

Arboricultural Planning Statement 90 Rose Green Road, Bognor Regis

Date: May 2017

Submitted to:

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Version History

VERSION	DATE	AMENDMENT
A	May 2017	INITIAL REPORT

1 Executive Summary

Wilson designer Homes Ltd are proposing to develop a small housing scheme on land at 90 Rose Green Road, Bognor Regis. The proposals include the construction of 5 new houses with associated gardens and areas of hard surfacing. The access road will utilise an existing access track located between 88a and 92 Rose Green Road. For the purposes of this report, reference to 'the site' will be referring to land encompassed by the thick red line shown on the Tree Protection Plan contained in **Appendix 1**.

Arun District Council have already granted outline planning permission for a similar scheme on this site for which ADAS produced an Arboricultural Planning Statement (APS) in February 2016 (planning ref. AW/363/15/OUT). This current APS has been produced to take account of the changes to the layout in the current scheme and is to be used to support a full planning application.

In line with the requirements of 'BS5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations' (BS5837:2012), Wilson Designer Homes Ltd have commissioned ADAS to provide arboricultural advice in relation to the proposed development. An ADAS Arboricultural Consultant carried out a full arboricultural survey of the site on 28th January 2016 and as a result of that survey they have provided on-going advice in order to guide the proposed development layout. Although the layout demonstrated in this report is different to the previous one, it is not considered that the impact on the retained trees will be any greater.

The tree survey identified a total of 6 individual trees 1 hedge which have the potential to be impacted by the development proposals. In line with the recommendations contained within Table 1 of BS5837:2012 which is contained in **Appendix 9**, of these trees and the hedgerow, 5 were awarded a low C grade, 1 was awarded a moderate B grade and 1 was awarded a high A grade.

Of the 7 tree features on site at the time of the survey, 4 individual trees have already been removed to facilitate the development. These were all awarded a low C grade (trees T1, T2, T5 and T6), and at the time of the outline planning application, the Arun District Council tree officer stated that it was:

"evident that these specimens did not have the characteristics to warrant TPO order/s."

Using the Arun District Council on-line GIS tool, it appears that a mature oak on third party land adjacent to the site (T3) is afforded protection through the provisions of a Tree Preservation Order (TPO ref. TPO/AW/2/07). Therefore no tree works that are not approved as part of a full planning approval, should be undertaken to this tree without first obtaining the written consent of Arun District Council. The GIS tool does not indicate that T4 is afforded protection through a TPO, however this should be confirmed prior to undertaking any works not approved as part of a full planning approval.

In order to ensure the successful integration of retained trees into the proposed development, various tree protection measures will be incorporated into the design which are intended to maintain the trees in a safe and healthy condition. Further details of these are contained in section 9.0 of this report.

2 Introduction

2.1 The Author

This document has been prepared by Richard Harris, an ADAS Arboricultural Consultant. Richard is an Associate Member of the Institute of Chartered Foresters, has an RFS Professional Diploma in Arboriculture and an HND in Forestry. Richard has 16 years of experience within the arboricultural industry, and 8 years of experience providing arboricultural advice.

2.2 Client Instruction

This report was commissioned by Wilson Designer Homes on 26th May 2017 and is pertinent to the site known as 90 Rose Green Road.

2.3 Purpose of Report

The purpose of this document is to provide reference and clarification on aspects of tree protection and any necessary tree management works for the proposed development. It is proposed to achieve this by setting out a methodology for all proposed works that may affect trees which are to be retained on and adjacent to site.

This document is also intended as a reference point for all site operatives and a copy will remain with the site manager for the duration of the development.

This document may be used as a point of reference if there were to be a dispute over compliance with related planning conditions.

2.4 Tree Survey Methodology

An initial tree survey, to establish the tree constraints on the site, was carried out by Richard Harris of ADAS on 28th January 2016.

The tree survey was carried out in accordance with the recommendations contained within BS5837:2012.

All trees have been visually inspected from ground level unless otherwise stated, with no climbing or boring tests being undertaken. The comments made on their condition are based on observable factors present at the time of inspection.

The findings of this tree survey are contained in **Appendix 2** which recorded the following information:

a) Reference number

All individual trees and groups of trees have been given a unique reference number. Each number is prefixed by a letter.

T = Individual tree

H = Hedgerow

b) Species

The English common name has been used.

c) Single or Multi-stemmed

'S' represents a tree which has a single clear stem to at least 1.5m above ground level, whilst 'M(a)' represents a tree where the main stem divides into two to five stems below 1.5m above ground level and 'M(b)' where the main stem divides into 6 or more stems below a height of 5m.

d) Height in metres

Where possible tree heights are measured to the nearest half metre using an optical clinometer. In some instances such as in close groups of trees, one height may be measured and other nearby trees estimated from this height.

e) Stem diameter

Measured in millimetres at 1.5m above ground level for single stemmed trees. For multi-stemmed trees with 5 or less stems, each stem is measured at 1.5m above ground level and recorded, whilst for trees with 6 or more stems, an average stem diameter is recorded. Where site factors such as dense vegetation and fences restrict access to the base of a tree, the stem diameter has been estimated. This is highlighted in the tree survey schedule. Groups of trees have been given an average stem diameter.

f) Branch spread in metres

Measured in metres to the four cardinal compass points. For groups and woodlands an average measurement is used for trees on the outer edges of the group or woodland.

g) Crown Clearance

- a. Height in metres of the first significant branch, and the direction of growth.
- b. Height in metres of lowest part of crown.

h) Age class

The stage at which the tree is within its lifecycle (Y = young, SM = semi-mature, EM = early-mature, M = mature, OM = over mature, V = veteran)

i) General Observations

Any relevant observations are recorded, with particular reference to structural and/or physiological condition.

j) Preliminary management

Recommendations are made where management work is required for reasons of health and safety or sound arboricultural management. Timescales in which the work should be undertaken are included in the Tree Work Schedule in **Appendix 3**.

k) Estimated remaining contribution in years

An estimation of how long the tree or group of trees will contribute to its surroundings. This is recorded in bands of either <10 years, 10+ years, 20+ years and 40+ years.

l) Category Grading

The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C). Details of this grading system can be found in **Appendix 9**

m) Root Protection Area (RPA)

Calculated as prescribed in section 4.6 of BS5837:2012.

