

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

Proj. No 11118	The Edinboro Castle, 57 Mornington Terrace, Camden, London, NW1 7RU								
	Clie	Baxter Glaysher C	onsulting Limited						
Date of F	Report:	23/12/2024	Revision:	Original					

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

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1.0 Introduction

1.1 **Terms of Reference**

- 1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Baxter Glaysher Consulting Limited to prepare a detailed Arboricultural Method Statement and Tree Protection Plan for the proposed development at The Edinboro Castle, 57 Mornington Terrace, Camden, London, NW1 7RU.
- 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 03/07/2024, ref: 10930.
- 1.1.3 As recommended in the Tree Survey, Arboricultural Impact Assessment, and Preliminary Method Statement & Tree Protection Plan dated 03/07/2024, ref: 10930, information is required regarding the following:
 - (i) Pre-Commencement Meeting
 - (ii) Tree Protection Measures
 - (iii) Ground Protection Measures
 - (iv) Storage of Materials, Equipment and Waste
 - (v) Demolition
 - (vi) Construction Methods
 - (vii) Services
 - (viii) 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 Protection Measures**

- 2.2.1 After the completion of the pre-commencement site meeting, "Trunk Proteca" or an equivalent system, will be installed on to the necessary trees along with all tree protection fencing. These must be fit for purpose and in full accordance with the requirements of BS 5837:2012 and positioned as shown on drawing no. 11118-D-AMS (Appendix F).
- 2.2.2 Details of the "Trunk Protecta" system and tree protection fencing are supplied in the attached Appendix E.
- 2.2.3 After the completion of the piling installation and the associated piling mat has been removed from site, the tree protection fencing will require realignment. The realigned fencing position is shown on drawing 11118-D-AMS in the viewport titled "Proposed Site Plan Phase 1 (Raft Foundation Layout)". Once the tree protection fencing has been realigned, it will be inspected by the monitoring Arboricultural Consultant.



2.2.4 All detailed tree protection measures will be installed by the relevant site contractor and then inspected by the monitoring arboricultural consultant. 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 D.

2.3 **Ground Protection Measures**

- 2.3.1 During the construction process, Root Protection Areas 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. In this instance, it will be necessary to install a bespoke piling mat that sits on the existing ground level and does not require excavation to facilitate its installation within the RPA of the retained trees, as confirmed on drawing no. 223410-D01 rev. C prepared by Baxter Glaysher Consulting Civil and Structural Engineers (Appendix E). This will be installed as a first stage of development, immediately after the installation of protective fencing and removal of the existing hard surfacing.
- 2.3.2 All detailed ground protection measures will be installed by the relevant site contractor and then inspected by the monitoring arboricultural consultant. 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 D.

2.4 Storage of Material, Equipment and Waste

2.4.1 All materials, equipment and waste will be stored outside the Root Protection Area (RPA) of the retained trees. The precise location for storage will be confirmed and approved in writing by the main contractor and the Local Planning Authority.

2.5 **Demolition**

- 2.5.1 Demolition may only commence following the installation of the tree protection and ground protection measures specified at items 2.2 and 2.3 above. The existing hard surfaces within the theoretical RPA of T001, T002, T003, T004, T005, T006 and T007 must be broken out with extreme care, either manually or with a breaker and small mini digger. The existing soil profile beyond the depth of the established root level, identified on drawing no 20550/T/01-01 SK01 (Appendix E), will not be lowered.
- 2.5.2 Demolition of existing lightweight structures affects the theoretical RPA of retained trees T001, T002, T003, T004, T005, T006 and T007. To prevent damage to these specimens, work will only be completed by hand within the calculated RPA. In the proximity of the retained trees, all material will be demolished inwards into the footprint of the structures and away from the stems (often referred to as "top down, pull back").
- 2.5.3 All demolition work as identified above, affecting trees T001, T002, T003, T004, T005, T006 and T007, will be undertaken with the project arboriculturalist in attendance to oversee the work where it may impact trees. This will be further detailed within the Statement of Supervision (Arboriculture) Appendix D.



