

Arboricultural impact assessment and BS5837 survey of 1 Oakwood Road, Chandler's Ford, EASTLEIGH, SO53 1LW

Carried out by Matthew Rowden on behalf of Romsey Tree
Surgeons Ltd

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3. Instruction

To assess trees on the site for any potential impact that the proposed development may have on them, and the constraints that the trees may pose on the proposals. This is in accordance with current guidance BS5837:2012, and to implement control measures and/or design alterations to the proposals where necessary.

4. Limitations

This survey is valid for 1 year, dependent on changing site conditions. I must be kept in direct supervision of the site at all times in regards to all arboricultural matters in order for the findings in this report to remain valid.

5. Site details

The site is a 0.3Ha plot residential property in Chandlers Ford. It has recently had a new access installed off Oakwood road, with hard surfacing placed in and around trees 1-4.

The BGS lists the soil conditions as "Whitecliff Sand Member - Sand and gravel. Sedimentary bed-rock formed between 66 and 23.03 million years ago during the Palaeogene period."

I will therefore assume the soil conditions to be inelastic, with a low shear rating.

6. Legal restrictions

The entire site is covered by a blanket TPO, ref: 265E

7. Proposals

The proposal is to extend the property to the North aspect with a 5 x 5m single storey extension added on to the property. The proposed footings are to be mini piles of 150mm diameter, bored in using an excavator mounted auger.

8. Drawings and documents

The client has provided detailed drawings and documents for the purposes of this assessment. For ease of identification, the trees relevant to this report have been numbered as T1- T4 and grouped where applicable.

Appendix 1: Tree protection plan

Appendix 2: Tree survey schedule

Appendix 3: Arboricultural method statement

9. Summary

The trees on the site present moderate constraints to the proposals, with no trees recommended for removal. There are no suggested design alterations to the structure, but the proposed build area will have to go on a geo-cellular membrane, or at the bare minimum, a 100mm layer of wood chip with spreader boards to prevent root damage. Trees 1 and 2 are surrounded by permanent hard surfacing and are either side of the access, so will require protecting with log rolls on the main stems.

10. Findings (please see appendices 2 & 3 for specific details)

A. Identification of the constraints posed by the trees to developing the site under the current proposal.

T1 and T2

- i. The RPAs of these trees overlap the existing site access, and care will need to be taken when entering the site to avoid stem or root damage.

T3 and T4:

- ii. The RPAs of T3 overlaps and constrain the build. The RPA of T4 will constrain the working area.
- iii. The trees will not shade the structure, but will drop leaves into the gutters, and falling debris may place them under ongoing pressure to be pruned.

- iv. As there is already a single storey extension in situ, I believe these constraints to be minor.

B. Potential impacts of the proposal on the trees

All trees:

- i. The rooting area of these trees is in the top 600mm of soil and very susceptible to compaction from vehicular movements. This can result in root death, loss of oxygen in the soil, reduced moisture percolation and diminished nutrient uptake, leading to stress and eventual strain.

Trees 3 and 4

- ii. Work is necessary within the RPAs of these trees.
- iii. There is enough preserved functional root mass of these trees for the above impacts to be insignificant. The occupied area of the RPA of T3 is <20%.
- iv. There is the potential for some soil amelioration by lifting the existing limestone sub base around the trees and replacing with topsoil.

C. Potential impacts of trees on the current proposals

All Trees

- i. Tree protective fencing must be erected as shown on the TPP to prevent any tools, materials, fuel or other contaminants from being stored within the construction exclusion zone.
- ii. Access to the site must only be along the existing entrance to the West as shown on the TPP.

Trees 1 and 2

- iii. The stems must be protected with log rolls to prevent vehicular damage whilst the site is being accessed.

Trees 3 and 4

- iv. The area within the RPA of T3 must be protected with a geo cellular membrane with a load capacity of >2.7 tons (e.g. 75mm Cellweb®), or a 100mm layer of wood chip with spreader boards.
- v. The footings must be piled. Concrete strip footings cannot be used.