3 Assumptions and Limitations

The Tree Protection Plan (TPP) contained in **Appendix 1** has developed from the tree survey information and the Proposed Site Layout Plan (drawing ref: 100 rev E). As it is understood that T1, T2, T5 and T6 have now been removed, these trees are not shown on the TPP.

This report also assumes that the design layout demonstrated on the TPP is the final layout.

This report is only intended for use by the person(s) or company named on the front cover.

This report is not a full hazard or risk assessment of trees, and should not be used as such.

Trees are living organisms and are constantly adapting to their ever changing environment. No tree is completely safe and there is no guarantee that problems or deficiencies may not arise in the future, which have not been identified in this report. Therefore this report is only valid for a period of 1 year from the date of the initial site inspection.

4 Legislation

4.1 Tree Preservation Orders and Conservation Areas

Local Planning Authorities (LPAs) have the power to preserve selected trees and woodlands through the making of Tree Preservation Orders (TPOs). Similarly, special provision is provided to trees located within Conservation Areas (CAs) which are not the subject of a TPO. The LPAs powers to do this are provided by the following Act of Parliament and its associated regulations:

- *Town and Country Planning Act 1990*
- *Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) (Amendment) (England) Regulations 2008*
- *Town and Country Planning (Trees) (Amendment) (England) Regulations 2012*

The principle effect of a TPO is to prohibit the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees without first obtaining the consent of the relevant Local Authority.

Where works to trees within a CA are proposed, six weeks notification must first be given to the relevant Local Authority.

Unauthorised works to trees either protected by a TPO or those that are located within a CA, could result in a fine of up to £20,000 per tree.

Using the Arun District Council on-line GIS tool, it appears that a mature oak on third party land adjacent to the site (T3) is afforded protection through the provisions of a Tree Preservation Order (TPO ref. TPO/AW/2/07). Therefore no tree works that are not approved as part of a full planning approval, should be undertaken to this tree without first obtaining the written consent of Arun District Council. The GIS tool does not indicate that T4 is afforded protection through a TPO, however this should be confirmed prior to undertaking any works not approved as part of a full planning approval.

4.2 Wildlife Legislation

Various habitats and species of animal in the UK are protected by the following pieces of legislation:

- *Wildlife and Countryside Act 1981(as amended)*
- *Natural Environment and Rural Communities Act 2006 (NERC Act)*
- *Conservation of Habitats and Species Regulations 2010 (as amended)*
- *Protection of Badgers Act 1992*
- *The Hedgerows Regulations 1997*
- *Countryside and Rights of Way Act 2000*

Species afforded various levels of protection under the legislation include Great Crested Newt, reptiles (all species), wild birds (all species), bats (all species), Red Squirrel, Hazel Dormouse, Water Vole, Badger, and Otter.

For birds it is an offence to:

- *Take or harm them, their nests (whilst in use or being built) or their eggs.*

Some species, such as Barn Owl, are afforded additional protection, whereby it is also an offence to:

- *Intentionally or recklessly disturb such a bird whilst it is nest-building or is at or near a nest with eggs or young, or intentionally or recklessly disturb their dependent young.*

Generally, for protected species of animal it is an offence to:

- *Capture, injure, kill or disturb them or their eggs;*
- *Damage or destroy their breeding sites or resting places (even if unintentional or if the animal is not present), or to obstruct access to any such places.*

The legislation also makes it an offence to uproot any plant without the landowner's permission and to introduce, or otherwise cause to spread, certain non-native species, including Japanese Knotweed, Himalayan Balsam and Rhododendron.

The above provides only a brief summary of the legislation. It is advised that the original text of the relevant legislation is consulted for the exact wording. If necessary, advice should be sought from a suitably qualified ecologist.

5 Site Description

90 Rose Green Road is located on the northern edge of the village of Aldwick in West Sussex. Aldwick forms part of the larger conurbation of Bognor Regis.

The site is located to the northern side of Rose Green Road and is bordered by residential properties to the east, south and west. Arable fields are located to the north of the site.

The site is accessed along a gravel track located on land between 88a and 90 Rose Green Road and is currently occupied by a range of disused buildings and general site debris. The site does not appear to have been occupied for several years and has become overgrown in places with brambles and other scrub species.

The topography of the site is generally flat and level, however there is a large mound formed from waste material towards the southern boundary of the site which has become soil covered and colonised in vegetation.

A brief desk top study using the British Geological Societies website 'Geology of Britain Viewer' has revealed that the dominant soil type in this area is likely to have a high clay content with the bedrock being London Clay Formation. It is therefore advised that a more detailed assessment is carried out to fully assess the soil type. If the soil exhibits shrinkable characteristics, then careful consideration should be given to the design of any buildings and foundations within close proximity to trees.

It is also recommended that particular attention is given to the guidance provided in the National House Building Councils (NHBC) Standard Chapter 4.2. Further arboricultural advice can be provided on this subject if required.

The dominant trees on or adjacent to the site are two mature oak trees located in the rear gardens of properties immediately beyond the site's southern boundary (trees T3 and T4). These trees form part of

what is understood to be an historic ditch line and are typical of many property boundaries throughout the village of Aldwick. More locally they form a significant landscape feature as they are clearly visible from a number of vantage points.



Photograph 1: Looking south-west across the site with T4 and T3 in the foreground

At the time of undertaking the tree survey, all the other trees on or adjacent to the site were awarded a low C grade as they were considered to be “unremarkable trees of limited merit”¹, a comment that was supported by the ADC tree officer in his comments on the outline planning application.

It is understood that with the exception of T3, T4 and H7, all other trees that had the potential to be impacted by the works have now been removed.

6 Arboricultural Input

6.1 Sequence of Events

The sequence of events taken from the flow diagram within Figure 1 of BS5837:2012 has been provided in **Appendix 4**. This is to demonstrate the key timings for arboricultural input on a development site, once planning permission has been approved.

