figure 2: Default specification for protective barrier



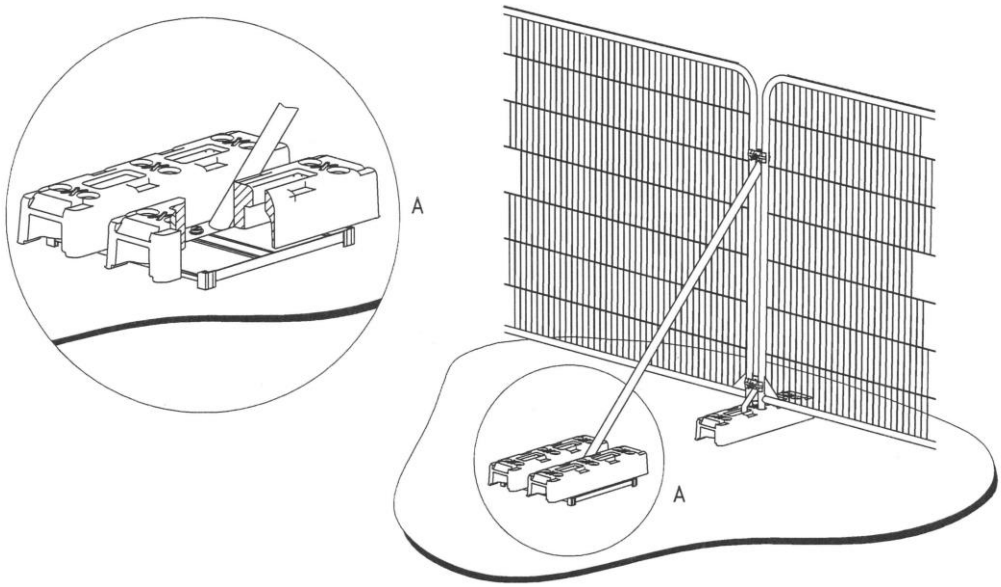
Key

1	Standard scaffold pole
2	Heavy gauge 2m tall galvanised tube and welded mesh infill panels
3	Panels secured to uprights and cross-members with wire ties
4	Ground level
5	Uprights driven into the ground until secure (minimum depth 0.6m
6	Standard scaffold clamps