11. Conclusion

The constraints presented by the trees on the site are not insignificant. Trees 3 and 4 are particularly at risk. However, I am confident that they can all be retained and incorporated into the build without placing them under ongoing pressure to be pruned, and without them sustaining catastrophic damage.

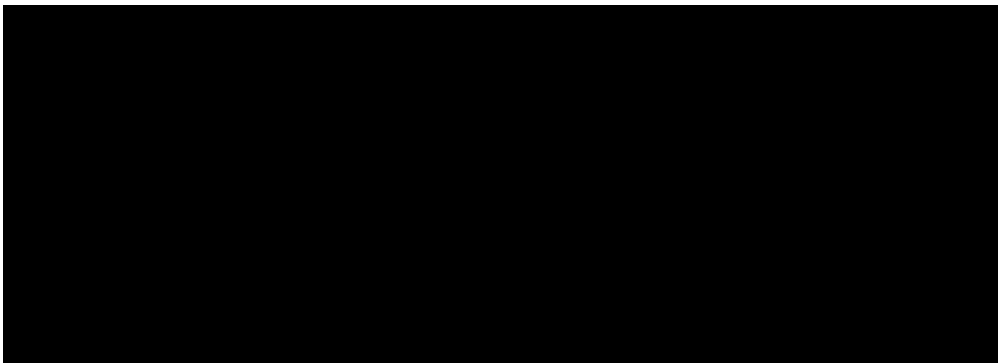
The issues for the arboricultural method statement to address are:

- i. Tree protective fencing, erection and signage.
- ii. Ground protection installation.
- iii. Piling method statement.

12. Recommendations:

Follow the AMS (appendix 3 below). Do not deviate and seek arboricultural advice whenever necessary.

- i. Erect tree protective fencing and install log rolls on trees 1 and 8.
- ii. Install 75mm Cellweb or wood chip with spreader boards as per TPP.
- iii. Commence and fully complete build.



Matthew Rowden *BTEC L3 NatDipArb, ABC L6 ProfDipArb*

13. References

- a. BS5837:2012 - Trees in relation to design, demolition and construction
- b. TDAG 2014
- c. Cutler & Richardson 1981, Kew root survey.

Appendix 1 - Tree protection plan (in DWG and PDF format)

Appendix 2 - Tree survey schedule



General Notes

Key	
Cat. A Trees	
Cat. B Trees	
Cat. C Trees	
Cat. U Trees	
RPA	
TPF	
Ground Protection	

No.	Revision/Issue	Date

Firm Name and Address

Romsey
Tree Surgeons Ltd

Project Name and Address

1 Oakwood Road,
Chandlers Ford,
Eastleigh

Project RTS/RW/10RCF/BS5837	Sheet V1
13/06/2025	A3
Scale 1:500	

Tree no. on plan	Species	Ht (M)	Crown spread (M) N E S W	Stem dia. @1.5m (mm) RPA circle radius (M) RPA (M2)	Life stage	Estimated remaining contribution in years	General observations Physiological condition- P Structural condition - S	Preliminary management recommendations	Category of retention and sub category
1	<i>Quercus robur</i>	15	5 5 7 6	540 6.5 132	M	>20	P- Fair S- Fair Recent hard surfacing installation has caused some damage to the rooting area of unknown significance at this time. Stem sits close to site access.	Install log roll to height of 2m.	A2
2	<i>Quercus robur</i>	19	9 7 8 10	930 11.2 391	M	>20	P- Fair S- Fair Recent hard surfacing installation has caused some damage to the rooting area of unknown significance at this time. Stem sits close to site access.	Install log roll to height of 2m.	A2
3	<i>Quercus petraea</i>	16	7 5 9 7	680 8.2 209	M	>20	P- Fair/Poor S- Fair RPA overlaps proposals	Install footings on pile and beam foundations. Erect TPF as per TPP.	A2
4	<i>Quercus robur</i>	19	7 5 9 5	760 9.1 261	M	>40	P- Fair S- Fair RPA overlaps proposals.	Install footings on pile and beam foundations. Erect TPF as per TPP.	A2

