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Arboricultural Method Statement, Tree Protection Scheme and Construction Specification at:

Taxal Edge, 184 Macclesfield Road Whaley Bridge Derbyshire



prepared for

Palmerstone Properties (NW) Ltd

by

Neil Edmondson HND Arbor (BTEC) M Arbor A

September 2013

ref: wptc.gen.12/010-report-NE.doc

Application No: HPK/2013/0503

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1.0 Introduction

1.1 Taxal Edge is situated to the south west of Whaley Bridge town centre. It is located on the southern side of the B5470 Macclesfield Road at Walker Brow. It comprises a substantial detached house set in capacious grounds. The general nature of the locality is rural fringe.

1.2 An existing arboricultural information study of the trees at Taxal Edge was undertaken by Neil Edmondson in September 2009. Neil Edmondson was subsequently commissioned to prepare an Arboricultural Method Statement, Tree Protection Scheme and Construction Specification in December 2011. This document is an updated and amended version of the original document, however, it relates directly to the current application: HPK/2013/0503.

1.3 This document relates to the conversion of Taxal Edge House to form 5 apartments and the construction of two semi-detached houses on the land currently occupied by the gymnasium. This document will specify how the trees will be protected during the demolition and construction activities and provide details of any special measures that need to be implemented. The contact details of the key individuals involved in the development are also provided.

1.4 The location of the trees is indicated on the topographical survey undertaken by Malcolm Hughes Land Surveyors in August 2009, drawing number: 12445/1. Two Tree Protection Plans were produced from this and are attached as Appendix 1 and Appendix 2.

1.5 The Tree Protection Plan identifies the following:

- site levels and contours, the location of the existing buildings, hard surfaces and other hard landscape features;

- the trees to be retained; the category grading (BS 5837 class) of the retained trees in accordance with Table 1 of BS 5837:

  A - trees of high quality whose retention is most desirable high category - (light green)
  B - trees of moderate quality whose retention is desirable moderate category - (mid blue)
  C - trees low quality, which could be retained: Low category - (grey)

- the arrangement of the tree protection barriers;
- the location of the new access road;
- any surface protection measures and;
- any above ground construction requirements

1.6 The trees on the site are covered by a tree preservation order and it will be necessary to consult the local authority before any additional tree works other than certain exemptions can be carried out.

1.7 If any of the trees indicated on the plans are found to be located outside the site it may not be possible to undertake any recommended works without the full cooperation of the tree owners. The implications of non co-operation require legal interpretation and are beyond the scope of this report. By common law, branches (and roots) from trees on adjacent properties extending over boundaries can be pruned back to the boundary line without the permission of the owners. However, the material belongs to the tree owner and the same guidance, on statutory controls, applies as discussed in section 1.6.

1.8 Ideally, replacement trees should be planted in mitigation for any that may be lost and to supplement those being retained. For the most effective impact these trees should be 'Extra Heavy Standard Trees' conforming to British Standard for Nursery Stock BS 3936 : Part 1 1992, with a stem girth of 14 to 16 cm at 1m from ground level and a minimum height of 350 cm. They should be secured with twin stakes and cross strut, with tie and flat back spacer. Ideally, an irrigation/aeration pipe should be installed and the soil surface mulched at a radius of 0.5 m from the base of the tree.

1.9 All operations should take account of wildlife needs and be planned to take advantage of weather conditions for minimum damage and disturbance. Specific consideration should be given to the possible presence of roosting bats, which are protected under British law by the Wildlife and Countryside Act (WCA) 1981 (as amended), and bats are classified as European Protected Species under The Conservation (Natural Habitats, &c.) Regulations 2010. This makes it an offence to kill, injure or disturb a bat and to destroy any place used for rest or shelter by a bat. The Countryside and Rights of Way Act (CRoW) 2000 strengthens protection given by the WCA and covers 'reckless' damage or disturbance to a bat roost. Although no obvious features potentially suitable for roosting bats (such as hollows, cracks and cavities within trunks and branches) were apparent during the present survey; a thorough inspection was not undertaken by an appropriately qualified bat worker.

1.10 Any proposed tree removal should be carried out outside the bird breeding season (which runs from March to September inclusive) to avoid adverse impacts to any nests present. If it is necessary to carry out the work during the breeding season, then a nesting bird survey should be carried out prior to felling/removal works commencing. This is to ensure that no active nests will be affected and to ensure legal compliance. If active nests were found then working restrictions would be put in place until all chicks had fledged. All wild birds and their nests, whilst in use, are protected under the WCA 1981 (as amended) from harm or destruction during the breeding.

2.0 Contact Details:

2.1 **Applicant:**

Palmerstone Properties (NW) Ltd
Market Street
Whaley Bridge
Derbyshire
SK23 7AA

Tel: Contact **Ray Butler 01298 814749**
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2.2 **Planning Consultant:**

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SK23 – 0TA

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2.3 **Works to be undertaken by:**

To be arranged.