4. BS 5837:2012 Figure 3: Examples of above-ground stabilizing systems

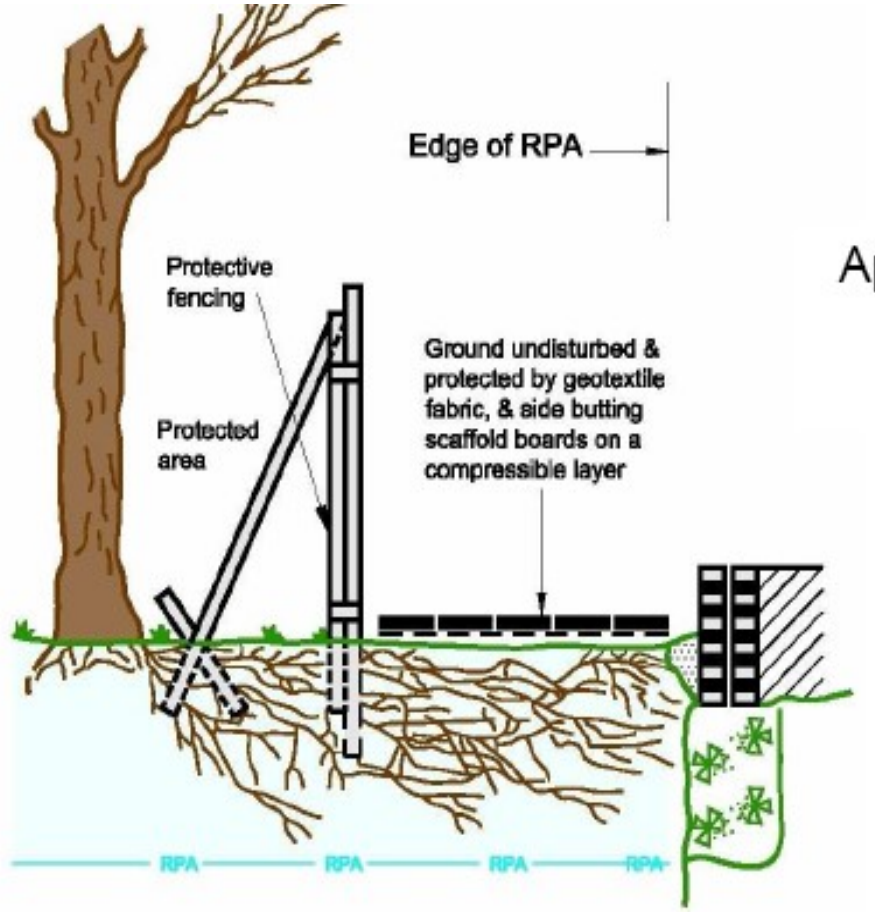


a) Stabilizer strut with base plate secured with ground pins



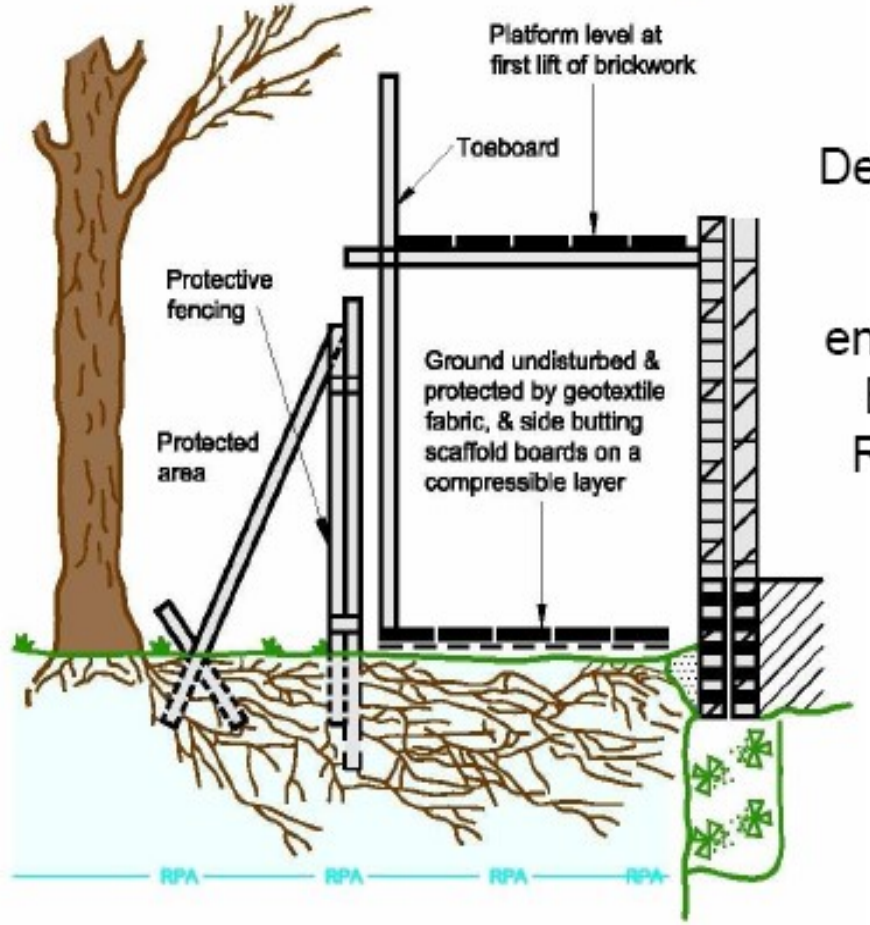
b) Stabilizer strut mounted on block tray