Survey schedule key

1. Tree ID: Refers to numbers as shown in the plan of the tree constraints.
2. Species: common name and scientific name
3. Height (measured in meters)
4. Crown spread (measured in meters at the points of North, South, East and West). Where “#” is used as a suffix, the measurements are approximate.
5. Stem diameter measured at 1.5m height in mm. Root protection area (RPA) radius is shown in meters, and RPA in square meters is displayed at the bottom.
6. Life stage: Young (Y) (small trees at a very early stage of their growth), young mature (YM)(larger trees at an early life stage with the potential to still grow considerably larger), Mature (MA)(trees which have reached their maximum size and are self sustaining at the point), Over mature (OM)(trees that are beginning to decline and starting to die back from the tips), Veteran (V)(trees that are rapidly in decline and steadily losing canopy spread), Dead (D)
7. Estimated remaining contribution in years: Until such a time as any residual amenity is lost.
8. General observations - a visual assessment of the physiological and structural condition of the tree, classed as :Poor, fair, good, dead, decline. Physiologically refers to the vitality and vigour of the tree; Structural refers to the presence of physical defects within the tree’s structural makeup. For example, a multi stemmed tree from a lapsed pollard with multiple defects in those unions, but with good vitality and good leaf cover would be classed as physiologically good, but structurally poor.

9. Preliminary management recommendations - recommendations to maintain the tree as part of the proposals, or assessing whether its retention is viable, whether it be the suggestion of aerial inspections, remedial pruning, or detailed decay inspections.

10. Categories and sub-categories of retention: See figure 1 below.

BS5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U 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 (e.g. 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i>			
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A 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)	
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in 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	
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 150 mm	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	

Fig.1

Appendix 3 - Arboricultural method statement.

Appendix 3

**Arboricultural Method Statement for 1 Oakwood
Road, Chandler's Ford, EASTLEIGH, SO53 1LW**

**Carried out by Matthew Rowden on behalf of Romsey Tree
Surgeons Ltd**

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1. Responsibilities

It is the responsibility of the site manager to respect the tree protection measures and observe the necessary precautions within and adjacent to them. Bonafide sub-contractors must be inducted by the site manager and the tree protection measures explained and enacted to the letter of this method statement.

As the arboriculturist appointed for this site, I must be present onsite prior to work commencing to ensure that my protection measures have been followed. I must be attend site whenever there are arboriculturally sensitive activities occurring, and must send regular supervision reports to EBC with site meetings arranged if the planning officer or handling team so wish.

In this instance, I believe that I will need to visit site to check the installation of the tree protective fencing, ground protection installation, piling, and then final sign off.

2. COSHH

- a. A cement mixing area will be sited away from the CEZ and if necessary a protective bund installed to prevent contaminated washings or rainwater draining into the CEZ.
- b. These will be positioned on the existing hard standing where the cars have been parked historically.
- c. Fuels or any other chemicals must be stored outside of the construction exclusion zone (CEZ) on the road.

3. Contractor parking and site office

- a. Contractor parking will be on the existing driveway. No revisions to the highway for construction traffic will be necessary at this time.
- b. No site office necessary.

