



ARBORICULTURAL METHOD STATEMENT

162 Stakes Hill Road, Waterloo

-
- *prepared on behalf of M.A. Wright Ltd.* -

The Granary, White Chimney Row, Westbourne PO10 8RS

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1.0 INTRODUCTION & CLIENTS BRIEF

- 1.1 I am instructed on this project by **M.A. Wright Ltd.** who own the property at **162 Stakes Hill Road, Waterloooville.**
- 1.2 They seek to obtain planning approval to redevelop the site for the purposes of residential development extending the existing structure at its northeast corner with associated parking and upgraded access arrangements incorporated.
- 1.3 There are on and off-site trees of various species which will need to be catered for in this process.
- 1.4 I have been commissioned to prepare a report to satisfy the arboricultural aspects of this project to meet planning requirements.
- 1.5 My work is to be compiled in accordance with the recommendations contained within BS5837:2012.

2.0 DOCUMENT DISCLOSURE STATEMENT

I have been provided with a copy of the Planning Layout drawing as prepared by the project Architects – **BBF Fielding Architecture** :-

- **Proposed Residential Extension – 16 014 – PL 401D – 1:200 @ A3 – July 2020**
- this has been provided to me for the purposes of my work and I rely totally on the accuracy of this drawing in terms of tree location; applying crown spreads and setting out protective fencing.

3.0 TREE SURVEY & ROOT PROTECTION SCHEDULES & IMPACT ASSESSMENT

3.1 I visited the site on **15th October 2018 (verified again in 2020)** and carried out a tree survey exercise in accordance with BS5837:2012 recommendations (see also the explanatory tree survey notes [at appendix BH1](#)).

Tree No.	Species	Ht m	Diam mm	Brch Sprd m	GC m	LS	Comments	Preliminary Management Recommendations	Rem Con yrs	Cat
1	Purple Beech <i>Fagus sylvatica</i> 'Purpurea'	24	1250	N 9 E 7 S 7 W 8	2	M	Situated on raised ground 400mm above the main drive-old fungal bracket of <i>Ganoderma spp.</i> attached to southeast side of trunk at ground level-a grafted tree with the graft union visible close to ground level-multi stemmed at 2m above ground-tight forks with included bark-small diameter deadwood throughout and some pieces of larger diameter deadwood-low branching habit – this tree has been thinned out in the past and has been deadwooded & reduced & reshaped to counter the internal decay detected on the PICUS investigation.	No works required at this time	>40	B1
2	Maidenhair Tree <i>Ginkgo biloba</i>	24	770	N 5 E 10 S 7 W 2	2	M	Bifurcated at 2m above ground with a tight fork and included bark-suppressed to the west side due to the dominance of T1-crown shape dictated by T1-low branching habit.	Consider inserting a cable brace between the main stems.	>40	B1
3	Fastigate Hornbeam <i>Carpinus betulus</i> 'Fastigiata'	15	480	N 7 E 7 S 5 W 5	3	EM	Off site tree-roots exposed and mower damaged-epicormics on trunk-multi stemmed at 2m above ground-tight forks with included bark-high crownlifted to 4m above ground-good shape and form overall.	No work required at this time	>40	A1
4	Fastigate Hornbeam <i>Carpinus betulus</i> 'Fastigiata'	15	530	N 7 E 5 S 5 W 5	3	EM	Off site tree-roots exposed and mower damaged-epicormics on trunk-multi stemmed at 2m above ground-tight forks with included bark-high crownlifted to 4m above ground-good shape and form overall.	No work required at this time	>40	A1
Group 1	Fastigate Cherries <i>Prunus avium</i> 'Fastigiata' x 16 of	5 to 6	Av. 90 60 60	N 0.5 E 1 S 2 W 1	0.5	SM	Multi stemmed at 0.5m-tight forks with included bark-fair shape and form.	No work required at this time	>40	A2
Group 2	Lawson Cypress (Var.) <i>Chamaecyparis lawsoniana</i> x 3 of	2.5 to 4	Av 100	N 1.5 E 1.5 S 0.5 W 1.5	0	SM	Low branching habit-poor quality trees.	No work required at this time	10-20	C2
Hedge 1	Common Beech <i>Fagus sylvatica</i>	2.5	Av 70	N – E 0.5 S – W 2	0	SM	Formal clipped hedge of good shape and from overall.	No work required at this time	>40	B2

3.2 A Tree Root Protection Schedule has been prepared in accordance with BS5837:2012 recommendations (see Plans BJH 01 & 02 at [appendix BH2](#))

Tree No.	Tree Species	Cat	Diam mm	BS5837:2012 Table D1 Radial Protect. Zone m	BS5837:2012 Table D1 Root Protect. Area m ²	Is An Offset Required To Cater For Existing Rooting Pattern Restrictions
1	Purple Beech <i>Fagus sylvatica</i> 'Purpurea'	B1	1250	15.0	707	NO-fairly free rooting to all directions
2	Maidenhair Tree <i>Ginkgo biloba</i>	B1	770	9.2	268	NO-fairly free rooting to all directions
3	Fastigate Hornbeam <i>Carpinus betulus</i> 'Fastigiata'	A1	480	5.8	104	NO – there are constraints all around this tree which cancel each other out
4	Fastigate Hornbeam <i>Carpinus betulus</i> 'Fastigiata'	A1	530	6.4	127	NO – there are constraints all around this tree which cancel each other out
Group 1	Fastigate Cherry <i>Prunus avium</i> 'Fastigiata' x 16 of	A2	Av. 90 60 60	1.5	7	NO-fairly free rooting to all directions
Group 2	Lawson Cypress (Var.) <i>Chamaecyparis lawsoniana</i> x 3 of	C2	Av 100	1.2	5	NO-fairly free rooting to all directions
Hedge 1	Common Beech <i>Fagus sylvatica</i>	B2	Av. 70	0.9	3	NO-fairly free rooting to all directions