5. Figure 4 Detail of protective barrier where construction encroaches within BS5837:2012 Root Protection Area



Appendix No 2.1

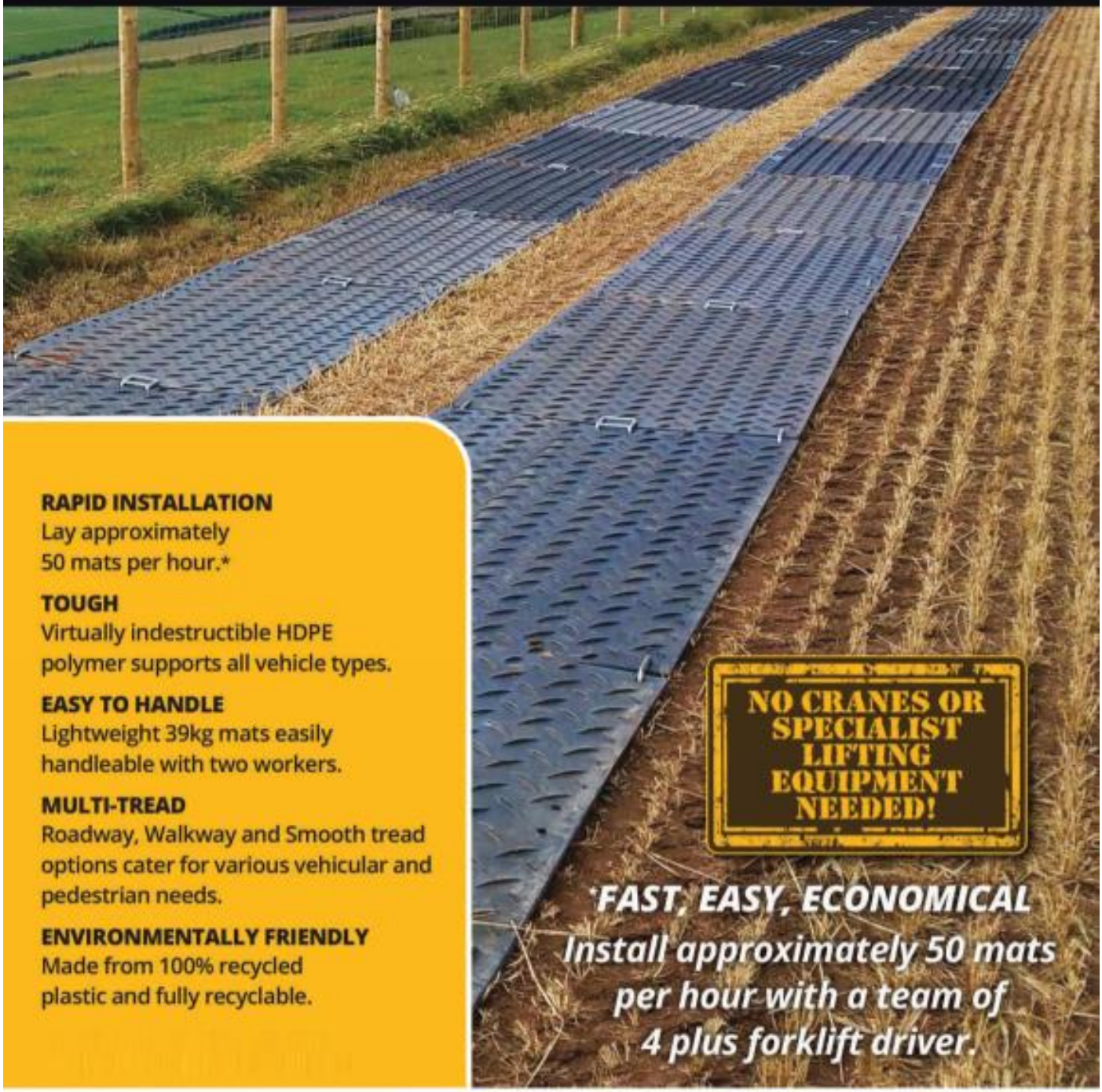
Figure 4 –



Detail of protective barrier where construction encroaches within BS 5837:2012 Root Protection Area (RPA)