Tel:
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2.4 **Borough Council Arboriculturalist:**

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2.5 **County Council Arboriculturalist:**

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2.6 **Borough Council Planning Case Officer:**

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2.7 **Arboricultural Consultant:**

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3.0. Arboricultural Method Statement
Re: Proposal to Convert Taxal Edge to 5 apartments and 2 semi-detached houses

3.1 Implementation, supervision and monitoring of Tree Protection Scheme:

3.1.1 Pre-commencement:

1) Arrange pre-commencement site meeting with Borough Council Tree Officer, Planning Consultant, Applicant and Arboricultural Consultant to agree scope of the works and the arrangement of the Tree Protection Barriers.
2) Consider general design requirements in respect of retained trees, soil type, etc.
3) Erect tree protective barrier to BS 5837:2005 as specified in the Tree Protection Scheme and indicated on the Tree Protection Plans
4) Make any necessary adjustments to the design and arrangement of the Tree Protection Barriers if agreed at the pre-commencement site meeting.

3.1.2 During construction phase:

1) Arboricultural Consultant to monitor condition of the Tree Protection Barriers with weekly visits during construction of the new access road.
2) Arboricultural Consultant to monitor condition of the Tree Protection Barriers with monthly visits for the duration of the general construction process.

3.1.2 Post construction phase:

1) Remove Tree Protection Barriers.

3.2 Implementation, supervision and monitoring of Tree Work Specification:

3.2.1 Pre-commencement:

1) At pre-commencement site meeting agree extent of necessary tree removals as specified in the Arboriculture Implication study undertaken by Neil Edmondson in September 2009.

3.2.2 During constructing phase:

1) Arboricultural Consultant to monitor the condition of retained trees with monthly visits for the duration of the general construction process.

3.2.3 Post construction phase:

1) Arboricultural Consultant to establish the condition of retained trees with final visit at the end of the general construction process.
2) Undertake any appropriate remedial tree works (if applicable).

3.3 Implementation, supervision and monitoring of all approved construction works within any area designated as being fenced off or otherwise protected in the approved Tree Protection Scheme:

3.3.1 Pre-commencement:

1) At pre-commencement site meeting agree any necessary construction works within any area designated as being fenced off or otherwise protected in the approved Tree Protection Scheme.

3.3.2 During constructing phase:

1) All necessary surfacing works within any area designated as being fenced off or otherwise protected in the approved Tree Protection Scheme to comply with the technical details specified in the Construction Specification/ Method Statement for Hard Surfacing within the root protection areas on page 14.

2) Arboricultural Consultant to monitor progress of surfacing works within any area designated as being fenced off or other wise protected in the approved Tree Protection Scheme with weekly visits.

3.3.3 Post construction phase.

1) Arboricultural Consultant to confirm successful completion of surfacing works within any area designated as being fenced off or otherwise protected in the approved Tree Protection Scheme with weekly visits.

3.4 Timing and phasing of Arboricultural works in relation to the approved development:

3.4.1 Pre-commencement:

1) At pre-commencement site meeting agree extent of necessary tree removals as specified the Arboricultural Implication study undertaken by Neil Edmondson in September 2009

3.4.2 During constructing phase:

1) Any emergency remedial tree works should not be undertaken without written (or in certain circumstances verbal) approval of the Borough Council Tree Officer and the Arboricultural Consultant.

3.4.3 Post construction phase

1) Any necessary remedial tree works should be undertaken following the approval of the Borough Council Tree Officer and the Arboricultural Consultant.

3.5 Tree to be removed:

3.5.1 The trees to be removed prior to commencement of development works are listed below in Table 1. The Details of the pruning works recommended for the retained trees are listed in the 'tree data table' in Appendix 3 of the Arboricultural Implication study undertaken in Septembers 2009.

Table 1 - trees to be removed:

Tree No.	Species	Recommendation
T3.	Leyland Cypress	Fell irrespective of proposed development
T4.	Common Ash	Fell irrespective of proposed development
T10.	Common Beech	Fell irrespective of proposed development
T11.	Willow	Fell irrespective of proposed development
G16.	Common Beech and Rowan	Fell irrespective of proposed development
G17.	Common Beech	Remove two trees nearest to existing house
T18.	Common Beech	Fell irrespective of proposed development
T19.	Common Ash	Fell for development
T20.	Sycamore	Fell irrespective of proposed development
T21.	Sycamore	Fell irrespective of proposed development
T24.	Cypress	Fell irrespective of proposed development
T26.	Sycamore	Fell irrespective of proposed development
T27.	Sycamore	Fell irrespective of proposed development
T28.	Pine	Fell irrespective of proposed development
T29.	Common Ash	Fell for development
G30.	Various species including: Sycamore, Common Ash, Sliver Birch and Common Beech	Fell marked trees close to outlying house
T31.	Willow	Fell irrespective of proposed development
T33.	Sycamore	Fell irrespective of proposed development
T36.	Sycamore	Fell irrespective of proposed development