6.2 Site Monitoring

The developer should appoint an Arboricultural Consultant to monitor the tree protection measures on site. The purpose of this is to ensure the protection measures remain in situ and continue to provide sufficient protection to the trees.

¹ Table 1 – BS5837:2012 Trees in Relation to Design Demolition and Construction

This role will initially entail the Arboricultural Consultant liaising with the developer and Arun District Council to ensure the recommended protection measures are suitably installed. Once the tree protection measures have been installed, and construction activity commences, the extent of any on-going site monitoring is at the discretion of Arun District Council.

A formal record of these supervisory visits should be recorded and kept on file; a copy should also be circulated to all relevant parties, including Arun District Council.

6.3 Key Contacts during Development

A list of key contacts relevant to this site that may be required throughout the duration of the development has been included in **Appendix 5**.

7 Arboricultural Implications Assessment

Richard Harris has assessed the development proposals in relation to the existing tree stock on the site.

The tree stock has been assessed under the following categories and the findings are summarised in Table 1:

- *Trees proposed for removal. This includes trees:*
 - o *that are under the footprint of the proposed development*
 - o *who's RPA's are heavily affected by the development*
 - o *which are to be removed for reasons of sound arboricultural management.*
- *Retained trees that require extra protection due to their proximity to proposed work areas*
- *Retained trees which are unaffected by the development proposals*

Impact	Reason	Tree Quality Assessment Category Grading*				Totals
		A	B	C	U	
Trees, groups, and woodlands already removed	▪ Building Construction ▪ New Surfacing ▪ Proximity ▪ Landscaping	None	None	T1, T2, T5, T6	None	4
Retained trees, groups, and woodlands that are at risk of damage due to	• Working within RPA • Working close to crown and trunk	T4	T3	H7	None	3

proximity to proposed works							
Retained trees, groups, and woodlands which are unaffected by the development			None	None	None	None	0
							Total
							7

Table 1: Arboricultural Implications Assessment

Table 2 summarises the causes of potential harm along with any mitigation measures for those trees that are at risk of damage through disturbance of their RPA's and crowns, or those that require extra protection due to their proximity to the proposed works. Where specific construction methodologies are required these are detailed in Section 9 of this report.

Tree Number	Species	Potential Cause of Damage	Mitigation
T3	English Oak	Proposed landscaping within RPA	- Any landscaping works to be undertaken in accordance with the recommendations set out in section 9.6 below - Tree Protection Barriers to be erected in the locations shown on the TPP and as specified in section 9.2 - Ground Protection to be installed in the locations shown on the TPP and as specified in section 9.3
T4	English Oak	- Proposed car park within RPA - Proposed footpath within RPA - Proposed dwelling within RPA - Proposed landscaping within RPA	- Although the new built form extends within the RPA of this tree, it is not felt that this will have a significant detrimental effect on the tree, see section 9.4 - Any landscaping works to be undertaken in accordance with the recommendations set out in section 9.6 below - Tree Protection Barriers to be erected in the locations shown on the

			TPP and as specified in section 9.2 * Ground Protection to be installed in the locations shown on the TPP and as specified in section 9.3
H7	Mixed	* Removal of existing structures in close proximity	* Structures to be removed using 'top-down, pull-back' technique as detailed in section 9.5

Table 2: Summary of potential damage to retained trees

8 Preliminary Tree Work

8.1 Tree Retention and Removal

The north side of the crown of T4 will require lifting to provide 4m clearance above ground level, and some management works are proposed to H7. No further trees will require removal.

T4 is a tree in third party ownership, and in order to ensure compliance with 'BS3998:2010 Tree Work: Recommendations' it is likely that some pruning works will be required within the curtilages of the neighbouring property. Therefore no tree works will be undertaken to this tree without first gaining the tree owners consent.

8.2 Tree Work Schedule

A schedule of tree work has been provided within **Appendix 3**. All tree work will be carried out prior to commencement of construction activities and prior to the erection of the tree protection measures.

8.2.1 Standard of Tree Work

All tree work and felling operations will be carried out in accordance with BS3998:2010 'Recommendations for Tree Work'; current arboricultural industry guidelines and best practice; and all relevant Health & Safety standards. Tree work is a specialist task that requires operatives to be appropriately qualified, skilled, and adequately insured. Guidance on selecting an appropriate contractor can be obtained from the Arboricultural Association, who also maintains a directory of Approved Contractors. The Arboricultural Association can be contacted on 01242 522152 or via their website <http://www.trees.org.uk>.

8.2.2 Wildlife Constraints

As mentioned in section 4.2 of this report, all tree work operations must comply with The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, which provide statutory protection to birds, bats and other species, all of which could inhabit trees. Where works may constitute

an offence, advice will be acquired from a suitably qualified person before works are able to proceed. For example, it may be necessary to programme tree work outside of the bird nesting period, typically March through to August inclusive.

8.2.3 Modification to Tree Work Schedule

Should the recommended work schedule require modifying, for whatever reason, this will be agreed with the appointed Arboricultural Consultant (when applicable), and also approved in writing by Arun District Council. Under no circumstances will the appointed contractor deviate from the Tree Work Schedule contained in **Appendix 3**, unless approved in writing by Arun District Council.

8.2.4 Proposed tree planting

It is proposed that that at least sixteen additional Heavy Standard trees (trees with a stem girth between 12-14cm when measured at 1m above ground level) will be planted to mitigate for the loss of trees within the site. Suitable species would be as follows:

Betula pendula Youngii

Prunus accolade

Amelanchier arborea Robin Hill

Sorbus intermedia

In addition to these larger trees, hedge H7 will also be supplemented with a rural hedgerow mix. These will be planted as 80-100cm tall whips in a double staggered row with the plants at 50cm centres.

9 Tree Protection

Although these methodologies set out the precautions to be followed in order to ensure the retained trees are protected, the final responsibility for their installation lies with the site supervisor who must ensure that all current legislation and best practice is followed and that they are installed in a safe manner.

9.1 Tree Protection Area (TPA)

The TPA is defined around the retained trees by the tree protection barriers shown by a brown line on the TPP. Where possible the TPA is positioned to protect both the crowns and the Root Protection Areas (RPA) of the retained trees. Guidance on RPA's is contained in **Appendix 10**.