6. GroundGuards Multitrack Ground Protection

MultiTrack



RAPID INSTALLATION
Lay approximately 50 mats per hour.*

TOUGH
Virtually indestructible HDPE polymer supports all vehicle types.

EASY TO HANDLE
Lightweight 39kg mats easily handleable with two workers.

MULTI-TREAD
Roadway, Walkway and Smooth tread options cater for various vehicular and pedestrian needs.

ENVIRONMENTALLY FRIENDLY
Made from 100% recycled plastic and fully recyclable.

GroundGuards®

+44 (0)113 267 6000
info@ground-guards.co.uk
www.ground-guards.co.uk

MultiTrack

MultiTrack mats are the strongest in their category

Mats are easily moved using a HandiHook

Standard no-tools joiners quickly clip the mats together

Low profile joiners for walkways plus bolted joiners

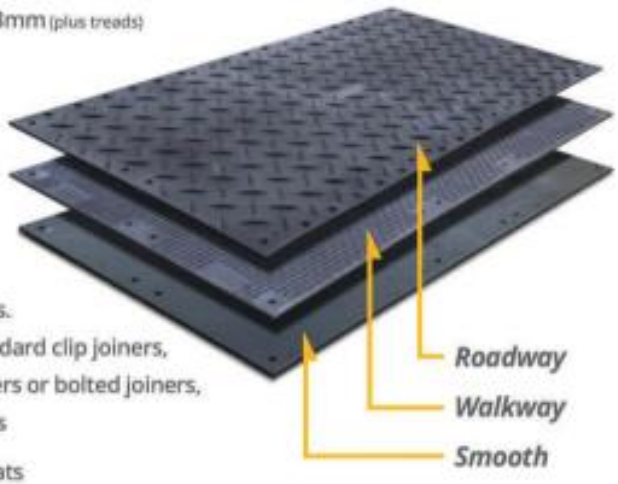
SafeStore stillages hold 25 mats

Overall Size: 2435 x 1215 x 13mm (plus treads)

Surface Area: 2.95m²

Weight: 39kg

Tread Options: Roadway, Walkway and Smooth, or a combination



Connectors: 10 joining points. A choice of standard clip joiners, low profile joiners or bolted joiners, plus anchor pins

Packed in: Stillage of 25 mats

Stillage Pack: **Weight:** 1105kg
Dimensions: 2550 x 1260 x 900mm

Slip Testing: BS7976 part 2

Deflection: Tested on varying CBR ground conditions using a 300mm diameter steel platen with 6 tonnes load to simulate the pressure of an HGV wheel

Ground CBR 11.35% : Deflection 17.68mm

Ground CBR 8.58% : Deflection 20.41mm

Ground CBR 4% : Deflection 22.00mm

Guarantee:

It is the user's responsibility to assess the load-bearing capacity of the ground, and to only operate vehicles within the weight that the ground is capable of safely supporting. Ground-Guards Ltd accepts no liability whatsoever for any damage, loss or injury arising from the ground conditions on which these products are used.

MultiTrack mats are not suitable to use for bridging purposes. Damage caused by mechanical equipment (e.g. cuts by digger buckets) or sharp protrusions beneath the mats is not covered by this guarantee.