Table 1 - trees to be removed – continued:

Tree No.	Species	Recommendation
T38.	Sycamore	Fell irrespective of proposed development
T39.	Laburnum	Fell irrespective of proposed development
G44.	Sycamore	Fell irrespective of proposed development
G45.	Sycamore	Fell irrespective of proposed development
T46.	Elm	Fell irrespective of proposed development
T47.	Sycamore	Fell irrespective of proposed development
T48.	Sycamore	Fell irrespective of proposed development
G49.	Sycamore	Fell irrespective of proposed development
T51.	Sycamore	Fell irrespective of proposed development

4.0 Tree Protection Scheme

4.1 British Standard BS 5837:1991 'Trees in Relation to Construction' requires the use of "root protection areas" (RPAs) The RPA approximately equates to the spread of the tree canopy and is formed by calculating a circle with a diameter twelve times the stem diameter for single stem trees and (ten times for multiple stemmed trees). This area should become a total exclusion zone during the construction works and be fenced off with tree protection barriers in accordance with BS 5837:1991.

4.2 The appropriate distances for the protection barriers from the closest affected trees on the site are indicated in Table 2 below:

Table 2 - RPA information for the retained trees:

Tree No.	Stem dia. at 1.5	RPA equates to an approximate area of:	RPA equates to a circle with a radius of:	RPA equates to a square with approximate sides of:
T 1.	500mm	113m²	6.0m	11m
T 2.	300mm	41m²	3.6m	6m
T 7.	1000mm	452m²	12m	21m
T 8.	900mm	366m²	10.8m	19m
G 9.	150mm	10m²	1.8m	3m
T 12.	1300mm	765m²	15.6m	28m
T 15.	1200mm	652m²	14.4m	26m
G 17.	300mm	41m²	3.6m	6m
T 22.	1100mm	547m²	13.2m	23m
T 23.	1200mm	652m²	14.4m	26m
G 30.	200mm	18m²	2.4m	4m
T 35.	450mm	92m²	5.4m	10m
T 37.	100mm	5m²	1.2m	2m
T40.	1000mm	452m²	12m	21m
T43.	900mm	366m²	10.8m	19m
G45.	200mm	18m²	2.4m	4m
G49.	250mm	28m²	3.0m	5m

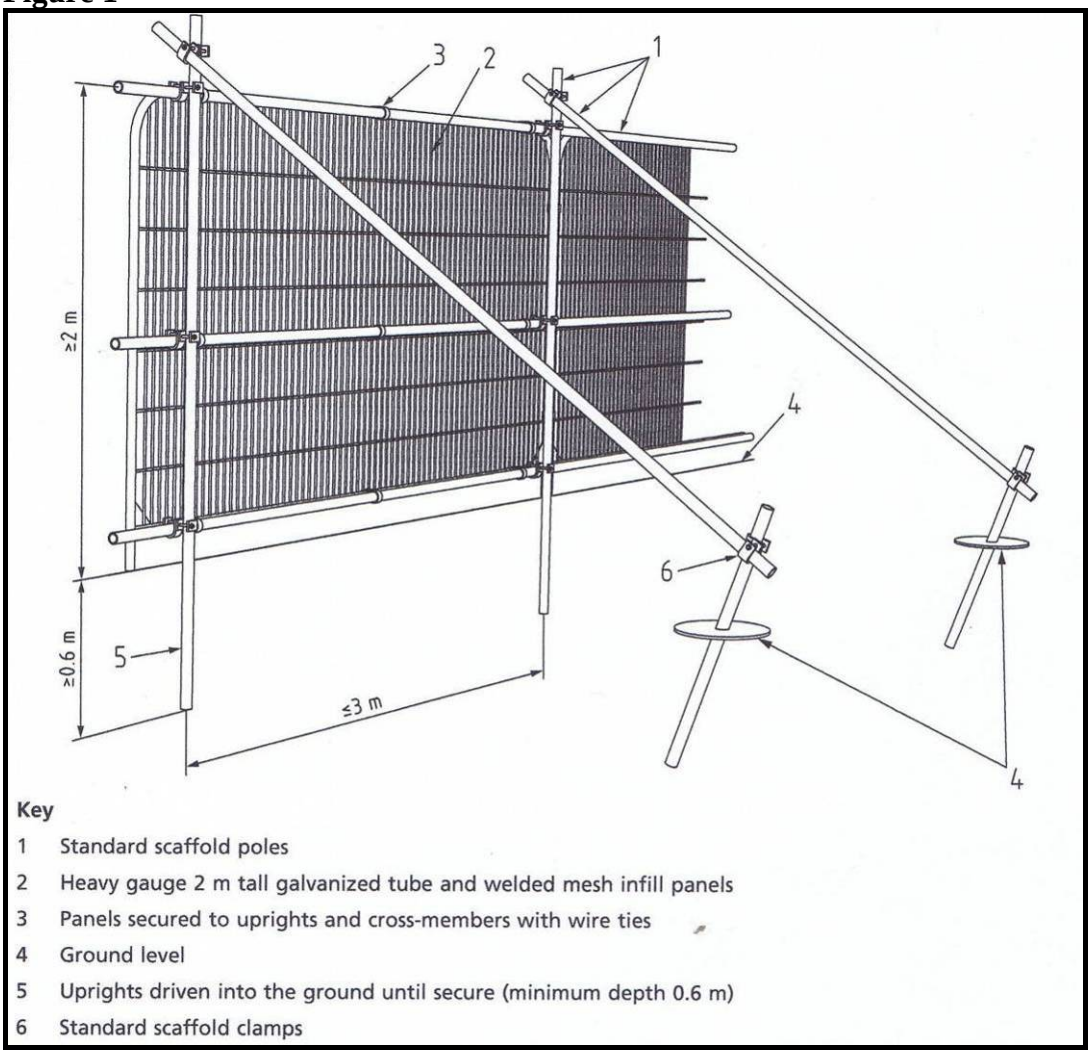
4.3 The suggested arrangement of the tree protection barriers is indicated on the Tree Protection Plans included as Appendix 1 and Appendix 2. Notwithstanding this, I would advocate that to avoid any ambiguity, the precise location of the tree protective barriers be agreed on site with the local authority and or county council tree officers and then marked out clearly on the ground. It is imperative that these barriers 'as specified in British Standard BS 5837:2005 'Trees in Relation to Construction' should be put up around the retained trees prior to the commencement of any construction works.