4. Restrictions within Construction exclusion zone

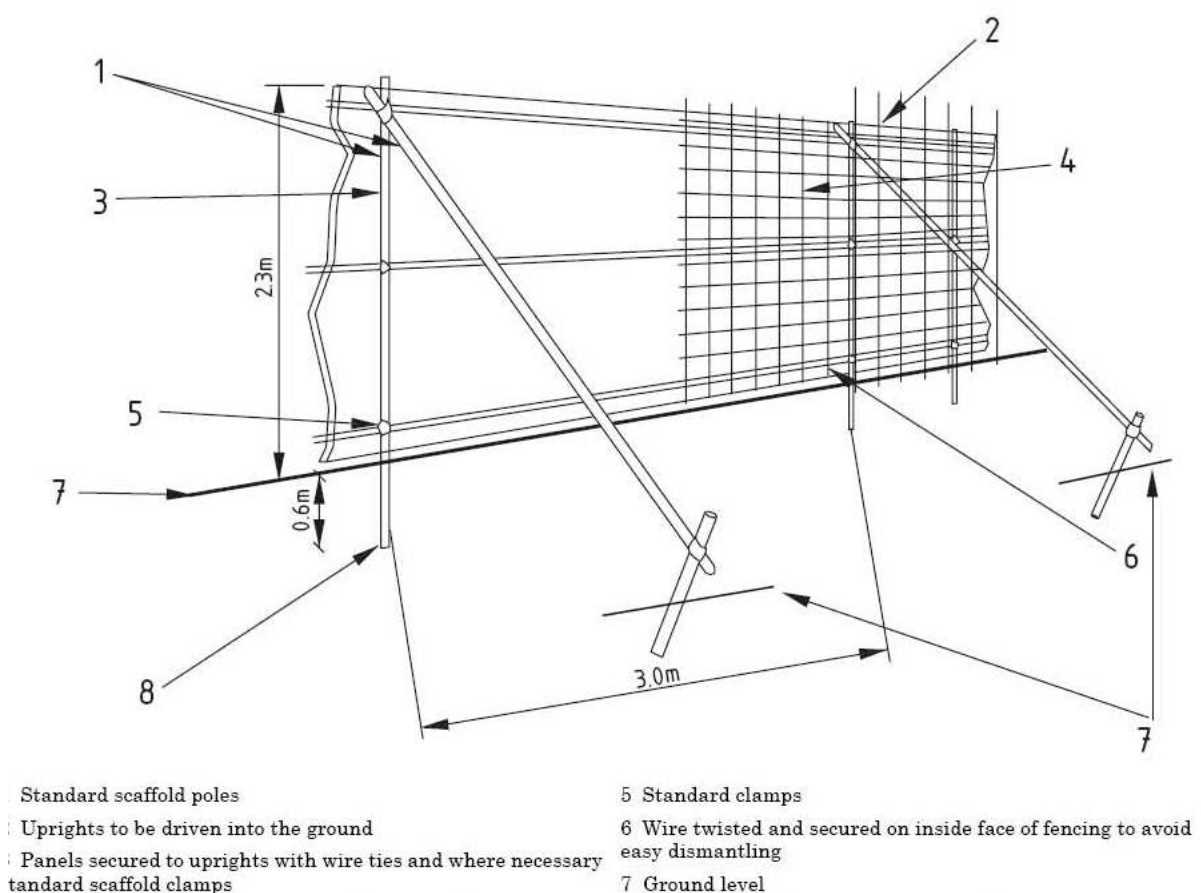
Inside the exclusion area of the CEZ, the following shall apply:

- a. No excavation by any means without arboricultural site supervision.
- b. No hand digging without a written method statement having first been approved by the developer's arboriculturist.
- c. No storage of plant or materials.
- d. No storage or handling of any chemicals.
- e. No vehicular access.
- f. No development activity.

5. Tree Protection Fencing

- a. The Tree Protection Plan (TPP) shows the position of the Tree Protection Fencing (TPF) that encircles the entire building area where the structures are to be built. Vertical banners must be erected and ground protection installed before any materials or machinery are brought onto site and before any demolition, development or stripping of soil commences.