4.0 IMPACT ASSESSMENT & TREE PROTECTION MEASURES RECOMMENDED

4.1 The finalised planning layout drawing has been provided to me and an assessment made as to the viability of retaining trees as part of this layout in order that they meet the RPA requirements of BS5837 - the data is presented here in tabular format:-

Key: **NO-RSAM** = Remove for sound arboricultural management reasons **NO-RTFD** = Remove to facilitate development **UF** = under footprint of proposed development

YES = Yes can be retained and fully protected

YES (1) = Yes can be retained subject to mitigation measures being applied

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
1	Purple Beech <i>Fagus sylvatica 'Purpurea'</i>	B1	1250	15.0	707	7.8m to existing building 12.5m to new entrance and canopy 2m to new parking bays 11m to new extension 1.2m to new secure perimeter fencing	YES (1)
2	Maidenhair Tree <i>Ginkgo biloba</i>	B1	770	9.2	268	13.3m to existing building 1.8m to new parking bays and forecourt area 3m to new Bin stand 11m to new extension 1.2m to new secure perimeter fencing	YES (1)
3	Fastigate Hornbeam <i>Carpinus betulus 'Fastigiata'</i>	A1	480	5.8	104	6.5m to new entrance and canopy 7.5m to existing building 12m to new parking bays 2.5m to new secure perimeter fencing	YES (1)
4	Fastigate Hornbeam <i>Carpinus betulus 'Fastigiata'</i>	A1	530	6.4	127	4.5m to existing single storey part of main building 7.5m to existing main building 8m to new entrance and canopy 2.5m to new secure perimeter fencing	YES (1)
Group 1	Fastigate Cherry <i>Prunus avium 'Fastigiata'</i> x 16 of	A2	Av. 90 60 / 60	1.5	7	10m of the eastern section of the group can be retained 1m to new secure perimeter fencing 20m of the western section of the grouping will need to be removed	YES (1) NO-RTFD
Group 2	Lawson Cypress (Var.) <i>Chamaecyparis lawsoniana</i> x 3 of	C2	Av 100	1.2	5	UF of development proposals	NO-RTFD
Hedge 1	Common Beech <i>Fagus sylvatica</i>	B2	Av. 70	0.9	3	11m of the southern end of the hedge will need to be removed 15m of the northern section of the hedge can be retained	NO-RTFD YES (1)

4.2 SUMMARY

	YES Can be retained and fully protected in accordance with BS5837 recommendations - see Tree Protection Plan BJH.03/04 at appendix BH3	YES (1) Can be retained and protected in accordance with BS5837 recommendations (see Tree Protection Plan BJH.03/04 at appendix BH3) - subject to adherence to the methodology prescribed in this report – see Section 6 for full details.	NO-RTFD Recommended for removal in order to facilitate development proposals	NO-RSAM Recommended for removal on sound arboricultural management grounds [health and safety grounds] regardless of any redevelopment proposals
A	-	Tree 3 Hornbeam Tree 4 Hornbeam Grp 1 Cherries (10m of)	Grp 1 Cherries (20m of)	-
B	-	Tree 1 Purple Beech Tree 2 Ginkgo Hedge 1 Beech (15m of)	Hedge 1 Beech (11m of)	-
C	-	-	Grp 2 - Conifers	-
U	-	-	-	-

4.3 Most trees & groups will have works taking place within their RPA's so a series of mitigation measures and special foundation treatments will be required on this project. Please see Section 6 of this report for specific details of each situation.

4.4 There will be direct losses in the form of –

- 20m of the **Group 1** young Cherry trees
- **Group 2** mixed conifers
- 11m section of **Hedge 1**

5.0 RECOMMENDED TREE WORKS

N.B. Trees T1 & T2 are TPO'd so it will be necessary before removing any live material to first obtain the written approval of the local authority – removal of deadwood is exempt from this requirement.

No	Species	Tree Works Recommended
1	Purple Beech <i>Fagus sylvatica 'Purpurea'</i>	No works required at this time.
2	Maidenhair Tree <i>Ginkgo biloba</i>	Consider inserting a cable brace between the main stems.
3	Fastigate Hornbeam <i>Carpinus betulus 'Fastigiata'</i>	Off-site Street Tree not under clients control No works required at this time
4	Fastigate Hornbeam <i>Carpinus betulus 'Fastigiata'</i>	Off-site Street Tree not under clients control No works required at this time
Group 1	Fastigate Cherry <i>Prunus avium 'Fastigiata'</i> <i>x 16 of</i>	- Carefully fell the trees in the western sector of the linear belt - avoiding damage to the remainder. - Grind out the stumps. - The remaining trees require no works at this time.
Group 2	Lawson Cypress (Var.) <i>Chamaecyparis lawsoniana</i> <i>x 3 of</i>	- Fell to ground level. - Grind out the stumps to minimise the impact on Trees 1 & 2.
Hedge 1	Common Beech <i>Fagus sylvatica</i>	- Fell and grub out the southern section of this boundary hedge line. - Trim back the inner face of the retained trees to tidy.

6.0 METHOD STATEMENT

Generic Measures

- 6.1 All of the recommended tree works should be undertaken by an approved and experienced tree contractor prior to any construction contractors commencing works on site.
- 6.2 Erect the protective fencing as specified and shown on the **Tree Protection Plan BJH03/04 at appendix BH3**. Barriers are to be 'Fit For Purpose' to exclude construction activity and must be maintained to ensure that they remain rigid and complete and in the original setting out positions. These checks will need to be incorporated into a schedule of site monitoring visits to be agreed with the clients subject to phased development operations and subsequently copies of these site visit reports will need to be copied in to the Council.
- 6.3 A copy of the Tree Protection Plan is to be pinned up in the offices/mess hut on site for all site staff to see. The area within the fenced off exclusion zone is to be regarded as **sacrosanct** and the fencing shall not be taken down or relocated at any time without the prior written approval of the monitoring arboriculturist or local authority tree officer, unless this has already been agreed as part of the planning application consent process and is detailed in writing and shown on a plan.