4.4 The tree protection barriers should be fit for the purpose of excluding construction activity and appropriate to the type and proximity of the work. In particular attention should be paid to ensure that the barriers remain rigid and complete during all phases of development. The barriers should consist of rigid framework comprising vertical post and horizontal rails well braced to resist impacts. An appropriate fence type should then be securely fixed to this framework with clamps or wire. Fences secured with concrete or rubber feet are not resistant to impact and should not be

used. The protection of the retained trees and their subsequent health and future potential is totally dependent upon all persons operating within the site. Communications are vitally important to ensure that all parties understand the reasons for tree protection and its continued existence.

4.5 **Specification for the tree protection barriers:** The default specification for tree protection barriers should normally consist of a vertical and horizontal scaffold framework, well braced to resist vehicle impacts. The vertical tubes should be spaced at a maximum interval of 3 metres and driven securely into the ground. Onto this framework, proprietary welded mesh panels ('heras') should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. The specification for the protective barriers is outlined in figure 1 below:

Figure 1



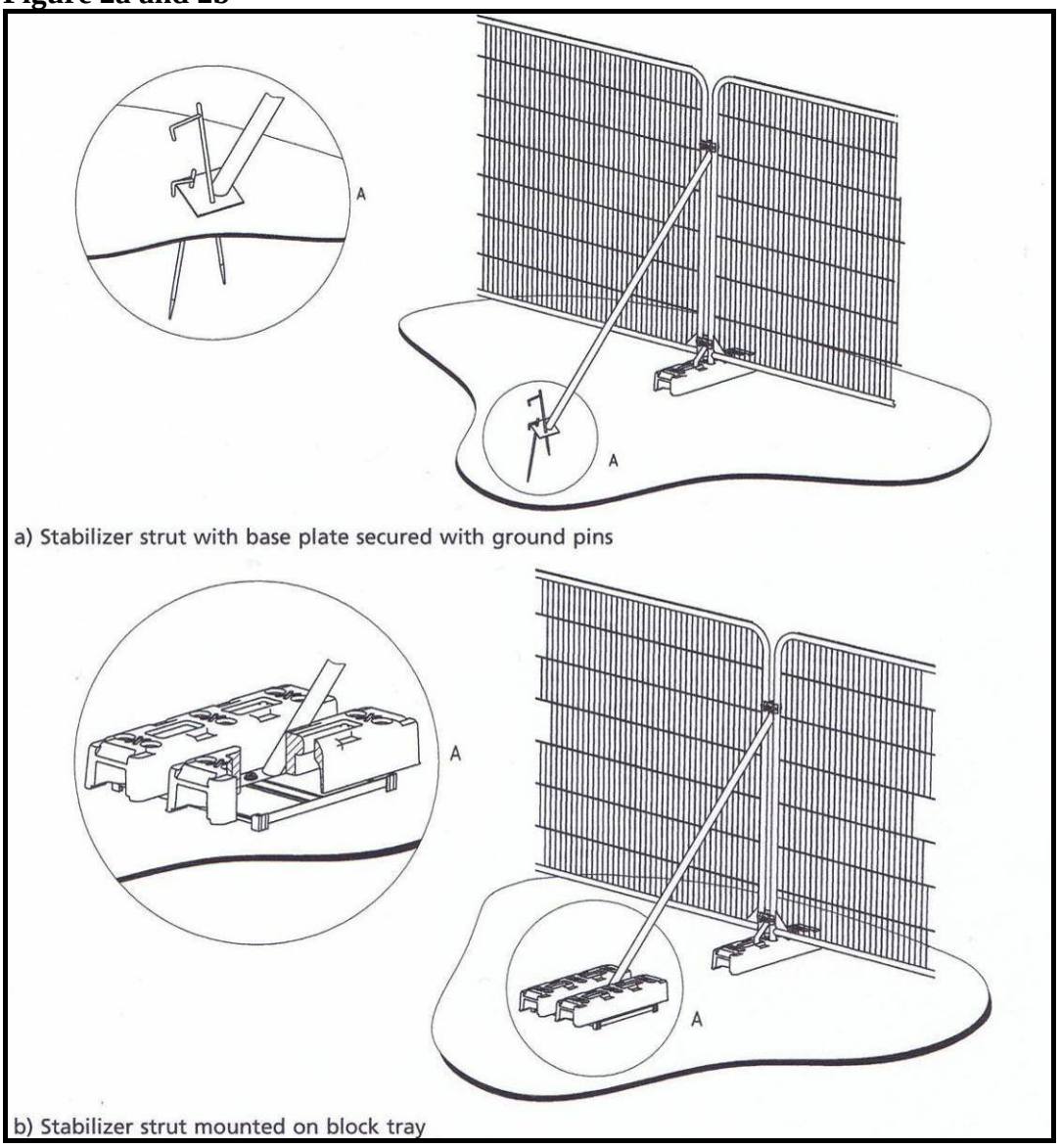
Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized 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 0.6 m)
6 Standard scaffold clamps