- b. Once erected, barriers and ground protection will be regarded as sacrosanct, and will not be removed or altered without prior agreement of an arboriculturist and approval of the local planning authority.
- c. Barriers must be fit for the purpose of excluding constructive activity, and appropriate to the degree and proximity of work taking place around the retained tree. Attention must be paid to ensuring that barriers remain rigid and complete.
- d. Barriers will consist of a scaffold framework in accordance with Fig.1, comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weld mesh panels must be securely fixed with wire or scaffold clamps.
- e. Weld mesh panels on rubber or concrete feet are not resistant to impact and must not be used.
- f. The tree protective fencing must be erected prior to commencing any work on the site, and must remain in situ for the entire duration of the development, until all final work has been completed and the site has been signed off by the site arboriculturist.
- g. All weather notices must be fixed to the barriers with the words: 'Construction exclusion zone - Keep out' or similar (see above image).
- h. It is vital that these protection measures are in place before any construction work happens.





6. Ground protection installation

- Tree roots are very shallow, the majority occupying the top 600mm deep layer of soil. With this in mind, the piling must take place with minimal impacts to the roots from ground loading by the plant. Instead, the following control measures must be implemented to ensure the trees are not constrained by the proposal and extensive root damage doesn't occur:
- The proposed area of excavation is for industrial machinery (up to a 2.7 ton excavator [a 75mm layer of cell web will only permit loading of 3.5 tons which may constrain the build]).
- This is a "no dig" solution, so there is no need to remove any top soil or footings.
- Install Treetex geotextile membrane up to the boundaries of the proposed extension area to act as a pollution barrier and a separation layer.

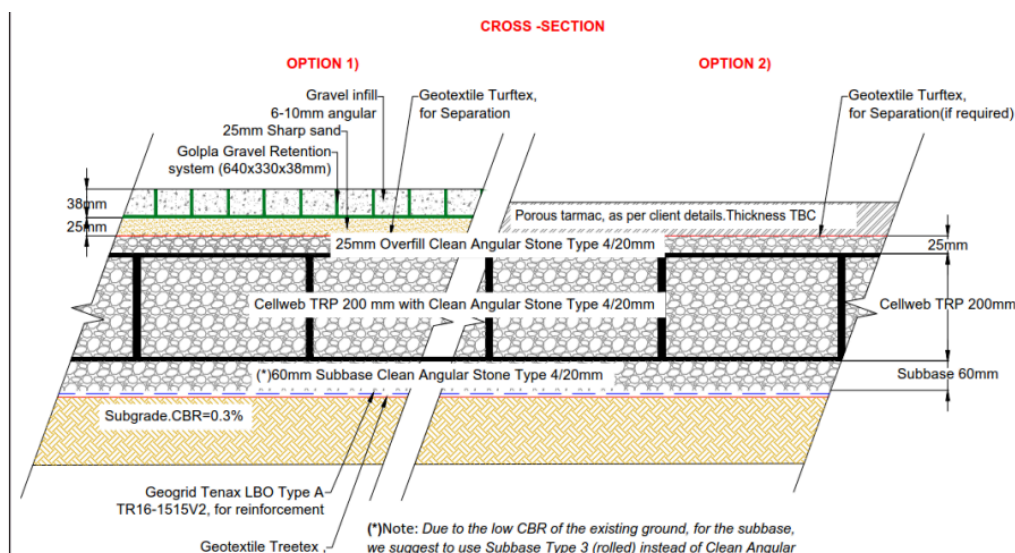


Fig.1

- e. Install a 60mm layer of clean angular stone (type 4/20mm) as a sub base, to level the area where possible. Often sand is used to level out hollows.
- f. Install 75mm layer of Cellweb® TRP up to the edges of the proposed extension area and working area, banking up the sides of the separation membrane with angular stone. Infill the TRP with clean angular stone, size 4/20mm. Commence roll out within the RPA as a no dig solution, as ground level can be adjusted more flexibly outside of the RPA.
- g. Overfill by 25mm with clean angular stone, size 4/20mm.
- h. The above may well be overkill for the plant loading for the site, so an alternative is to simply use a 100mm layer of wood chip with spreader boards on the same footprint within the TPP.