GroundGuards®

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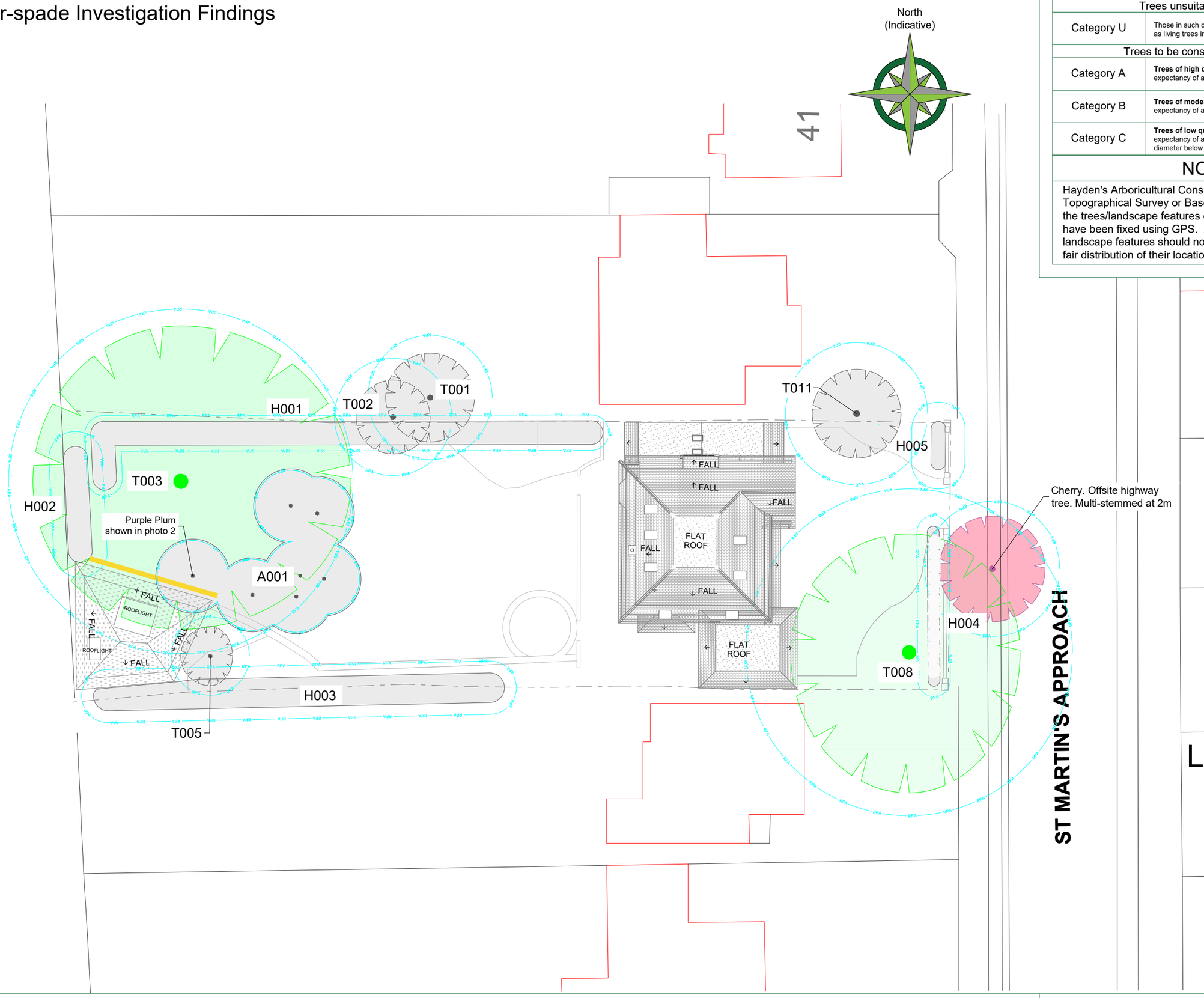
info@ground-guards.co.uk
www.ground-guards.co.uk

Appendix G

Haydens Drawing

Air-spade Investigation Findings



CATEGORY AND DEFINTION

Trees unsuitable for retention	
Category U	Those in such condition that they cannot realistically be retained as living trees in the current land use for longer than 10 years
Trees to be considered for retention	
Category A	**Trees of high quality** with an estimated remaining life expectancy of at least 40 years
Category B	**Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years
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 150mm

NOTE:

Hayden's Arboricultural Consultants were not provided with a Topographical Survey or Base Plan showing the positions of the trees/landscape features on this site, so their locations have been fixed using GPS. As such the position of the trees/ landscape features should not be taken as exact but gives a fair distribution of their locations on site.