2.6 Construction Methods

- 2.6.1 The proposed external garden area is to be formed using a 250mm thick concrete raft slab supported on piles. Once the detailed piling mat has been installed, the piling machinery may then be brought on to site.
- 2.6.2 When the piling machinery is in operation and within 3m to tree crowns, a banksman must be present at all times when machinery is being moved to ensure no above ground damage to trees occurs.
- 2.6.3 When the piles have been installed and prior to the installation of the raft slab, it will be necessary to remove the temporary piling mat and existing hard surfacing from site. This will be completed in a methodical manner, working from the furthest point away from the site access point, and by using a "pull back" method, so that machinery is always operating from on top of the piling mat. Once complete, and should access be required onto the now exposed ground, temporary ground protection will be used.
- 2.6.4 Once the piling mat and existing hard surfacing has been removed, soil decompaction and mulching will be undertaken. This will be completed using a machine such as a VOGT Soil Aeration system or equivalent. The mulch to be used must be a humus rich mixture with added biochar.
- 2.6.5 A similar method to the removal of the piling mat and existing hard surfacing will be used for the installation of the raft slab, but in reverse, working from the nearest point to the site access, so that the raft slab also works as the ground protection.
- 2.6.6 It is proposed to landscape some areas within the RPA of T007 using either gravel or paving slabs. In either case, all materials to be used within the RPA will be moved and installed by hand only.
- 2.6.7 All proposed structures to be constructed will be positioned upon the raft slab. Therefore, it is not envisaged that any specialist works will be required to managed construction in proximity to trees.

2.7 Services

2.7.1 All services will be connected to existing service supplies onsite. Therefore, there will be no impact to trees through service installation.

2.8 **Phasing and Monitoring Schedule**

- 2.8.1 The proposal involves the integration of several complex 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. 11118-D-AMS. This complies with the Statement of Supervision (Arboriculture) in Appendix D.
- 2.8.2 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. 11118-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 D.



- 2.8.3 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 D. 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.
- 2.8.4 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 D) and on drawing no. 11118-D-AMS. Hayden's, upon request will produce a detailed quotation to match with the critical Arboricultural Monitoring points outlined.



3.0 Appendices

Appendix	Α	Species List
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Appendix	С	Explanatory Notes
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Appendix	Е	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.	Trunk Protecta by Green Grid Systems
	7.	VOGT Soil Aeration and Injection Technologies
	8.	Drawing no. 223410-D01 rev. C prepared by Baxter Glaysher Consulting Civil
		and Structural Engineers
	9.	Drawing no 20550/T/01-01 SK01
Appendix	F	Drawing No 11118-D-AMS



Appendix A - Species List

Species List:

Lime	Tilia sp
Magnolia	Magnolia sp
Sycamore	Acer sp
Tree of Heaven	Ailanthus sp



Appendix B

Schedule of Trees

TreeNo	Species	DBH	Не	ight	Visual	Crown Spread	Problems / Comments	BS	Work Required (TS)	Priority	Work Required (AIA)	Priority
		Min Dist	Crown	Lowest	Age	Water Demand	_	Cat		(TS)		(AIA)
On site		RPA (m²)	Base Aspect	Aspect	SULE	Ground Cover						
T001	Sycamore	650	1	15	High	N5, E4.5, S5, W5	April 2024 - Tapping lower stem with a sounding hammer did not reveal presence of any notable decay.	C2	No work required.	4		
		7.8	2.1-4m		М	Moderate						
Yes		191.1			10+ years	+ years Building, Block paving, Concrete Cavity at circa. 2m agl on east aspect, appears localised. Otherwise, no notable change sir	Cavity at circa. 2m agl on east aspect, appears localised. Otherwise, no notable change since					
							previous inspection May 2022 - Restricted rooting					
							environment. Large girdling root. Notable distortion to adjacent block					
							paving. Structure within 1m north and east and 2m south of stem.					
							Wire encased in stem. Bifurcates at					
							union appears stable. Co-dominant					
							stem bifurcates at circa. 2 and 2.5m					
							wounds display reasonable					
							Reasonable vigour. Surrounding					
							ground uneven and possibly subsiding. Railway to west					
T002	Lime	400	1	11	High	N4, E3.5, S5, W5	April 2024 - Tapping lower stem with a sounding hammer did not reveal	B2	Remove basal epicormic growth and reinspect. Raise crown to	ı 2		
		4.8	0-2m		EM	Moderate	presence of any notable decay.		3m.			
Yes		72.4			20+ years	Tarmac, Block paving, Slate	previous inspection.					
						chippings	May 2022 - Restricted rooting					
							growth impeded a detailed					
							inspection of base and lower stem.					
							fencing impeded a detailed					
							inspection. Tapping lower stem with					
							the presence of any notable decay.					
							Dense foliage and mature epicormic					
							inspection of crown. Appears to					
							have historically been reduced /					