The following prohibitions shall apply within the area enclosed by the Tree Protection Fencing [**Construction Exclusion Zone**]:-

- **No** mechanical digging or scraping once the initial ground cover vegetation has been cleared and the site fenced off.
- **No** storage of plant, equipment or materials
- **No** vehicular or plant access
- **No** fire lighting
- **No** handling, discharge or spillage of any chemical substance, including cement washings
- **No** action likely to cause localised water-logging
- **No** change in ground levels

- 6.4 All site works storage areas and compounds/welfare units/toilet blocks and any mixing areas are to be located outside of and well clear of retained trees and positioned over impervious surfaces or over special catchment areas such that any leakage will be captured and cannot leak into the soil causing contamination.
- 6.5 The full details of the proposed utility service links are not available to me at this time so will it is suggested need to form part of a separate Method Statement to satisfy a Planning Condition. All Utility Service connections are ideally to link into existing service runs or be brought in over ground. Where this is not possible then the principles of Hand Digging of trenches and strict observance of the recommendations in NJUG 10 are to be followed.

Site Specific Measures

6.6 Tree 1 Beech

The new building extension footprint significantly overlaps the RPA of Tree 1 so standard trench footings are out of the question as they would damage tree roots, therefore it will be necessary to apply an Engineer Designed Piled Foundation which would need to follow this construction methodology :-

- *Retain the existing driveway and access point and add further ground protection (e.g. Ground Guard – metal sheeting panels) as necessary to cater for the size and weight of the Construction vehicles which will be utilised on this project. Mark out on the ground the locations for the piles. ALL construction work on the extension will need to be carried out as a priority first phase of work and only once it is completed may the ground protection be removed and work commence on the car parking areas and footpath links.*
- *Introduce a mini piling rig to the site - taking due care not to damage the low branches or roots of any on or off site trees.*
- *Operate the Piling Rig over adequate ground protection (e.g. Ground Guards or similar).*
- *Auger the holes and line them as appropriate and infill with reinforcing rods and concrete as per the Engineers instructions.*
- *Form the pile caps sinking them in no more than 100mm into the ground.*
- *Lay reinforced lintels to span the pile caps and then construct a suspended floor above this as per the Engineers instructions.*
- *The buildings can now be constructed in the standard way safe in the knowledge that tree roots will not suffer from compaction damage or soil contamination.*

ALTERNATIVELY – follow the Abbey Pynford system of construction – see details at [appendix BH3](#).

Whichever system is followed there will be a need to agree this in writing with the Planners prior to undertaking any works.

6.7 Tree 1 Beech & Tree 2 Ginkgo - Car Parking Area/Recycling & Refuse Bin Location/Footpath links

- This work will take place within the RPA's of these two trees and whilst there is some existing consolidated driveway much of this will take place over currently grassed and soft landscaped areas.
- So in principle this would mean that the sub-base and wearing course layer of porous slabs must be of 'No Dig' porous form with no excavation other than to rake the ground roughly level in the first instance.

This work will proceed as follows:-

- **IF** the work is carried out in the growing season then the first operation will be to spray the grass/vegetation with an approved chemical weed killer in a safe and controlled manner following the manufacturers recommendations.
- Skim the existing surface vegetation along the route of the drive/path/parking bay with hand tools ONLY to a maximum depth of 50mm.
- Backfill any voids and levels changes with washed sharp sand to achieve a basic level grade throughout the area to be worked on – tamp down lightly with hand tools only.
- Then cover the exposed ground [with a 50mm overlap on either side] with a geotextile membrane pegging the edges down to secure it in place.
- Use Railway Sleepers or pinned Kerbing [see attached drawing] to define the edges of the area within the RPA of retained trees which are to be protected – into this zone lay 150mm minimum depth flexible cellular confinement system (*e.g. CellWeb or GeoCell*) and expand and peg out the cells ready to receive an infill of washed gravel/aggregate - this will be sufficient to absorb vehicular movements whilst permitting water and gaseous exchange - but if levels will permit and subject to client preference this could be topped off with a layer of porous brick setts (*e.g. Aquapave or Aquaflo*) bedded onto sharp sand – or just topped off with a layer of gravel as appropriate.
- The levels differences at the edges can then be adjusted and made safe by feathering out with high quality topsoil.

See examples of this form of construction methodology [at appendix BH3](#).

6.8 All Trees/Groups & Hedges - Boundary Fencing Treatments

The retained trees on this site could be affected by this work therefore the following methodology is to be adhered to :-

- *Where fencing is to be positioned adjacent to existing hedge screening this will first need to be carefully faced back to allow working room for the works to take place.*
- *The close boarded fencing support posts [be they wooden or concrete] will need to be set out on the ground where they are to be positioned.*
- *Then probe the locations to receive these support posts with a metal ground auger to ensure that there are no major roots at these locations – in the event that one is encountered then the post hole must be moved to one side to avoid them.*
- *IF the posts are to be driven in by machine then proceed to do so once the location has been proved to be clear of major roots.*
- *IF the post holes are to be hand dug - any roots of 25mm diameter or less that are encountered in the dig may be cleanly severed with secateurs [if roots larger than this are encountered then an Arboricultural expert must be called in to advise, or the holes must be abandoned and new ones excavated to one side to avoid the roots.]*
- *If the holes are to be filled with concrete then they must first be lined with a thick polythene bag before the posts are centrally positioned in the hole and then concrete inserted around them– this is to avoid soil contamination.*
- *Alternatively pack the area around the posts with washed aggregate.*

7.0 SITE MONITORING & SUPERVISION

BS5837 recommends that wherever trees on or adjacent to a site have been identified on the Tree Protection Plan as requiring special protection measures, there should be an auditable system of arboricultural site monitoring. This should extend to direct arboricultural monitoring whenever demolition/construction and development activity is to take place within or adjacent to any RPA.