9.2 Barriers

In line with Section 6.2.2 of BS 5837:2012, which requires that the tree protection barriers be fit for the purpose of excluding construction activity and that they provide adequate protection to the trees and hedge, it is proposed that they will consist of 2m tall welded mesh panels supported on concrete feet. Each panel will be secured to its neighbour with a minimum of 2 anti-tamper couplers secured so that

they can only be undone from inside the TPA. The panels will be further supported by stabilizer struts which will be pinned to the ground. An example of this type of barrier is contained in **Appendix 6**. The location of the tree protection barriers is provided on the TPP contained in **Appendix 1**. Their precise location and construction will be agreed on site between the appointed arboricultural consultant and Arun District Council before any site works commence.

Inside the TPA the following prohibitions will be complied with:

- *No excavations, including by hand; unless approved by Arun District Council;*
- *No storage of machinery;*
- *No storage or handling of building materials, fuel, chemicals or spoil;*
- *No fires;*
- *No vehicular access;*
- *No pedestrian access; unless approved by Arun District Council;*
- *No alteration, increase or decrease, to existing ground levels; unless approved by Arun District Council;*
- *No excavation or installation of services; unless approved by Arun District Council.*

In order to ensure that the TPA remains intact, the tree protection barriers will not be moved or temporarily dismantled except in the situations previously mentioned.

To enable site operatives to appreciate the purpose of the protective fencing, and reduce the risk of operatives attempting to move them, all-weather notices will be erected on the barriers similar to the example in **Appendix 7**. The barriers will only be adjusted or removed if prior written approval is obtained from Arun District Council.

9.3 Pedestrian Ground Protection

In order to protect the ground within the RPAs of the trees where they are between the Tree Protection Barriers and the proposed buildings and hard surfaces, pedestrian ground protection will be installed in the locations shown on the TPP.

This ground protection will be required to avoid direct damage to the roots of the trees as well as preventing compaction of the soil. In accordance with section 6.2.3 of BS5837:2012 this ground protection will need to be fit for the purpose of supporting any traffic entering the RPA without causing compaction of the soil below. A single layer of scaffold or 19mm plywood boards laid on top of driven scaffold framework or laid onto a compressible layer of sharp sand or woodchip on a geotextile membrane should be adequate. An example of this is contained in **Appendix 8**.

9.4 Proposed built form within the RPAs of T4

New hard surfaces and part of the building on Plot 4 will be constructed within the RPA of T4 if the RPA of T4 is plotted as a circle. Section 4.6.2 of BS5837:2012 states that where site conditions dictate, the shape of an RPA can be adapted providing the area remains the same. In this instance, it is felt that the presence of the existing site boundary wall, will restrict root growth of T4 on to the site, however it is very unlikely that it would have completely prevented root growth. Accounts provided by the residents in 92 and 94 Rose Green Road also suggest that there was a ditch running along this site boundary in the past, although no details were given with regards to depth and size.

If the RPA of T4 is plotted as a circle, the extent of any incursion in to the RPA by the new built-form will be approximately 54m² or 8% of the RPA. Assuming that the wall and the ditch have restricted root growth into this area the actual amount of the RPA affected will be less than this.

It is anticipated that the majority of the root growth for these trees will be to the south of the boundary wall.

For these reasons it is not anticipated that the building of the proposed dwelling and the area of hard surfacing will have a detrimental effect on this tree providing the following precautions are followed where works are proposed within the RPA when plotted as a circle (as shown on the TPP):

- *All excavations will be undertaken under the supervision of the retained arboricultural consultant.*
- *The depth of any excavations will be kept to an absolute minimum and where possible any new hard surface will be constructed on top of existing ground levels.*
- *The need to compact the soil below the new hard surface should be avoided through the use of a 3D cellular confinement system*
- *All excavations will be undertaken using hand tools in order to allow any roots over 25mm diameter to be identified.*
- *If roots over 25mm diameter are identified, they will only be severed once agreed by the retained arboricultural consultant using a suitable pruning tool and a record of the number of roots severed will be retained.*
- *Any new hard surface will have a porous finish*
- *The design of the new hard surface will be agreed in writing by Arun District Council prior to commencement of any works.*

To further mitigate for any incursion in to the RPA, it is proposed that the conditions for the remainder of the tree's RPA where it falls within the site boundaries will be improved. This will be achieved by undertaking a soil analysis prior to final landscaping and if necessary incorporating soil improvement measures such as fertiliser or organic material in to the soil.

9.5 Demolition of existing structure adjacent to H7

In order to avoid causing damage to the trees in this hedge, these structures should be removed in a 'Top-Down Pull-Back' method. This technique requires that the structures will be broken down in such a way that any debris is pulled away from the hedge and onto the existing hard surfacing either surrounding or below the structure. If plant or machinery is to be used it should only operate from the existing hard surfacing.

Upon completion of the demolition works, the Tree Protection Barriers will be erected in the location shown on the TPP

9.6 Proposed landscaping with in the RPA of T3 and T4

In order to avoid damaging the roots of the retained trees during landscaping works on the site the following precautions will be followed:

- *With the exception of the removal of the mound of spoil which will be undertaken prior to the erection of the tree protection barriers, landscaping works within the RPAs of the retained trees will only be undertaken once all main construction work is complete as the tree protection barriers will need to be removed.*
- *The large mound to the north of T4 will be removed carefully using an excavator located within the footprint of the proposed house and hard-surfacing. This work will be undertaken carefully under the supervision of the retained arboricultural consultant. It is not anticipated that any significant roots will be found within this mound, but if they are identified by the retained arboricultural consultant, it will become necessary to revert to removing the mound using hand tools.*
- *Any existing vegetation will be removed using hand tools.*
- *If the ground needs to be prepared prior to laying turf or planting, this will be undertaken using hand tools or light pedestrian powered equipment.*
- *Holes for fence posts (or any other excavations) will be excavated using hand tools and will be positioned to avoid any large roots over 25mm diameter.*

9.7 Utility Connections

At the time of producing this report ADAS have not been made aware of the locations of any other underground utility connections. However in order to avoid damage to any of the retained trees, the following services will avoid the RPA's:

- *Foul and surface water drains*
- *Land drains*

- *Soakaways*
- *Gas*
- *Oil*
- *Electricity*
- *Telephone*
- *Lighting*
- *Signage*

If additional services must unavoidably be installed within the RPA's around retained trees, the locations of these will be chosen in consultation with the retained Arboricultural Consultant and will be agreed in writing with Arun District Council. The works will be carried out using trenchless techniques such as moling, laser guided boring and/or in accordance with advice contained within NJUG 4.