01 - Location of 8m trench excavated by air-spade to a depth of 0.7m, 0.3m beyond footprint of approved garden office.

02 - Multi-stemmed Purple Plum to north of trench

03 - 1x 3cm diameter Oak root located at 4.5m along trench from west aspect

04 - 1x 6cm and 2x 2cm diameter Purple Plum roots located at 6m along trench from west aspect and directly south of Purple Plum in A001

05 - Same roots as Photo 4

LEGEND

- Existing Tree/Feature BS 5837:2012 Category A
- Existing Tree/Feature BS 5837:2012 Category C
- Line of Root Protection Area (RPA) - calculated following guidelines set in BS 5837:2012
- Offsite Cherry Tree
- Location of excavated trench - 8m in length, 0.7m in depth

Rev:	Date:	By:	Revision:
-	03/08/2023	CM	Based on GK Architects Site Plan as Existing drg no.E(0)09 and Site Plan as Proposed drg no GH(0)09

The position, condition, and dimensions of the trees are based on a site survey undertaken on 22/11/2021

"The original of this drawing was produced in colour - a monochrome copy should not be relied upon"

Scale 1:250

0m 5m 10m 15m 20m

HAYDEN'S Arboricultural Consultants

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Bury St Edmunds
Suffolk IP28 6JY