- 7.1 A Pre-commencement site meeting is to take place between the development teams arboricultural consultant and the site manager and client representative where the protective fencing will be inspected to verify that it is 'Fit For Purpose' as shown on the **Tree Protection Plan**.
- 7.2 Given the intensity of work within RPA's there will be a requirement for regular and scheduled site visits by the Arboricultural Expert.
- 7.3 Lines of communication will be established with the Site Manager and a contact sheet prepared so that in the event that an incident occurs involving the retained trees that requires urgent advice and guidance from the project Arboricultural Expert this can be easily organised.
- 7.4 The details of the PCSM works will be photographed by the Arboricultural Expert and the following reporting procedure will be adopted. This is an example of the format for the **Site Monitoring Schedule** that would be prepared. :-

Schedule Of Site Monitoring & Supervision for – 162 Stakes Hill Rd, Waterloo

- In accordance with the Arboricultural Method Statement Report - 1039.bjh.July20 & Tree Protection Plan - BJH 03/04

Date of Inspection	Item	In Attendance	Notes/Observations From Inspection	Details Of Any Follow Up Action Required
tba	Pre-Commencement Meeting	Project Arb Consultant & Site Construction Manager [invite Council Tree Officer to attend]	A joint site inspection was conducted and agreement reached that the protection measures are in place and that everyone understands their responsibilities.....	
tba	Regular Scheduled Site Visits throughout construction works phase as necessary to cover Piling Work & Car Park/Footpath formation (timings to be agreed)	Project Arb Consultant & Site Construction Manager	A joint site inspection was conducted	

8.0 CONCLUSIONS

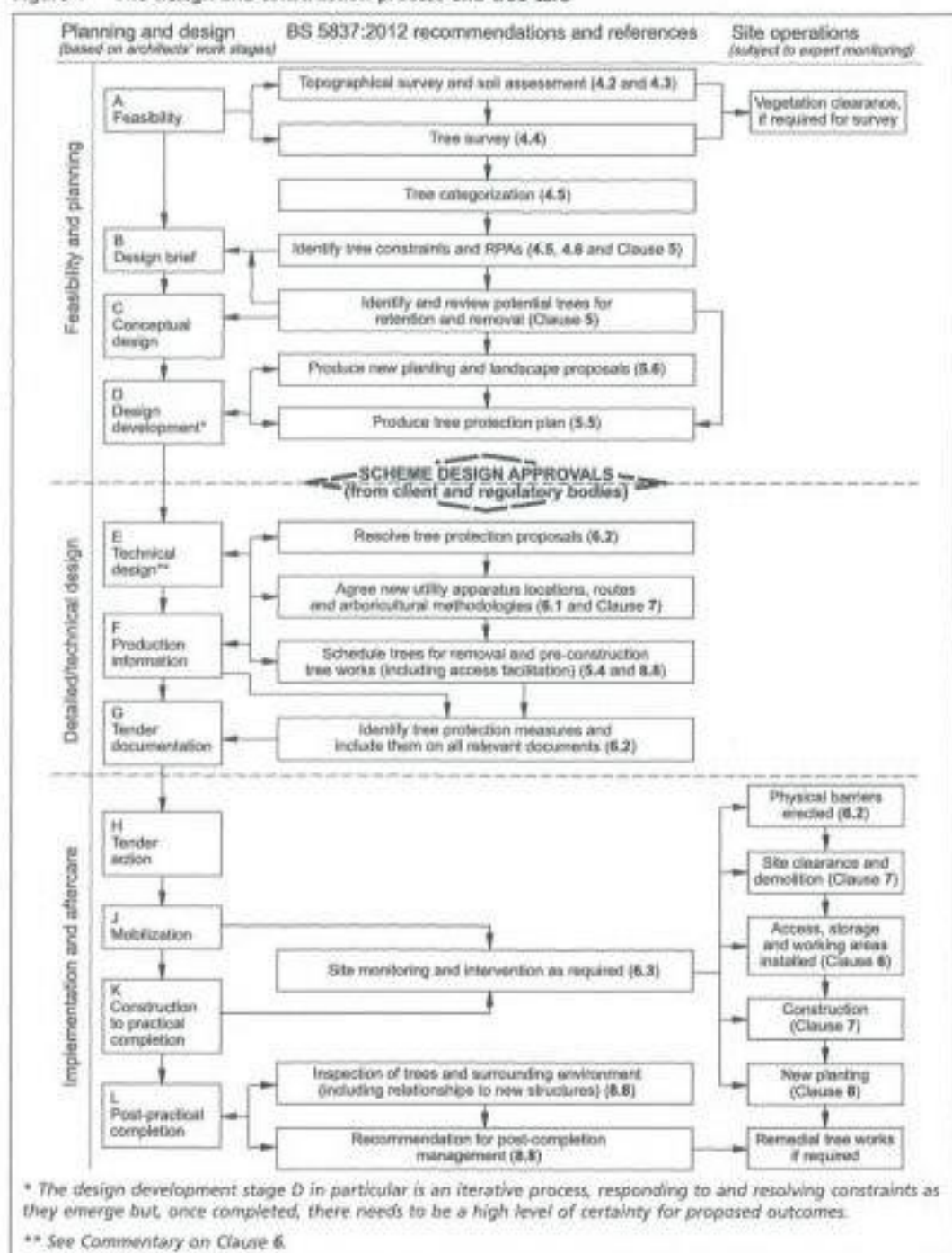
- With this proposed layout a number of small trees and hedge sections will need to be removed to facilitate the build :—
 1. **Group 1 Cherries (A)** – approximately 5 of these trees at the western end of the linear screen will need to be removed – however, they are small trees which although of good quality are small in stature and have yet to make a significant impact in the landscape.
 2. **Group 2 Cypresses (C)** – a grouping of poor quality trees of low value which have very limited amenity value.
 3. **Hedge 1 Beech (B)** - a significant linear hedge line the southern end of which will need to be removed but there is scope to partially replant along this line once development work has been completed.
- There is scope to plant some new trees within the lawned area to the northeast of the completed development to mitigate the loss of the above trees.
- The intensity of works within the RPA of the two TPO'd trees necessitates that a high level of ongoing arboricultural expert monitoring and supervision will be required to minimise the impact on tree roots and ensure that these trees survive the works in good order and an Engineer designed Piled solution will need to be applied to form the foundations of the new building and also a 'No Dig' porous cellular confinement system to form the base for the new Car Parking Bays & Footpath Links.
- Provided that the above methodology is strictly adhered to in a carefully considered and phased and supervised manner then I would not foresee any detrimental impact taking place that might undermine the ongoing health and stability or visual amenity value of those trees shown for retention both on and off this site.