4.6 In this case the site circumstances and associated risk of a damaging incursion into the RPAs may not necessitate the default level of protection and it may be possible to agree an alternative specification with the local planning authority. For example 2 metre tall 'heras' panels on rubber or concrete feet would provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. The fence

panels could be joined together using anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 2a). Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (figure 2b).

Figure 2a and 2b



4.7 No storage of materials or any construction operations should occur within any of the fenced areas. Ideally notice similar to that shown below (figure 3) should be attached to the fencing at appropriate intervals.

Figure 3



4.8 No storage of materials or any construction operations should occur within any of the fenced areas. The following activities shall not be carried out under any circumstances:

(a) no fires to be lit on site within 10 metres of the nearest point of the canopy of any retained tree on or adjacent to the proposal site,

(b) no equipment, signage, fencing etc shall be attached to or be supported by any retained tree on or adjacent to the application site,

(c) no temporary access within designated RPA without the prior written approval of the LPA,

(d) no mixing of cement, dispensing of fuels or chemicals within 10 metres of the tree stem of any retained tree on or adjacent to the application site,

(e) no soakaways to be routed within the RPA of any retained tree on or adjacent to the application site,

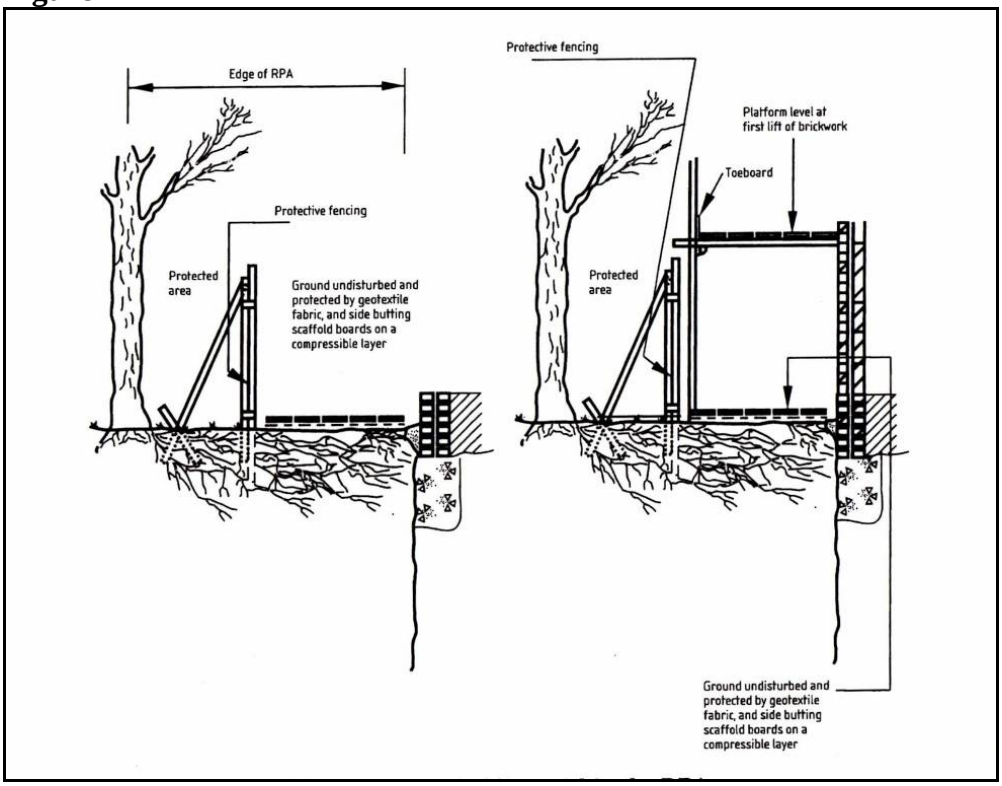
(f) no stripping of topsoil, excavations or changing of levels to occur within the RPA of any retained tree on or adjacent to the application site,