SCHEDIILE OF TREES (AIA) The Edinboro Castle 57 Mornington Terrace Camden London

Surveyed By: Nick Hayden Date: 21/01/2021

TreeNo	Species	DBH	He	ight	Visual	Crown Spread	Problems / Comments	BS	Work Required (TS)	Priority	Work Required (AIA)	Priority
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand		Cat		(TS)		(AIA)
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T003	Lime	430	1	1	High	N5.5, E4.5, S4, W3	April 2024 - Tapping lower stem with a sounding hammer did not reveal	B2	Remove basal epicormic growth and reinspect. Raise crown to	2		
		5.16	0-2m		М	Moderate	presence of any notable decay. No		3m.			
Yes		83.6			20+ years	Tarmac, Block paving, Slate chippings	May 2022 - Restricted rooting					
							growth impeded a detailed inspection of base and lower stem. Outdoor booths and boundary fencing impeded a detailed inspection. Tapping lower stem with a sounding hammer did not reveal the presence of any notable decay. Dense foliage impeded a detailed inspection of crown. Historically pollarded at circa. 6.5m agl, unions between regrowth currently appear stable. Reasonable vigour.					
T004	Lime	230		9	High	N2.5, E3, S3, W2.5	April 2024 - Tapping lower stem with a sounding hammer did not reveal	C2	Remove basal epicormic growth and reinspect. Raise crown to	2		
		2.76	0-2m		EM	Moderate	presence of any notable decay. No		3m.			
Yes		23.9			10+ years	Tarmac, Block paving, Slate	inspection.					
						chippings	May 2022 - Suppressed specimen. Restricted rooting environment. Dense basal epicormic growth impeded a detailed inspection of base and lower stem. Outdoor booths and boundary fencing impeded a detailed inspection. Cracking, possibly as a result of direct damage, evident in low retaining wall adjacent to base. Historically pollarded at circa. 4m agl. Reasonable vigour.					

TreeNo	Species	DBH	He	ight	Visual	Crown Spread	Problems / Comments	BS	Work Required (TS)	Priority	Work Required (AIA)	Priority
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand		Cat		(TS)		(AIA)
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T005	Tree Of Heaven	380	1	1	High	N3.5, E3.5, S2, W2	April 2024 - No evidence of any fruiting bodies around base or on	C2	No work required.	4		
		4.56	4.1-6m		EM		lower stem. Tapping lower stem with					
Yes		65.3			10+ years	Tarmac, Block	a sounding nammer did not reveal presence of any notable decay. Bark					
		70					No notable change since previous inspection. Poor specimen. May 2022 - Poor specimen. Restricted rooting environment. Outdoor booths and dense shrubs impeded a detailed inspection of the base and lower stem. Bifurcates at circa. 2.5m agl, unions appear stable. Pollarded at circa. 10m agl. Dieback of some reduced branches. Lights wrapped around stem. Nest in crown.					
T006	Magnolia	70		4	Moderate	N2, E2, S2, W2	April 2024 - No notable change since previous inspection.	C2	No work required.	4		
		0.84	2.1-4m		Y	Moderate	May 2022 - Young specimen					
Yes		2.2			10+ years	Block paving	Reasonable vigour.					