BH 1

Figure 1 - Flow Diagram
& Tree Survey Notes

Figure 1 The design and construction process and tree care



TREE SURVEY NOTES

These Tree Survey Notes have been prepared in accordance with the recommendations of **British Standard 5837:2012** and they define the criteria for pre-development tree surveys.

- Each tree/group/hedge/shelterbelt/woodland has been allocated a unique number (**No.**), where specifically requested and appropriate fees are agreed small durable numbered metal tags can be applied to each tree/group surveyed.
- The tree species (**Species**) is provided in both English and Latin name formats.
- Height assessments (**Ht**) are estimated in metres. This will be adequate for the majority of cases, but where accurate heights become a critical issue it may be necessary to return to site, as a separately commissioned exercise, to collect accurate measurements with the aid of optical instruments.
- Trunk/stem diameters (**Diam**) are measured in millimetres at 1.5m above ground level – where the tree is inaccessible the diameter is estimated as indicated by suffix #
- Radial crown spread assessments (**Brch Sprd**) are estimated in metres from the centre of the trunk/group to each of the four primary points of the compass (**N**-north; **E**-east; **S**-south and **W**-west) in order to achieve a representation of the crown shape which will be shown on the accompanying tree survey plan. These provide a general guide as to the main bulk outline of a tree/groups crown but **are not tape measured dimensions**. These would only be undertaken as part of a separately commissioned exercise, where precise dimensions are critical to the project at hand.
- Both the canopy ground clearance (**GC**) and the height & compass direction of the lowest major branch (**LMB**) are estimated and shown in metres
- An assessment of a tree/groups 'life stage' (**LS**) is made in terms of its site specific maturity as part of the surrounding landscape, taking into account its overall shape and form in that setting, and is recorded thus :-
Y - Young tree/group; **SM** - Semi-Mature tree/group; **EM** - Early-Mature tree/group;
M - Mature tree/group; **OM** - Over-mature tree/group
- Data on the structural condition (**Condition Comments**) of the tree/group is provided to give its visual appearance and any significant health and safety issues.
- Details of any recommended tree works required at the time of survey is given under the heading – **Preliminary Management Recommendations**.
- An estimate of a tree/groups remaining contribution in years (**RC**) is made and is recorded thus :-
0-5; 5-10; 10-20; 20-30; 30-40 or **>40** years.
- The category grading (**Cat**) for each tree/group is assessed according to the criteria provided within **BS5837:2012**. The assessment is made of the tree/group in its current condition and within the environment encountered bearing in mind its suitability for retention as part of any future proposed

development; although the exact layout detail of any specific scheme will not be known at the time of surveying. The trees have been classified into one of four categories and colour coded as BS5837 recommends :- **■** (dark red); **■** (light green); **■** (mid-blue) and **■** (grey). Please note that suffixed numerical sub-categories are also applied for guidance only and do not carry any cumulative or increased value for the tree/group. This colour coding scheme will be applied to all drawings provided.

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria			Colour on plan
Trees unsuitable for retention				
Category ■ Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (i.e. where, for whatever reason the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.			Dark Red
Trees to be considered for retention				
	Criteria – Subcategories			
	1	2	3	
Category ■ Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and /or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Light Green
Category ■ Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in the category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid Blue
Category ■ Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