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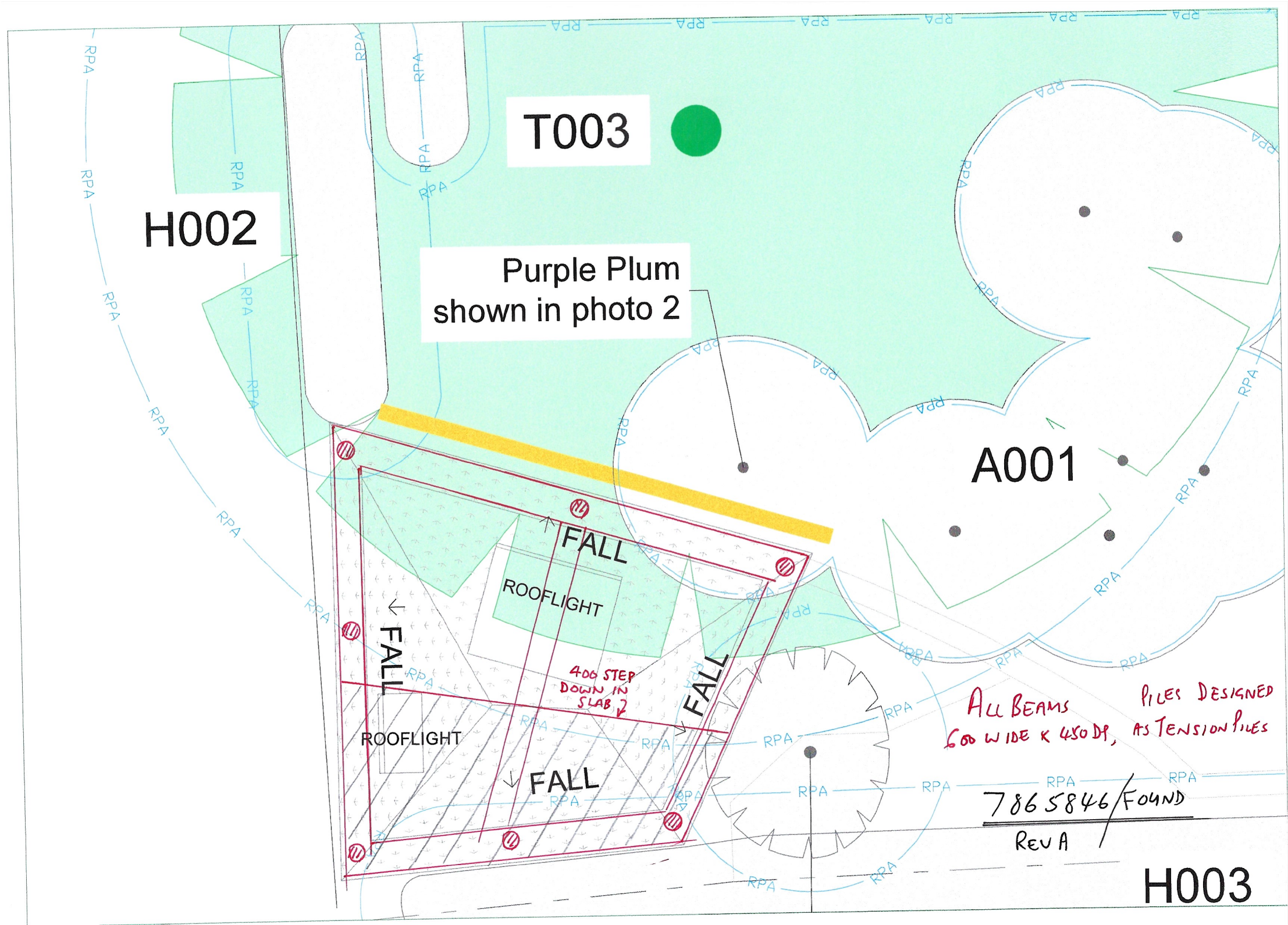
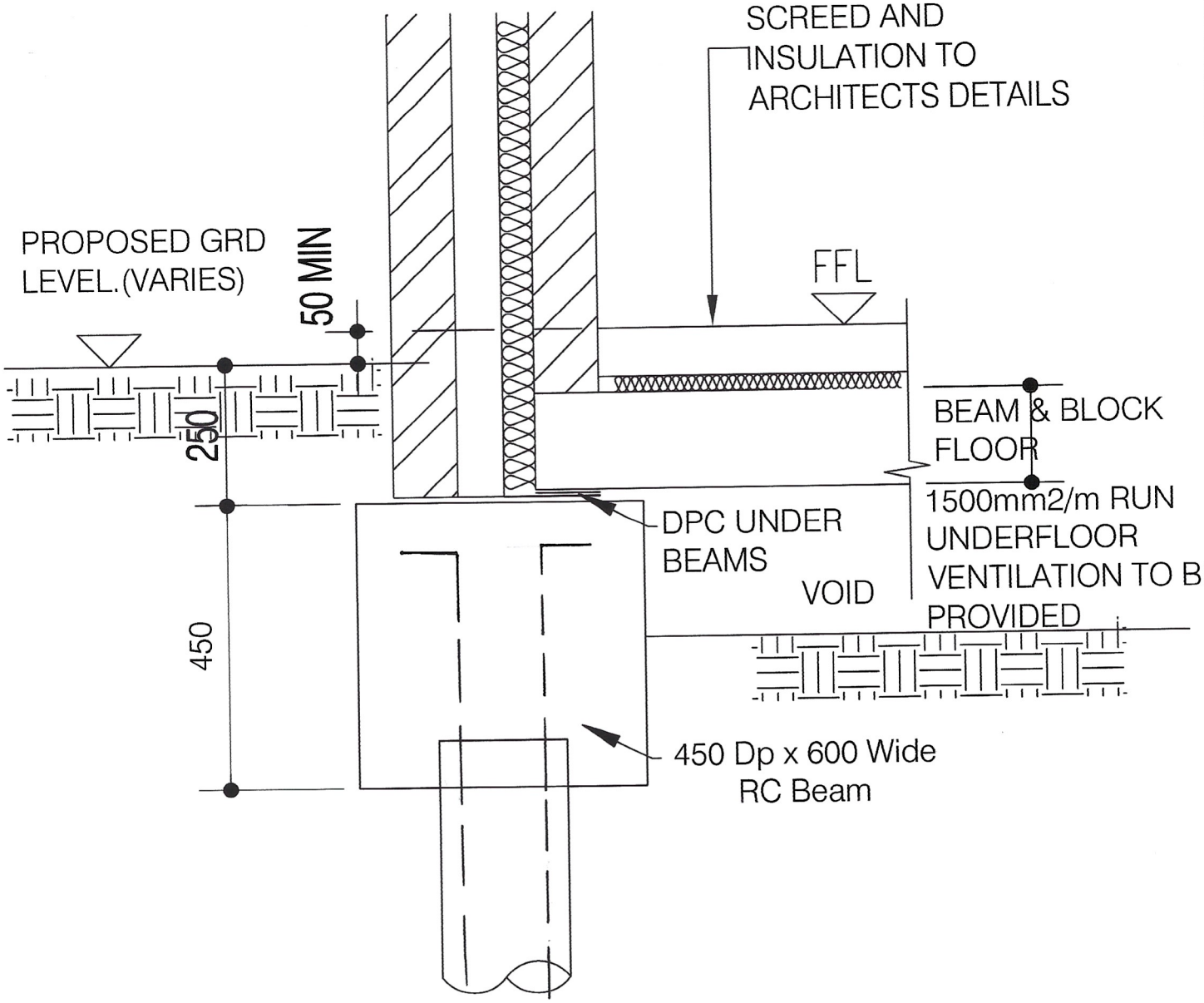
Southern Office: 01722 657423
Email: info@treesurveys.co.uk