TreeNo	Species	DBH	Hei	ight	Visual	Crown Spread	Problems / Comments	BS	Work Required (TS)	Priority	Work Required (AIA)	Priority
		Min Dist	Crown	Lowest Branch	Age	Water Demand		Cat		(TS)		(AIA)
On site		RPA (m²)	Aspect	Aspect	SULE	Ground Cover						
T007	Tree Of Heaven	680	1	4	High	N5.5, E6, S6, W5.5	April 2024 - Twin stemmed from ground level, union appears stable.	C2	Remove deadwood (2). Monitor annually (progression branchtip	3		
		8.16	4.1-6m		М		Tapping accessible sections of both		dysfunction and dieback).			
Yes		209.2			10+ years	Tarmac, Block paving, Slate	presence of any notable decay.					
							dysfunction and dieback evident through lowest primary branch. Dieback and branchtip dysfunction remains similar to previous inspection. Category C. May 2022 - Dense bamboo and a marquee restricted access and a detailed inspection was therefore not possible. Twin-stemmed from ground level. Adjacent low retaining wall bowed and cracking, most likely due to direct damage. Lights wrapped around stems. Numerous areas of branchtip dysfunction and dieback present throughout crown, most prominent on northern aspect. Reinspect in June 2023 to ascertain extent and progress of dysfunction / dieback. In decline with a limited SULE.					

Appendix C

Explanatory Notes

Explanatory Notes

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 Using this assessment (BS 5837:2012, Table 1), trees can be divided Main into one of the following simplified categories, and are differentiated by Category 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 Table 1 of BS 5837:2012 also requires a sub category to be applied to

Sub the A, B, C, and U assessments. This allows for a further understanding of Category 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 Diameter of main stem in millimetres at 1.5 metres from ground level.

(mm) 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.

> An established tree, but one which has not reached its **S/M** Semi-mature. 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/May include general comments about growth characteristic, how it isCommentsaffected by other trees and any previous surgery work; also, specific
problems such as deadwood, pests, diseases, broken limbs, etc.

Work Required 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.



- 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.*
- ConstructionSite-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.
- StemPrincipal above ground structural component(s) of a tree that
supports its branches.
- StructureManufactured object, such as a building, carriageway, path,
wall, service run, and built or excavated earthwork.
- Tree Protection PlanScale 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 TreeTree 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 D

Statement of Supervision

NB. Items designated **??** cannot be entered until after approval is granted, but are to remain in the document to show where updates are required. This document to be reissued prior to any works commencing onsite with this text to be deleted from final document.

The Edinboro Castle, 57 Mornington Terrace, Camden, London, NW1 7RU

Statement of Supervision (Arboriculture)

Introduction

In accordance with Planning Permission ?? (dated ??/??/????), Baxter Glaysher Consulting Limited are 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 ??, dated ??/??/????.
- Preliminary Arboricultural Method Statement & Tree Protection Plan for this project produced by Hayden's Arboricultural Consultants dated 03/07/2024.
- Arboricultural Method Statement & Tree Protection Plan for this project produced by Hayden's Arboricultural Consultants dated 20/12/2024.

Key Staff

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

- Developer: Baxter Glaysher Consulting Limited (or their representative).
- Arboricultural Consultant: Hayden's Arboricultural Consultants Ltd. Contact Mr David Carmichael (Practice Manager) – 01284 765391, info@treesurveys.co.uk, (or his representative).
- Site Manager/Agent TBC, (or their representative).

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

REF	ACTIVITY	ONE OFF	ATTENDEES	ACTION
1	Pre-commencement meeting (to discuss working methods, timescales and tree protection schemes)	One off	Developer, Arboricultural Consultant, Site Manager/Agent, Ground Works Contractor, Council Arboricultural Officer	Arboricultural Consultant to record minutes – copies to be submitted to attendees
3,4 & 5	Inspection of installed tree protection measures and Pre- construction meeting	One off	Arboricultural Consultant, Site Manager/Agent	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
6	Install Piling Mat	One off	Arboricultural Consultant, Site Manager/Agent, Contractor	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
7	Undertake Piling	One off	Arboricultural Consultant, Site Manager/Agent, Contractor	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
8&9	Remove piling mat and existing hard surfacing	One off	Arboricultural Consultant, Site Manager/Agent, Contractor	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
10	Undertake soil decompaction and mulching	One off	Arboricultural Consultant, Site Manager/Agent, Contractor	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
11	Installation of concrete raft slab and drainage holes	One off	Arboricultural Consultant, Site Manager/Agent, Contractor	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
12	Installation of garden furniture and structures	One off	Arboricultural Consultant, Site Manager/Agent, Contractor	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
13 & 14	Final tree assessment – after removal of tree protection	One off	Developer, Arboricultural Consultant, Site Manager/Agent, Ground Works Contractor, Council Arboricultural Officer	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
-	Additional inspections (if necessary) to ensure periods not greater than three months elapse between any of above listed monitoring events	Dependent on progress of the project	Arboricultural Consultant, Site Manager/Agent	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer

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 Arboricultural Officer by e mail or minutes. Issues directly relating to tree surgery or tree retention will be forwarded by the Arboricultural Consultant (with recommendations) to the Arboricultural Officer for approval. Except in an emergency situation **and** when the Arboricultural Officer is unavailable, no such actions will occur without the written approval of the Arboricultural Officer.