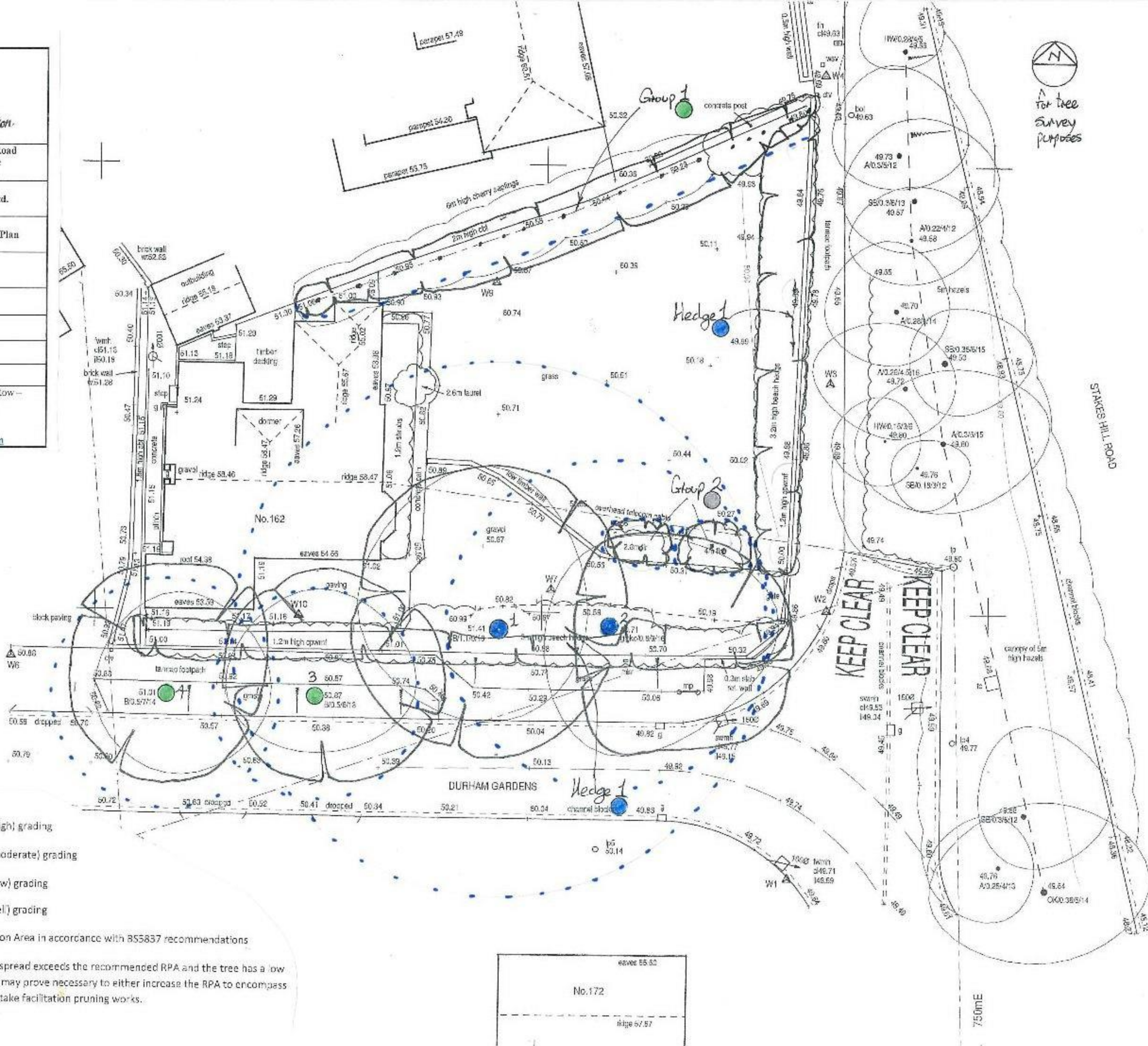


BH 2

Tree Survey & Root Protection Plans

BJH 01/02

	
project	162 Stakes Hill Road Waterlooville Hampshire
client	M A Wright Ltd.
title	Tree Constraints Plan
dwg	BJII 01/02
scale	1:200 @ A3
date	October 2018
job	1039
drawn by	bjh
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BH 3

Tree Protection Plan BJH 03/04 a & b

- + BS5837:2012 – Figure 2
- + Example of the Abbey Pynford Piling System
- + Examples of Porous Car Park/Footpath/Bin Store/Cycle Bay surfacing

JULY 2020

16014-PL 401D
SITE LAYOUT

PROPOSED RESIDENTIAL
EXTENSION
162 Stakes Hill Road
WATERLOOVILLE
HANTS

SCALE 1:200 @ A3

STAKES HILL ROAD
New replacement hedge

Existing mature hedges retained/ enhanced
and replaced as necessary in accordance with
Arboricultural Report

Existing Access retained
with enhanced visibility splays

Existing trees retained/ protected
(in accordance with Arboricultural survey/
Method Statement)

Key:

 = Trees which will be retained and fully protected.

 = Trees which cannot be retained with this layout and will be removed.

 = The setting out positions for the Protective Fencing in accordance with
BS5837:2012 recommendations - Section 6.2.

 = 'No Dig' Porous sub-base and wearing course to be applied to the car parking court /
footpath links / cycle store / bin store

JULY 2020

		project	162 Stakes Hill Road Waterloooville Hampshire
	client	M A Wright Ltd.	
	title	Tree Protection Plan	
	dwg	BJH 03/04 a Phase 1 Construction of Piled Building Extension	
	scale	1:200 @ A3	
	date	July 2020	
	job	1039	
	drawn by	bjh	
The Granary – White Chimney Row – Westbourne PO10 8RS		07875 520881 bernieharverson@gmail.com	

- SW drain
- FW drain
- New secure fencing as required
- Extg building
- New building Extension

- FLAT 1 57sqm
- FLAT 2 70sqm
- FLAT 3 71sqm
- FLAT 4 54sqm
- FLAT 5 79sqm

16 014 -PL 401D
SITE LAYOUT

PROPOSED RESIDENTIAL
EXTENSION
162 Stakes Hill Road
WATERLOOVILLE
HANTS

SCALE 1: 200 @ A3

STAKES HILL ROAD

Existing mature hedges retained/ enhanced and replaced as necessary in accordance with Arboricultural Report