www.treesurveys.co.uk

Client:	Eursap Ltd
Drawing Title:	Air Spade Investigations
Site:	37 St Martins Approach, Ruislip

Date:	Drawn By:	Cad File Ref:	
03/08/2023	CM	Cli\Pro\10443-D-ASI.dwg	
Scale:	Checked By:	Drawing No:	Rev:
1:250 (A2)	NH	10443-D-ASI	-


T003
H002
Purple Plum
shown in photo 2
A001
H003
FALL
ROOFLIGHT
FALL
400 STEP
DOWN IN
SLAB ↓
FALL
ROOFLIGHT
FALL
RPA
All Beams
600 WIDE x 450 DP,
Piles Designed
as Tension Piles
7865846/Found
Rev A



GROUND BEAM DETAIL

Rev	Description	Dwn	Date	Chkd

Drawing Status: CONSTRUCTION

VERSI ASSOCIATES LTD
STRUCTURAL ENGINEERS

6 VERWOOD ROAD, NORTH HARROW, MIDDLESEX, HA2 6LD : Tel : 07958 721212
email: riyaz@rversi.plus.com

Job: 37 ST MARTINS APPROACH
RUISLIP

TYPICAL PERIMETER
FOUNDATION DETAILS

Date	AUGUST 2023	Drawing Number	Revision
A4 Scale		7865846 / 28	A
Drawn	RJV		
Checked			

- Arboricultural Impact Assessments
- Arboricultural Method Statements
- Tree Constraints Plans
- Arboricultural Feasibility Studies
- Shade Analysis
- Picus Tomography
- Arboricultural Consultancy for Local Planning Authority
- Quantified Tree Risk Assessment
- Health & Safety Audits for Tree Stocks
- Tree Stock Survey and Management
- Mortgage and Insurance Reports
- Subsidence Reports
- Woodland Management Plans
- Project Management
- Ecological Surveys