(g) no topsoil, building materials or other to be stored within the RPA of any retained tree on or adjacent to the application site and;

(h) no alterations or variations of the approved works or tree protection schemes shall be carried out without the prior written approval of the district planning authority.

4.9 **Scaffolding** The erection of any scaffolding within the RPA of any tree must be verified with the architect after agreement with the local planning authority. The weight and downward pressure during use, of any scaffolding, within the RPA of any tree must be supported on bearers of a sufficient size such as scaffolding boards. The aim of the bearers is to spread the working load across the RPA. The access point for the scaffolding should be outside the RPA. The generic recommendation for scaffolding erection within an RPA previously advocated in BS 5837 : 2005 is shown in below (figure 4).

Figure 4



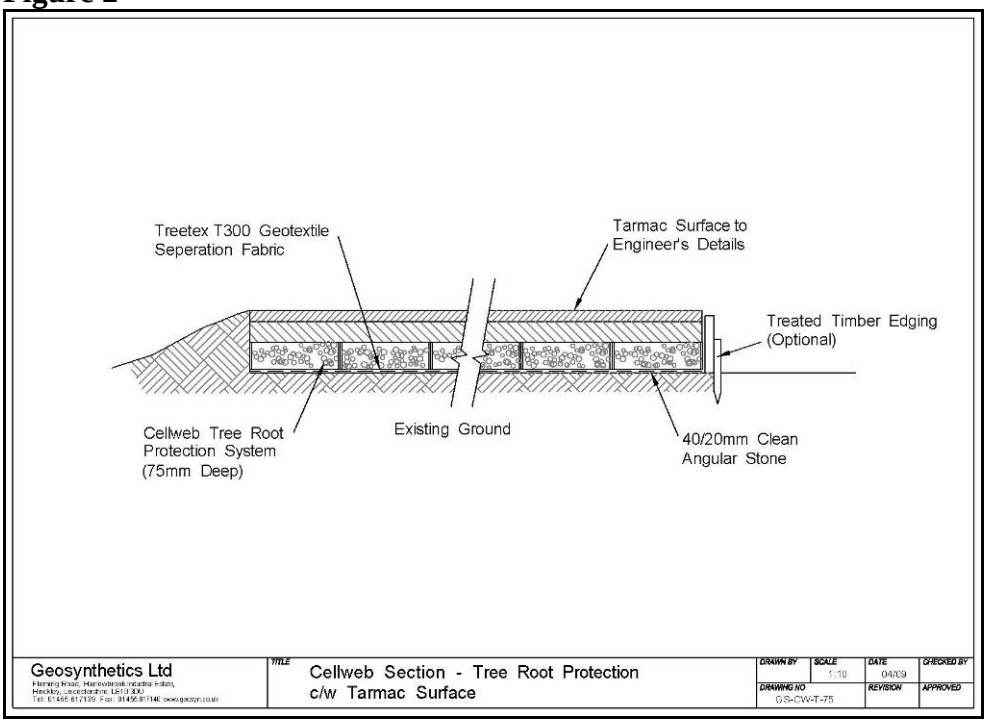
4.10 **Demolition of existing sports hall:** The canopies of the trees are susceptible to damage during the demolition operations. Any necessary remedial works to the canopies of the retained trees in the proximity of the sports hall should be undertaken in advance of any demolition work to avoid any undue damage by plant and machinery. All tree pruning should be undertaken by a suitably qualified and experienced arboricultural contractor. The contractor should carry out all tree work to BS 3998 *Recommendations for Tree Work* (1991) as modified by research that is more recent.

5.0 Technical details: Construction Specification/ Method Statement for hard surfacing within the root protection areas

5.1 The new access drive that leads up to the detached house to the south of the main buildings should not encroach into the RPA of any retained tree. If for any reason the alignment of the access drive is found to encroach into the RPA of any retained tree the risk of root injury to these trees should be mitigated by the utilisation of 'special surfaces' incorporating a 'no dig' methodology as recommended in Arboricultural Practice Note 12: (2007) Through the Trees to Development.