Rench

<u>David Carmichael</u> Practice Manager Hayden's Arboricultural Consultants Ltd

20th December 2024.



Head Office 5 Moseley's Farm Business Centre Fornham All Saints Bury St Edmunds Suffolk IP28 6JY T: 01284 765391 E: info@treesurveys.co.uk www.treesurveys.co.uk

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.

David M Carmichael Practice Manager





Head Office 5 Moseley's Farm Business Centre Fornham All Saints Bury St Edmunds Suffolk IP28 6JY T: 01284 765391 E: info@treesurveys.co.uk www.treesurveys.co.uk South West Office Unit 7, Enterprise House Cherry Orchard Lane Salisbury Wiltshire SP2 7LD T: 01722 657423 E: Nick@treesurveys.co.uk www.treesurveys.co.uk

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 E

Advisory Information & Sample Specifications

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



** See Commentary on Clause 6.

	European Protected Species and woodlan Complete all sections of the Ch	i d operat ecklist	ions. (V4)
		✓	
	Checklist		Details
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 -	YES NO	Name of Wood:
	Otters Great crested newts Sand lizards Smooth snakes		Grid Reference:
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	Area: (ha) Date of Assessment:
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	Name of Assessor:
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.		Notes
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 S	A licence is not required but continue to sections 6 and 7 below /ou will need to obtain a licence BEFORE arrying out the work (see EPS Licence Application Forms and Notes)
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 t	/ou may commit an offence if you do not ell your operators about the protected species in your wood.
7	Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations? Details:	YES NO	You may commit an offence if you do not ake steps to ensure that your operators comply with the Good Practice guidance.



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



Trunk Protecta by Green Grid Systems

https://greengridsystems.com/products/trunk-protecta https://holm-products.com/product/trunk-protecta/





7. VOGT Soil Aeration and Injection Technologies





The smallest soil aerating- and injection device of the Geo Injector family enables the injection of granules, water storage, liquid fertilizers, water and air.

The container holds 2 liters of granules (max. grain size 4mm) and can be filled quickly and easily. The integrated viewing window enables level control. By the engaging lever in the control panel the aeration or injection takes place. This process can be done individually in different depths. With a quick release fastener, the granule tank. can be exchanged with the optional fluid adapter piece. This makes it possible to use water and liquid fertilizer with an inlet pressure from 2 bar (pump, domestic water pipe). The VOGT Turbo-Spade can also be used for grave-stem and compaction works.















Constant injection volume through adjustable dosages and the best possible soil aeraton with large buffer storage capacity, for the processing of large order volumes.

The 40-liter material tank can be filled with granules up to 4mm grain size at any time without switching the mechanism pressureless. Flexible working is possible due to the 7 m (optional 10 m) long injection has around the supply unit. The quantity-adjustable dosing chamber in combination with the electrical trigger technique on the VOGT TurboSpaten enables fast and reliable work. This process can be done individually in diferent depths. The powerful filter technology deans the compressed air and removes moisture, which is particularly important at water storage granules. Two 25-liter buffer tanks are designed and tested according to the AD 2000 regulations

and ensure sufficient aeration and loosening power, which is especially in heavy soil needed. The clear control panel offers the option of a stepless injection pressure setting of 4-10 bar, the number of dosages as well as injections are counted digitally. The large, lawn-friendly pneumatic tires enable easy positioning in the field. Optionally, the VGI pro can also be equipped for liquid injection. For non-European countries, the buffer tanks are also available according to the ASME regulations. The device operating pressure is designed for 10 bar. The VOGT TurboSpade can also be used for digging- stem and compaction works.







Appendix F

Hayden's Drawing

- 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 •