10 Conclusions

The tree survey undertaken by Richard Harris of ADAS on 28th January 2016 identified a total of seven tree features consisting of six individual trees and one hedgerow on the site known as 90 Rose Green Road, Bognor Regis.

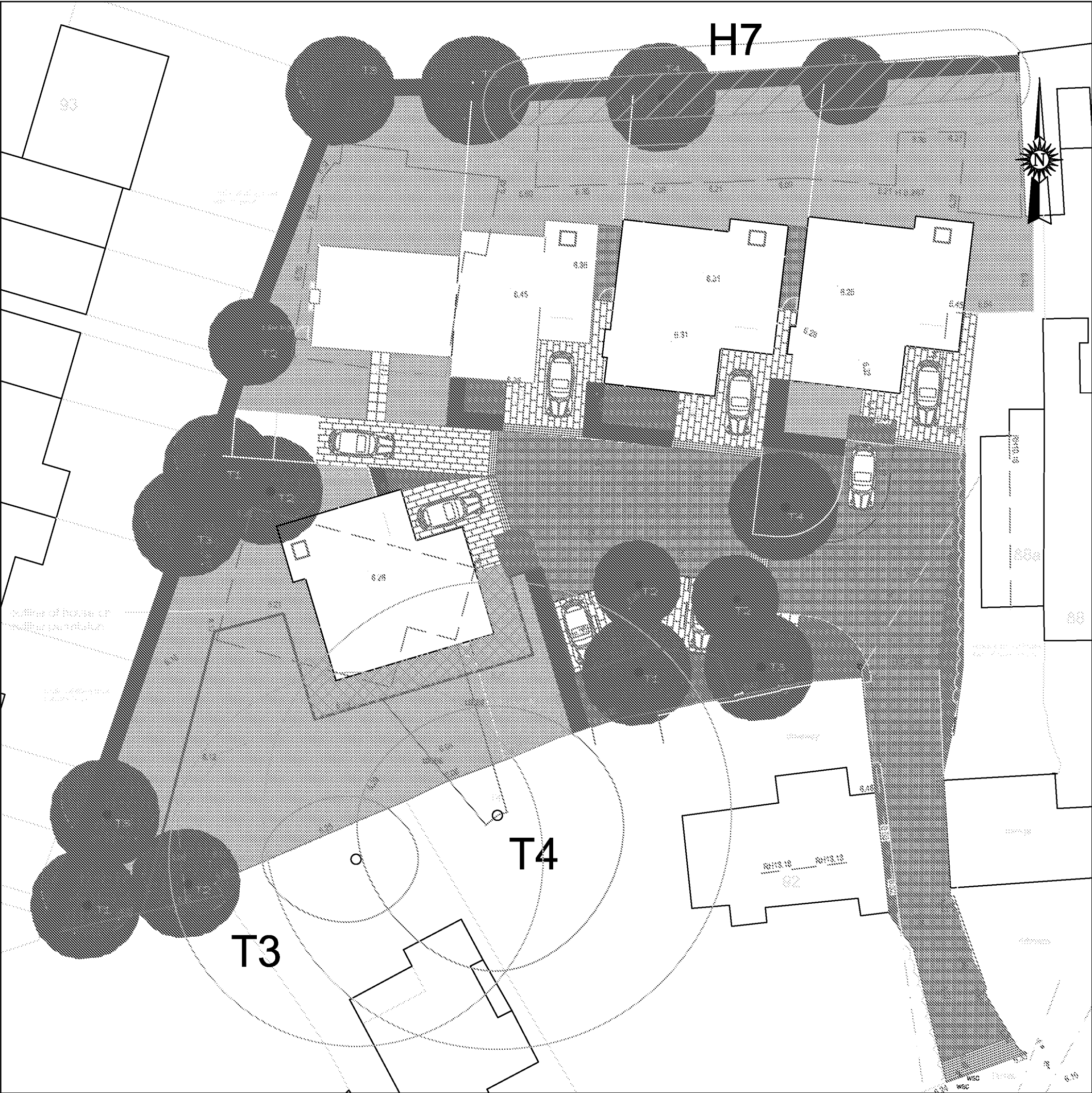
Of the seven tree features on and adjacent to the site, four (T1, T2, T5 and T6) have already been removed in order to facilitate the development. Of these, all were categorised as low quality C grade trees.

Using the Arun District Council on-line GIS tool, it appears that a mature oak on third party land adjacent to the site (T3) is afforded protection through the provisions of a Tree Preservation Order (TPO ref. TPO/AW/2/07). Therefore no tree works - that are not approved as part of a full planning approval - should be undertaken to this tree without first obtaining the written consent of Arun District Council. The GIS tool does not indicate that T4 is afforded protection through a TPO, however this should be confirmed prior to undertaking any works to this tree that are not approved as part of a full planning approval.

ADAS are satisfied that, providing the recommendations contained within this report are followed, the proposed development of the site can be successfully achieved without causing undue harm to those trees identified for retention. The current layout allows the retention of all moderate value trees on site, and the proposed tree losses will not have a significant negative impact on the treescape of the area.

Appendix 1: Tree Protection Plan

See following page



KEY

- Individual trees to be retained.
- Groups/hedge to be retained.
- Location of tree pedestrian ground protection as specified in section 8 of ADAS Arboricultural Planning Statement.
- Recommended Root Protection Area (RPA) of trees retained.
- Location of tree protection barriers as specified in section 8 of ADAS Arboricultural Planning Statement.
- Site Boundary.