5.2 A temporary cellular confinement system such as 'Geoweb' or 'Cellweb' can be used to implement the principals of APN 12. Any such system should be utilised correctly with free draining aggregates to provide a shallow and free draining base that will support the passage of vehicles whilst allowing water and oxygen to permeate down to tree's roots. This method of surface construction is specifically designed for use within the crown (figure 2).

Figure 2



5.3 However, it is important not to treat the examples above as finalised specifications. They are provided as an indication of construction methods suitable for use to reduce damage to the root systems of the retained trees by soil compaction and direct mechanical injury. I therefore advise that a qualified and competent engineer assess the suitability of the recommended specifications and finalise the details prior to commencement of any works.

5.4 Where tarmac hard or other hard surfacing currently exists on the site, there may be no need to disturb the surface. However, if the surface is to be replaced, tree roots

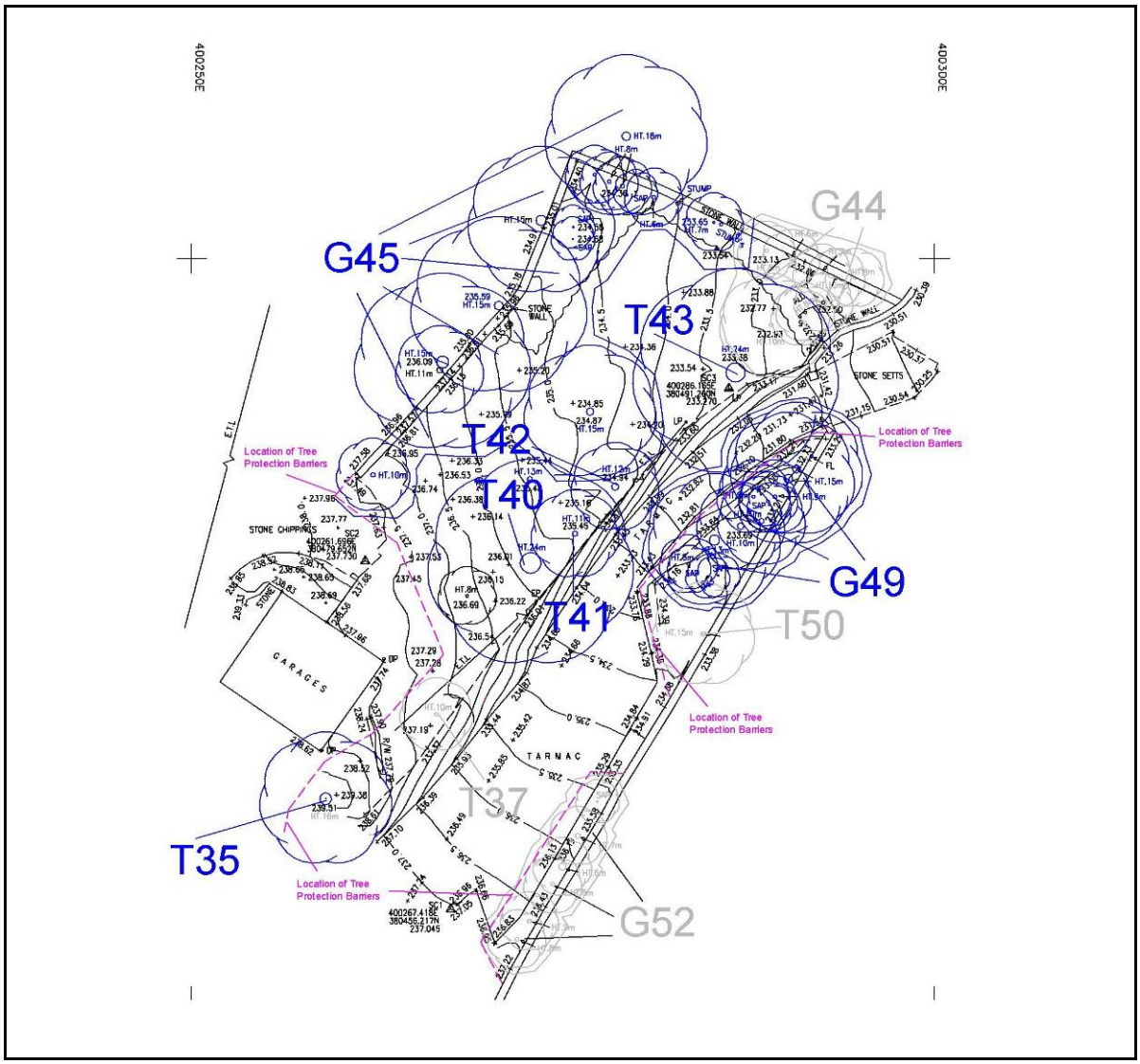
may be found beneath it and in order to mitigate any possible root injury the use of 'special surfaces' described above should be utilized. To avoid any root injury being caused the following precautions should be taken:

- Breaking out should be undertaken by hand, preferably using hand tools rather than pneumatic plant.
- No machinery should pass over the surface after it has been broken out.
- If roots are attached to arisings they should be pruned using a saw or secateurs.
- The exposed surface should be covered immediately with light topsoil or sharp sand.
- The tree protective fencing should be realigned to surround the newly exposed surface until the area is resurfaced.
- Displaced material from the excavation will be moved outside of the root protection areas.
- Care will be taken not to damage the canopy of the surrounding trees during excavation and the movement of materials.
- During breaking-out, any small roots exposed or damaged will be pruned back (ideally to a lateral root branch) using bypass secateurs or handsaw.
- Roots larger than 25mm should not be removed without prior consultation with the appointed Arboricultural Consultant or Local Authority Arboriculturalist.

Neil Edmondson HND Arbor (BTEC) F Arbor A
Arboricultural Consultant

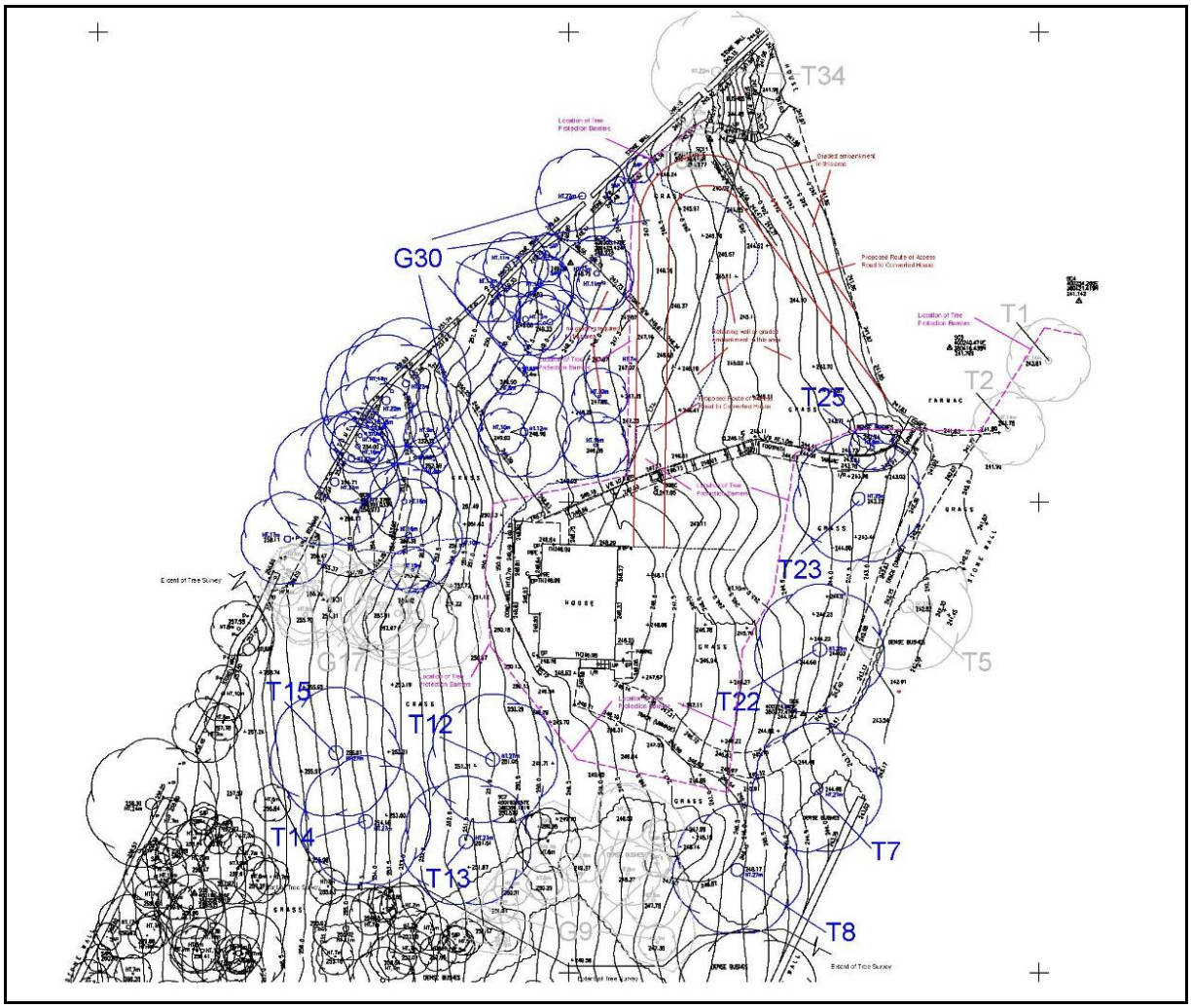
Date: September 17, 2013

Appendix 1
Tree Protection Plan - North



not to scale

Appendix 2
Tree Protection Plan - South



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