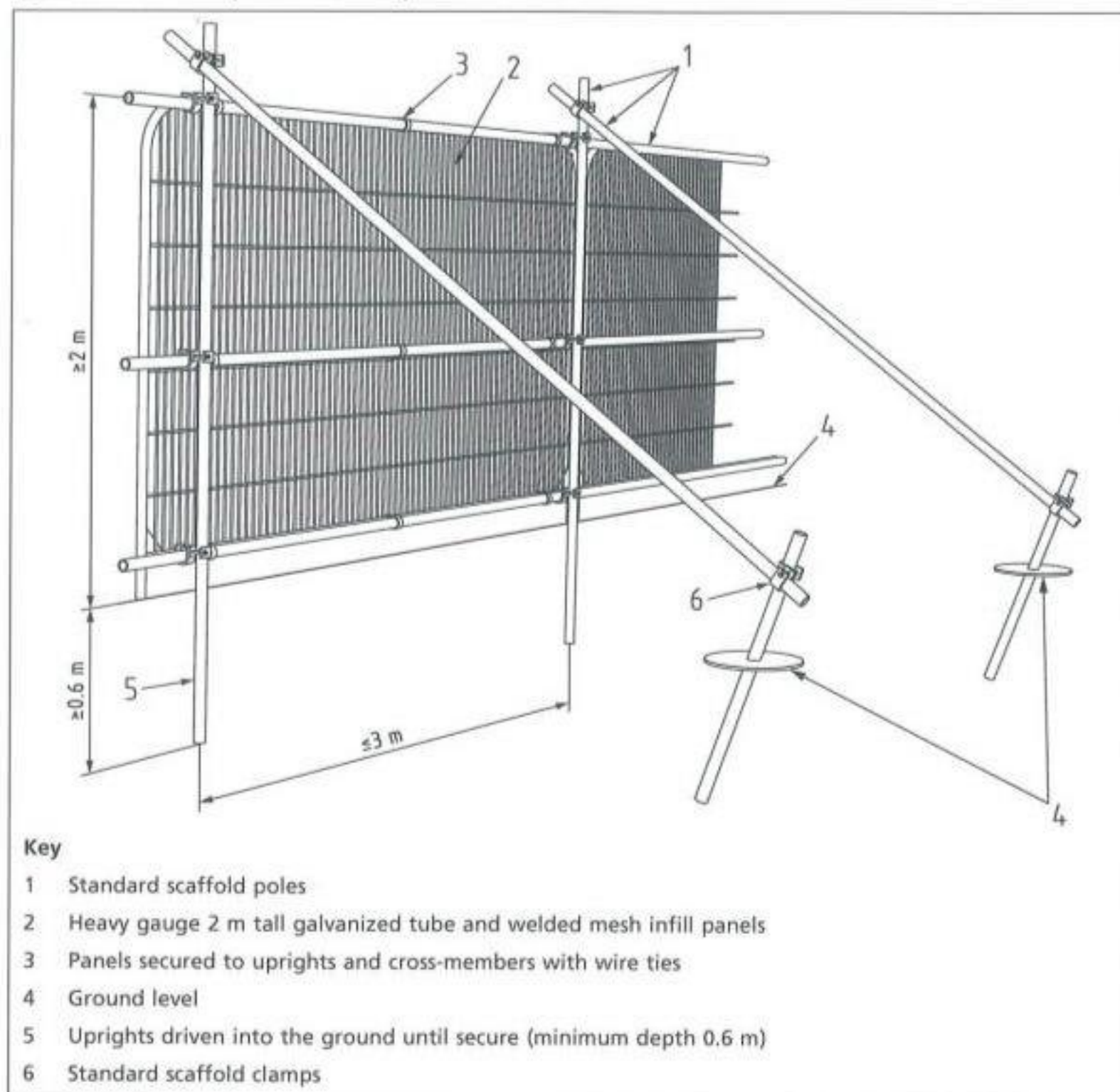
Existing Access retained with enhanced safety plays

Existing trees retained/ protected in accordance with Arboricultural Survey/ Method Statement

Key:

-  = Trees which will be retained and fully protected.
-  = Trees which cannot be retained with this layout and will be removed.
-  = The setting out positions for the Protective Fencing in accordance with BS5837:2012 recommendations – Section 6.2.
-  = Ground Protection measures to be applied in accordance with BS5837:2012 Section 6.2.3 recommendations appropriate to allow for the weight of construction traffic and allowance for scaffolding erection.
-  = The new building extension will be constructed on Engineer Designed Piled foundations with pile caps formed largely above ground level and reinforced lintels inserted spanning the caps with a suspended floor above this.

Figure 2 Default specification for protective barrier



BS5837:2012 – Section 6.2.3.3 - New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Note The ground protection might comprise one of the following:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;*
- b) for pedestrian –operated plant up to a gross weight of 2t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;*
- c) for wheeled or tracked construction traffic exceeding 2t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.*

**ABBHEY PYNFORD
FOUNDATION SYSTEMS LIMITED
TREE ROOT PROTECTION SERVICE
METHOD STATEMENT**

Introduction

Abbey Pynford Piling & Foundations Limited have been asked to quote for the installation of the Housedeck piled foundation system

.
Due to the proximity of trees to the location of the proposed development, it is proposed to use the Tree Root Protection Service (TRPS) during the installation of the foundations.

This document outlines the possible extent of works involved with the TRPS.

It is intended that this document is used in conjunction with the site specific Arboriculturist's Method Statement. On receipt of that document, its site specific requirements will be adopted by Abbey Pynford and incorporated into this method statement.



Hand augering is undertaken at all pile positions within the Root Protection Area, if roots greater than 20mm diameter are found the pile is moved and the new position re-augered. Our in-house design department then re-analyse the slab design to ensure the new position is adequate.



The ground surface is protected with a breathable geotextile membrane. Over this cellweb is pegged out and the pockets filled with pea shingle to provide a permeable low bearing pressure working surface.



A typical piling rig used on a Tree Root Protection Service project. The rig is custom designed to have a very low bearing pressure, equivalent to a 12 stone man wearing size 10 shoes. The power pack (in back of photo) is left outside the root zone, leaving just the lightweight piling rig operating on the site.



Each pile position is sleeved using a polythene coated cardboard tube to prevent concrete from the pile leaching into the root zone



The clear void is created using our proprietary collapsible void formers known as Deck Support Units. These are laid under the footprint of the building.



Perimeter jacks are laid around the edge of the footprint to allow fine level adjustments to be made.