The barriers should be positioned in accordance with the adjacent tree protection plan, and be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. It is essential that the barriers are installed prior to any construction taking place, be maintained during construction, and only removed once all construction has been completed and associated equipment and materials have been removed from site. It is recommended that the barrier configuration shown and described in the plan opposite should be used on this site.

Inside the barriers it is also essential that the following prohibitions are complied with:

- No excavations, including by hand; unless approved by the Local Planning Authority;
- No storage of machinery;
- No storage or handling of building materials, fuel, chemicals or spoil;
- No fires;
- No vehicular access;
- No pedestrian access; unless approved by the Local Planning Authority;
- No alteration, increase or decrease, to existing ground levels; unless approved by the Local Planning Authority;
- No excavation or installation of services; unless approved by the Local Planning Authority.

3/5/17	DH	RH		B	LAYOUT REVISED
5/2/16	DI	RH		A	INITIAL ISSUE
DATE	DRWN	CHKD	REVD	ISSUE	

Client
Wilson Design Homes Ltd

Job Title
90 ROSE GREEN ROAD, BOGNOR REGIS

Drawing Title
TREE PROTECTION PLAN (TPP)

Drawing No
PE–RH14/TPP 01

Scale: 1/250 @A3

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Based on Sherlock Boswell Architecture 'PROPOSED SITE LAYOUT PLAN' drawing number '100 Rev. F' please see original key for details.

11D Park House, Milton Park, Milton, Abingdon, OX14 4RS.
tel: 01235 355630

Appendix 2: Tree Survey

See following page

		Tree Survey Schedule																								
		Client		Iain Skinner								Site		90 Rose Green Road												
		Date		28.01.2016								Consultant		Richard Harris												
		Tagged		No								Weather		cold and sunny and calm												
Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm)										Branch Spread (m)				Existing Height (m)		Life Stage	General Observations (structural / physiological condition site conditions etc)	Preliminary Management	Estimated (years)	Category Grading	Root Protection	
				S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	N	E	S	W	(1)	(2)						(m ²)	(radius in m)
T1	False acacia	S	12	470										3	4	4	5	3.5-e	3	EM	One of two trees forming cohesive group, bifurcates at 2m above ground level, crown shape distorted by group pressure, provides some screening	None required at time of survey	20+	C2	99.9	5.6
T2	False acacia	S	11	400										6	6	3	4	1.5-N	3	EM	As above, a small self set stem grows within crown and rpa of both trees	None required at time of survey	20+	C2	72.4	4.8
T3	English oak	S	10	1000										4	4	4	6	3.0-E	2.5	M	Off-site tree, suppressed and stunted by T4, cavities and deadwood, crown shape distorted by group pressure, large wound at base, epicormic, burs on trunk	None required at time of survey	40+	B1	452.4	12.0
T4	English oak	S	13	1310										7	8	10	9	2.5-W	1.5	OM	Large tree on third party land, low hanging branches over site, brick wall within RPA	None required at time of survey	40+	A1	707.0	15.0
T5	English oak	S	5	150										2	1	2	3	1.5-E	1.5	Y	Developing tree growing in green.holuse, no access due to broken glass so dimensions estimated	None required at time of survey	40+	C1	10.2	1.8
T6	Willow	S	4	200										2	2	2	2	1.5-N	1.5	SM	Pollarded tree of little value growing through collapsed shed	None required at time of survey	10+	C1	.	2.4
H7	Elder sycamore Other	M(a)	4	100	100									N/A	N/A	N/A	N/A	0-N	0	M	Boundary hedge of brambles and sporadic trees	None required at time of survey	40+	C2	9.0	1.7

Appendix 3: Tree Work Schedule

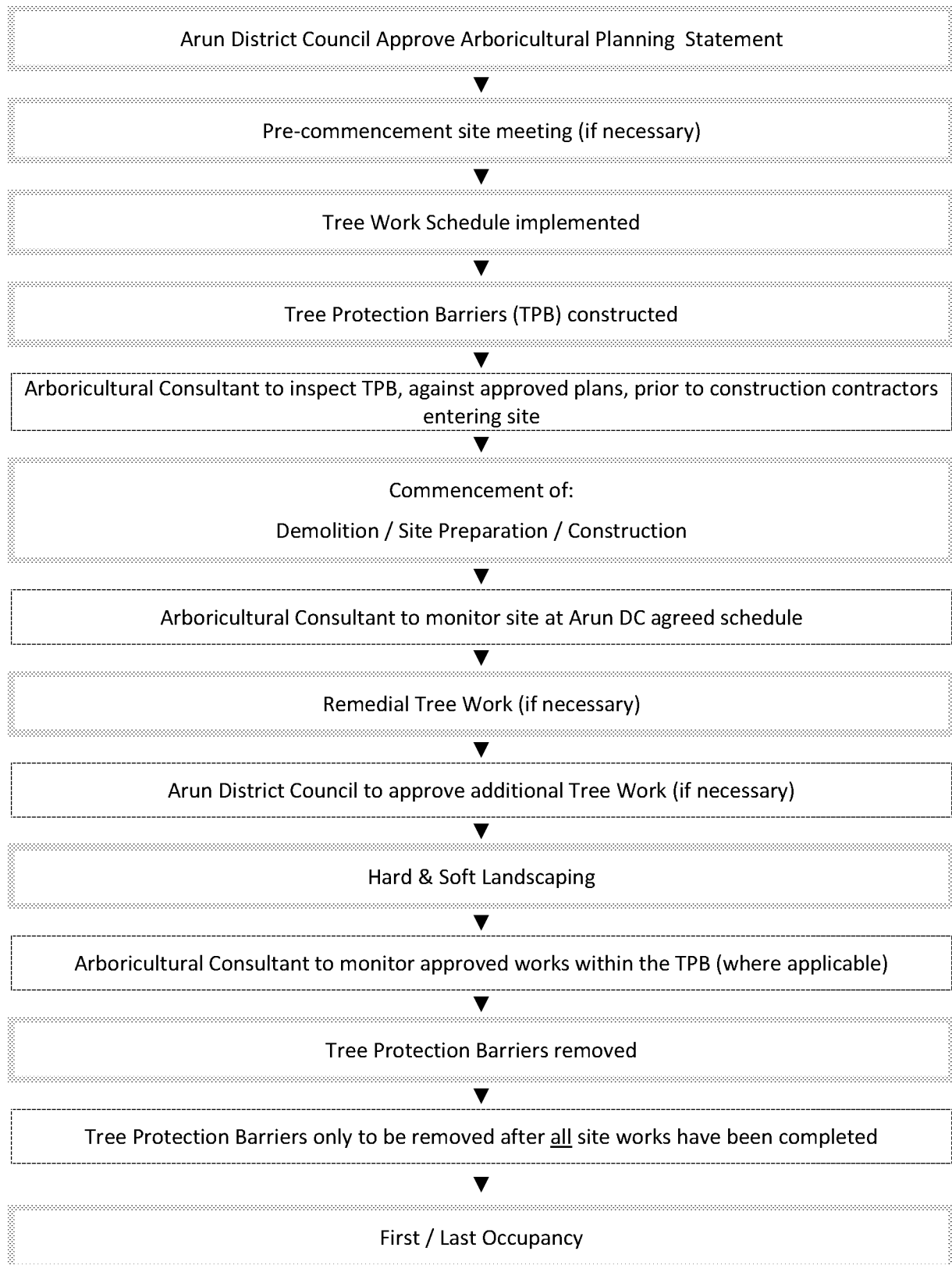
Tree No.	Species	Recommended Management Work
T4	English Oak	Crown lift branches over hanging site to give 3-4m clearance above ground level.
H7	Mixed	Remove Elder and restock gaps using mixed native hedge species