7. Foundations:

These are normally constructed by excavating up to a 3m deep trench with infill of ballast, sharp sand and concrete. Due to the aforementioned rooting area of trees 3 and 4 in the top 600mm of soil, this is not permissible, so alternatives may be used instead using this MS:

Ground screw foundations

- a. The ground screws are to be installed with an excavator mounted auger, drilling a 40mm hole to a depth of up to 2m.
- b. The screws must then be wound in using the excavator, to create a hole of 100mm diameter.
- c. The 200mm flange at the top of the screws may then be attached to a U bolt to allow the remainder of the steel frame to be reacted on top of the screws as a floating raft. From here, the brickwork may then be built up.
- d. Install 100mm layer of woodchip, and spreader boards to adequately distribute pedestrian loads.
- e. Within this protected area, highlight the areas where the piles need to go, referring to the architects plans, and remove the ground protection in these areas, retaining it as a work area surrounding the future pile holes.
- f. Bore the holes using an auger, ensuring that the plant used does not exceed the load limit of the ground protection (2.7 ton).
- g. Remove the subsequent spoil.
- h. Install ground screws, raising the property level so that the top of the piles is higher than the original ground level, and leaves an air gap of >200mm.
- i. Install beams across the top of the screws, at which point the construction of the super-structure may continue.
- j. Raise the ground level on the exterior of the super structure with 200mm of sharp angular stone, size 4/20mm.

Pile and beam foundations

- k. Install a 60mm layer of clean angular stone (type 4/20mm) as a sub base.
- l. Install 75mm layer of Cellweb® TRP (geo-textile membrane), infilled with clean angular stone, size 4/20mm.
- m. Within this protected area, highlight the areas where the piles need to go, referring to the architects plans, and remove the ground protection in these areas, retaining it as a work area surrounding the future pile holes.

- n. Bore the holes using an auger, ensuring that the plant used does not exceed the load limit of the ground protection (2.7 ton for wood chip + spreader boards, 3.5 ton for Cellweb® 75mm).
- o. Remove the subsequent spoil.
- p. Install membranes in the resultant pile holes to prevent concrete run off along the rest of the tree rooting area.
- q. Install piles, raising the property level so that the top of the piles is higher than the original ground level, and leaves an air gap of >200mm.
- r. Install beams across the top of the piles, at which point the construction of the super-structure may continue.
- s. Raise the ground level on the exterior of the super structure with 200mm of sharp angular stone, size 4/20mm.

Grundomat foundations

- t. The installation process of Grundomat piles involves the use of specialised equipment and a systematic approach to ensure the stability and integrity of the foundation. It begins with the preparation of a starter casing, a closed-ended thin-wall steel tube, which is filled with a limestone or dry mix concrete plug. It is hand installed, using compressed air.
- u. The Grundomat tool is inserted into the starter casing and connected to a compressor. This setup allows for controlled driving of the casing into the ground until it reaches the desired depth, with the top of the casing positioned just above ground level.
- v. During the installation process, a follower casing, is welded onto the starter casing to extend the length of the pile and provide additional support.
- w. The installation is resumed, and additional casings are added as necessary to achieve the required depth or penetration rate. Once the pre-determined length or penetration resistance is achieved, the driving process is stopped, and the Grundomat tool is withdrawn from the pile.
- x. With the Grundomat tool removed, the final pile configuration is assessed to ensure proper alignment and stability. The pile is then filled with either grout or concrete and reinforced to provide additional load capacity which enhances the piles performance and longevity..

8. Sequence of events

- i. Erect tree protective fencing as per TPP.
- ii. Install log rolls on stem of trees 1 and 2, to a height of 2m.
- iii. Site visit by appointed arboriculturist (me).
- iv. Install temporary access route on 75mm Cellweb®. No tools or spoil to be stored within this area.
- v. Site visit by appointed arboriculturist
- vi. Commence and fully complete build.
- vii. Site visit by appointed arboriculturist.
- viii. Remove tree protection measures and final sign off.