The Deck Support Units are covered with marine ply to provide the formwork for the concrete slab.



The completed deck. Pile overlays made of a flexible material prevent concrete from the slab pour leaching onto the ground surface. Similarly the aluminium strips between the sheets of ply prevent concrete reaching the ground surface.



The slab prior to the concrete pour. The reinforcement steel, service ducts rising up through the slabs and the stainless steel edge detail can all be seen. The edge is levelled to a high tolerance by means of perimeter jacks.



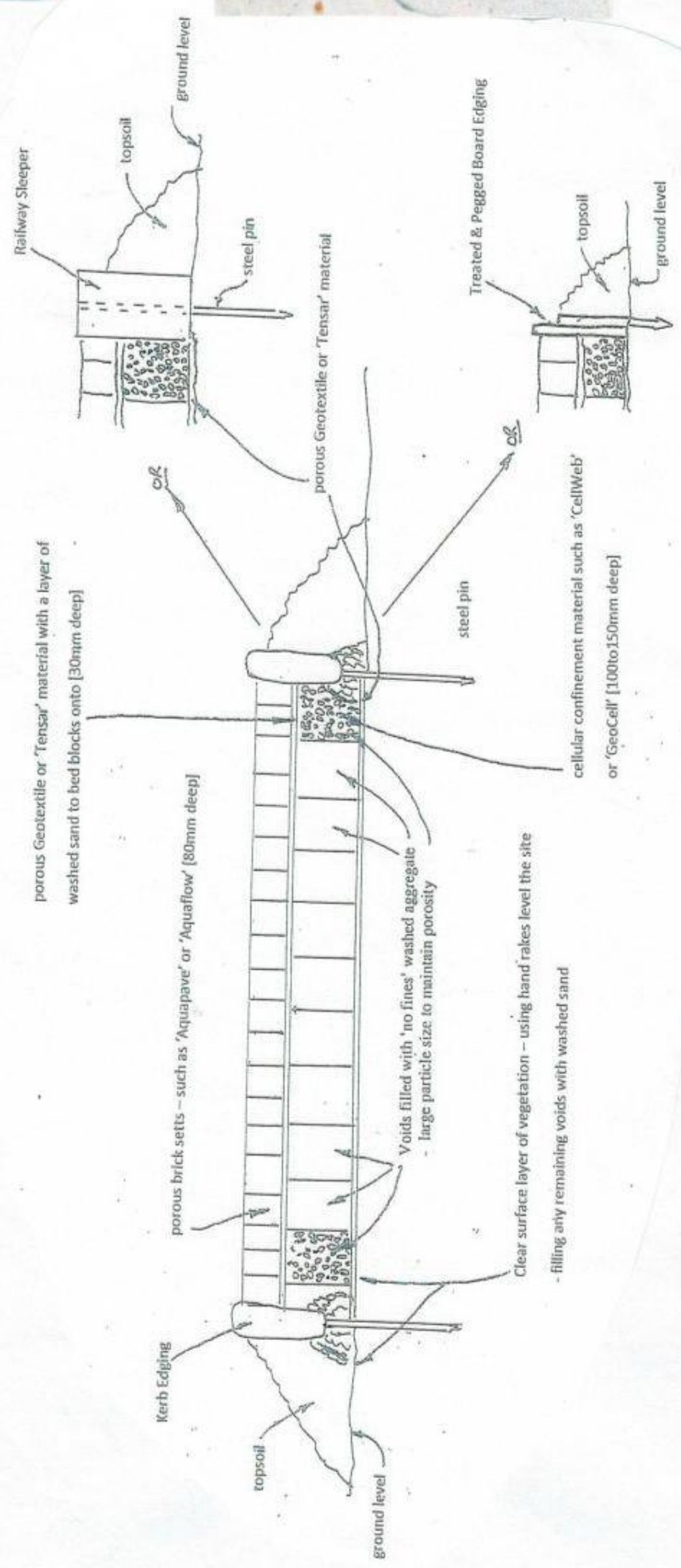
Concrete is poured to a fine finish producing a slab with a very high tolerance. After 7 days of curing the Deck Support Units are removed.



This picture shows the finished voided system. The piles supporting the slab can be seen as well as the clear void the Housedeck system leaves. The pea shingle and cellweb under the slab are also visible and the geotextile membrane which prevents materials entering the void can be seen attached to the underside of the slab.

No Dig Porous Paths

Method and Examples





BH 4

Qualifications & Experience



QUALIFICATIONS AND EXPERIENCE

- My name is Bernie Harverson and I am a self employed independent arboricultural consultant in private practice. I take instructions primarily in the South of England but also on occasions work nationwide and abroad and have offices at : –

The Granary, White Chimney Row, Westbourne PO10 8RS

- I hold the following arboricultural qualification – **National Diploma in Arboriculture (Royal Forestry Society – 1976)**
- I have **fifty (50)** years of practical and managerial experience in the arboricultural industry including periods in both the public and private sectors.
- My Local Government sector experience comprises one year as a tree surgeon with Brighton Parks and nine years spent in Arboricultural Officer posts with both Westminster City Council and Portsmouth City Council.
- My past practical experience in the private sector includes two years at Tilhill Forest Nursery and over ten years for various companies as a Climbing Arborist/Tree Surgeon.
- Managerial work in the private sector includes two years as manager of Beechings Tree Surgeons and twelve years with CBA Trees as Managing Director & Senior Arboricultural Consultant.
- As an independent self employed Arboricultural Consultant I now provide a comprehensive range of services including :-
tree surveys, appraisals, assessments and inspections with particular reference to planning and development and tree safety audits with a service offered as a climber to undertake full climbing inspections to better understand the condition of a given tree before prescribing a management strategy.
- I also undertake litigation work appearing as an Expert Witness in Court Actions and at Planning Appeals, Hearings and Public Local Inquiries.

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