Accompanying Notes:

- All tree work and felling to be carried out in accordance with BS 3998 (2010) 'Recommendations for Tree Work', current industry guidelines and best practice, and all relevant Health & Safety standards;
- All operatives to be appropriately qualified, skilled, and adequately insured, for the task they are undertaking;
- All tree work and felling must comply with The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000;
- Where sections of hedges and groups are to be removed reference is to be made to the Tree Protection Plans contained in **Appendix 2** for the exact locations.

Modification to, or deviation from, the above schedule must first gain approval from Arun District Council.

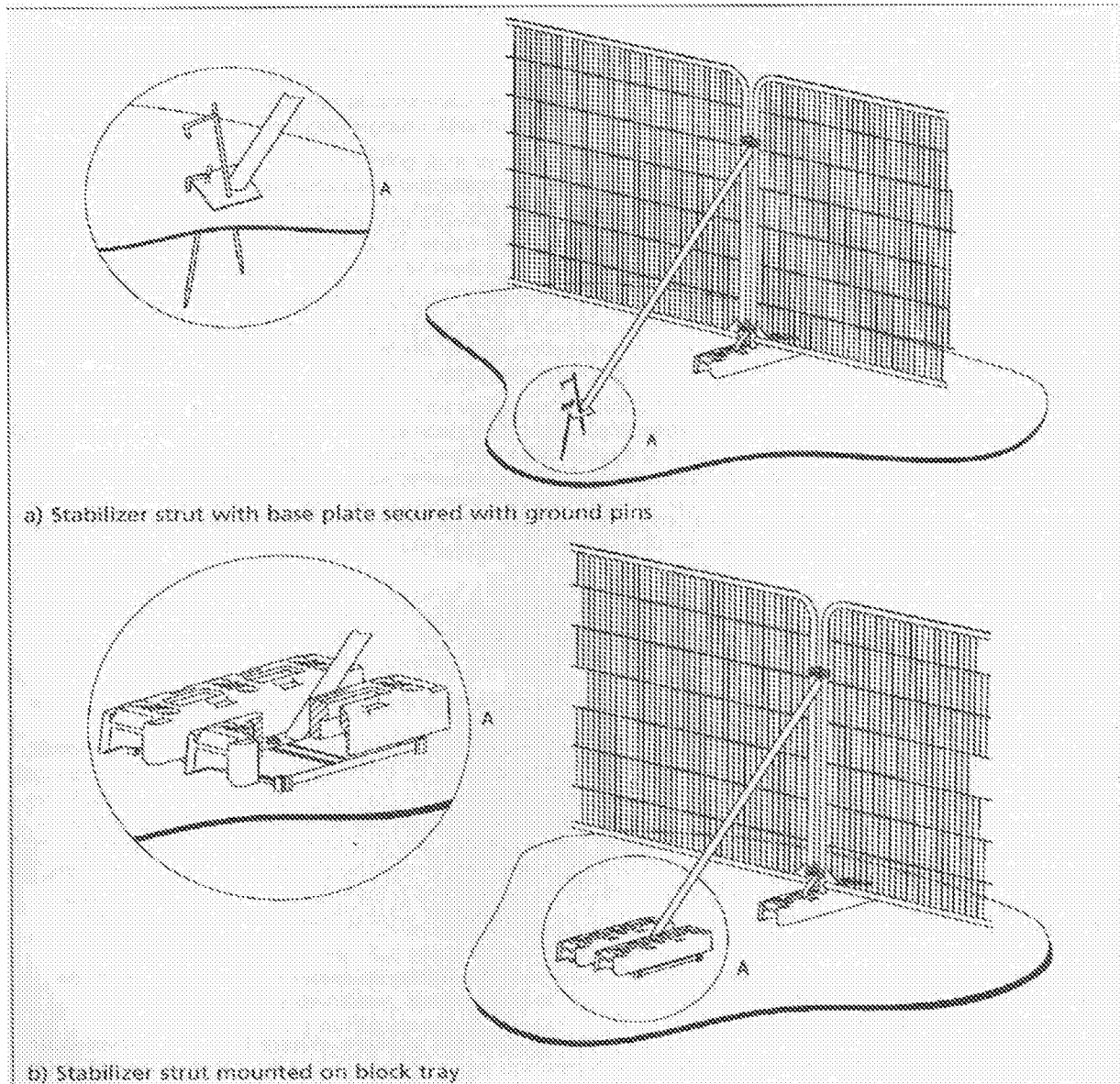
Appendix 4: Key Sequence of Events after Planning Approval



Appendix 5: Contact Details

	Name	Main Contact and Details
Site Details	90 Rose Green Road	Ian and Tina Skinner 3 School Lane Stedham Midhurst West Sussex GU29 0NT
Developer	TBC	TBC
Site Manager	TBC	TBC
Arboricultural Consultant	RSK RSK ADAS LTD	Richard Harris 01903 206853 11D Milton Park Milton Abingdon Oxford OX14 4RS
Local Authority: (Planning Application Number) (Arboriculture and Landscape Officer) (Case Officer) (Enforcement Officer)	Arun District Council	Arun Civic Centre Maltravers Road Littlehampton West Sussex BN17 5LF

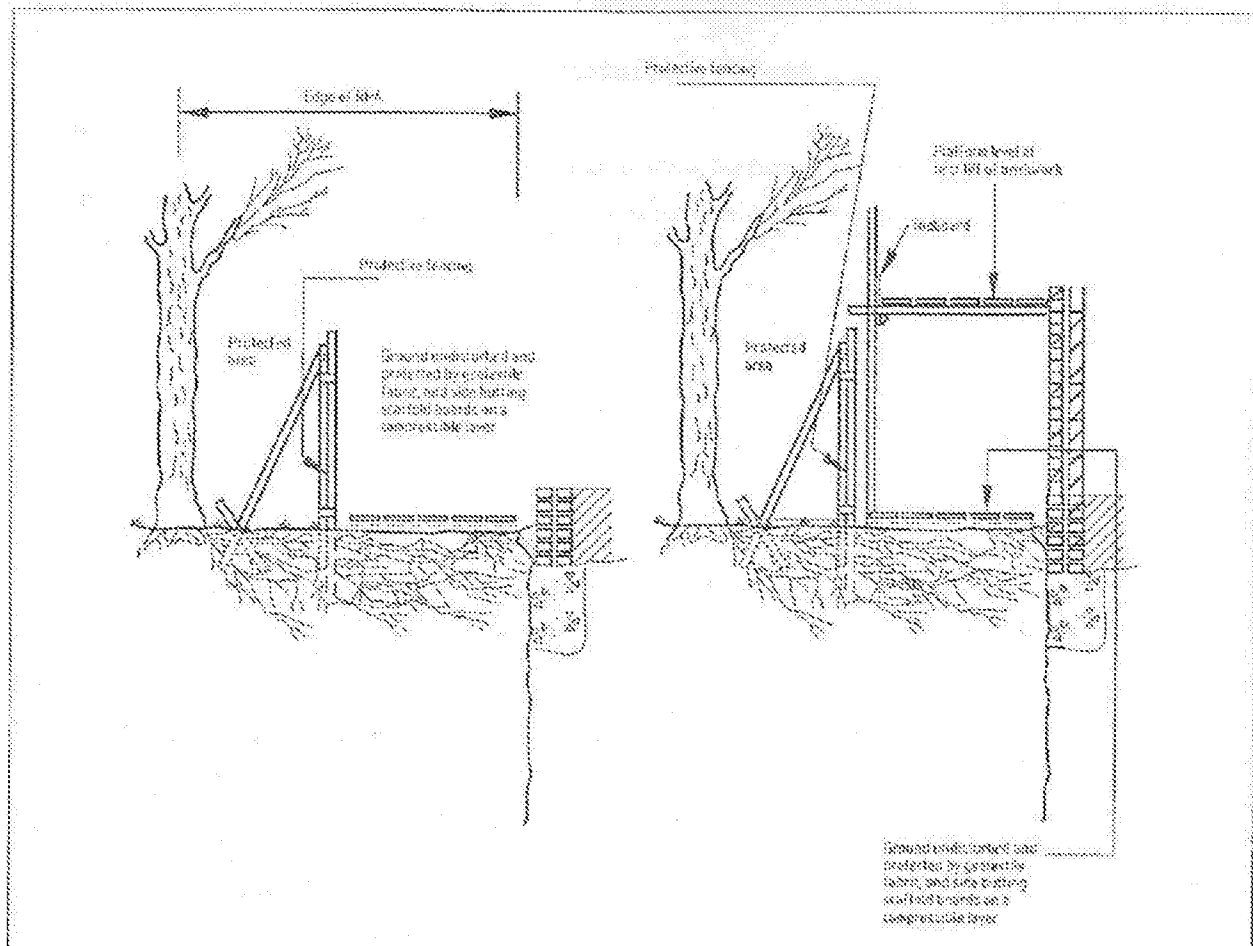
Appendix 6: Example Tree Protection Barrier



Appendix 7: Example Tree Protection Barrier Sign



Appendix 8: Example Pedestrian Ground Protection



Appendix 9: Cascade Chart for Tree Quality Assessment

See following page

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 4.5.7.</i>			See Table 2
	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)	See Table 2
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	See Table 2
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	See Table 2

Appendix 10: RPA Guidance

The Root Protection Area (RPA) is calculated from the stem diameter of the tree, in accordance with the guidance contained in section 4.6 of BS 5837:2012.

These areas are normally sacrosanct, and should not be entered, by traffic or foot, during construction, or used to store materials, fuel or chemicals.

Protective fencing should be erected along the edge of the RPA, before construction begins, and should not be moved until after all construction has finished and vacated the site. The type of fencing used should be fit for purpose, and ordinarily conform to the recommendations given in section 6.2.2 of BS 5837:2012 and be erected similar to the example shown in Figure 2 of the same standard.

Where underground services cannot be routed outside the RPA, these should be installed by trenchless technology, such as a directional drill. Where this technology is used the underground channel created should be no less than 600mm below normal ground level, or the base of the tree. Also, the starting and receiving excavations should not be within the RPA. Drill channel lubricant should be avoided, other than water, unless precautions are taken to prevent contamination of soil and possibly water. Hand digging may be an alternative to trenchless excavation, but this is less desirable, and not always practical.

When determining the workable space around the RPA of a tree or trees, it is also important to maintain a working zone of one metre (which is usually sufficient) between the edge of construction and the protective fencing.