

**PATRICK STILEMAN LTD**

ARBORICULTURAL CONSULTANCY



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04 JUN 2008

**Arboricultural Implication Assessment and  
Arboricultural Method Statement for a proposed  
development at 61 – 65 Nightingale Road,  
Rickmansworth, Herts**

**Client**

Henry Homes plc

**Prepared by**

Patrick Stileman BSc(hons), MICFor, Dip. Arb (RFS), M.Arbor.A

**Date**

28<sup>th</sup> May 2008

**Job reference**

DS25040701

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## 1. INTRODUCTION

- 1.1 **Brief:** We are instructed by Henry Homes plc to carry out an appraisal of the likely impact and implications to trees by development proposals at 61-65 Nightingale Road, Rickmansworth, Herts. We are to provide recommendations for tree retention and removal. We are to provide an assessment of the effect of the development on the trees to be retained, and of the impact of the trees on the new development.
- 1.2 **Tree survey:** In January 2007 we were instructed to undertake a preliminary assessment of trees on the site, in order to advise on the principal constraints that the existing trees pose to development. Following this, our associate Andrew Colebrook Dip.Arb (RFS) surveyed the trees on 11<sup>th</sup> May 2007 in accordance with guidelines set out in British Standard 5837: 2005 'Trees in relation to construction – Recommendations' (hereafter BS5837) towards a planning application which was submitted in July 2007. On 19<sup>th</sup> May 2008, the site was re-visited by Patrick Stileman BSc(Hons), MICFor, Dip.Arb(RFS), M.Arbor.A. The condition and dimensions of key trees was checked and the schedule updated as appropriate. The Tree Survey Schedule, Tree Survey Plan and preliminary Arboricultural Constraints Plan are included within a separate document called the Tree Survey Report.
- 1.3 **Legal status of trees:** The site is located within a Conservation Area which impacts on trees with a stem diameter in excess of 75mm. In addition to this, there is a Tree Preservation Order (TPO) in place (Nightingale Road No. 3 1987). Included within this TPO are: the pine trees within the group along the northern boundary; T36 Atlas cedar; T44 copper beech; T62 Deodar cedar; T93 – 96 sycamore x 3, Scots pine x 1.

## 2. BRIEF SITE DESCRIPTION

- 2.1 The site is located close to Rickmansworth town centre along a residential road containing typically large, detached houses with substantial rear gardens. Numbers 61 – 65 are typical of the residences along this road comprising detached houses, and rear gardens with a length of approximately 60 metres. The land occupied by the three properties combined is relatively flat, and roughly square in shape with an overall length of approximately 80 metres, and width of approximately 75 metres. There is a cemetery adjacent to the north-eastern boundary of Numbers 61 and 63 and residential garden adjacent to the same boundary of Number 65. There are residential gardens adjacent to the south-eastern, and north-western boundaries of the site, and Nightingale Road along the south-western boundary.

### 3 PROPOSED DEVELOPMENT

- 3.1 It is proposed that the existing house number 63 is demolished. A new access road is proposed off Nightingale Road which shall pass over the south-eastern end of the footprint of the demolished house and extend to the rear of the site. It is proposed that three detached properties (Plots 1-3) shall be constructed at the rear, and one detached property (Plot 4) to the front of the site adjacent to the proposed access road. Plots 1-3 shall have driveways leading to integral garages, and Plot 4 a detached garage at the end of the rear garden, with two additional parking spaces also at the end of the rear garden.

### 4. THE TREES

- 4.1 **Condition:** In total 96 individual trees, and 4 groups have been included in the survey. The condition of these trees has been classified in line with BS 5837. The grading system is as follows:

R = Trees in such a condition that they are unlikely to have any useful life expectancy beyond 10 years, and which in their current context should be removed for reasons of sound arboricultural management.

A = Trees of the highest quality and value, and in such a condition that they are likely to make a useful contribution for 40 years or more.

B = Trees of moderate to high quality and value, and in such a condition that they are likely to make a useful contribution for 20 years or more.

C = Trees of low quality and value or of no particular merit and in such a condition that they are likely to make a useful contribution for 10 years or more.

- 4.2 Category A and Category B trees are divided further into sub-categories. Sub-category 1 is allocated where it is assessed that the tree has significant arboricultural value. Sub-category 2 is allocated where it is assessed that the tree has significant landscaping or screening value. Sub-category 3 is allocated where it is assessed that the tree has significant cultural or conservation value.
- 4.3 Trees may be allocated more than one sub-category. All sub-categories carry equal weight, with for example an A3 tree being of the same importance and priority as an A1 tree.
- 4.4 We do not allocate sub-categories to Category C trees, because by definition none of the sub-categories are applicable to them.

- 4.5 The number of trees or groups of trees falling under each classification is as follows:

Classification (BS5837)	Number
R	6
A	1
B	27
C	66

## 5. PRINCIPAL ARBORICULTURAL IMPLICATIONS

In this section, I discuss the significance of the trees, the constraints that they are likely to pose to the proposed development, and work requirements to trees for reasons of sound arboricultural management, and in order to facilitate the development.

- 5.1 Table 1 of BS5837 states that '*...C category trees will usually not be retained where they would pose a significant constraint on development.*' Category C trees are either of low significance, poor condition or with a short retention span, and as a consequence should not have a significant influence on layout design. At this site there are 66 individuals or groups which we have graded C, and of these, removal of 23 is required in order to facilitate the development. I have assessed that a total of 43 Category C individuals or groups can be retained without posing an undue constraint to layout while allowing sufficient space to protect the trees. Refer to the Arboricultural Implication Plan on page 13 of this report which shows trees to be removed to facilitate the development (blue canopy), and trees to be retained (green canopy).
- 5.2 We have graded a total of 6 trees R which we have based on their being dead, or in a very poor condition or position. On the Arboricultural Implication Plan, I have shown these trees with a red crown outline indicating that their removal is required for reasons of sound arboricultural management. I have also included the removal of three Category C trees (93-95) for reasons of sound arboricultural management (see Section 5.24).

The implications of the scheme to individuals and groups are as follows:

### 5.3 T1-T7, T41-T56: Various species

- 5.3.1 These trees are located within the garden area to be kept by Number 61 Nightingale Road. With the exception of T51 (Eucalyptus), they will be retained and be unaffected by the development.

- 5.3.2 The most notable of these trees is T44 copper beech. This is a high quality tree which is included within the TPO. This tree is located approximately 10 metres from the new site boundary, and 20 metres from the proposed new houses to the east. I do not consider that it will have an impact on the proposals.
- 5.3.3 T51 is a C grade Eucalyptus tree currently located 1 metre from the existing house. It is a leaning tree with a slender stem and given its condition and position relative to the house, has a short realistic retention span. The proposed footprint of the house on Plot 4 is located within the trees Root Protection Area (RPA). The tree will accordingly be removed in order to facilitate the development.
- 5.4 **T8-T14: Various species**
- 5.4.1 These are small category C trees of relatively low significance. They shall be removed in order to facilitate the development.
- 5.5 **T15 – T31, T63 – T75, T87, G3: Various species, predominantly Corsican pine**
- 5.5.1 These comprise the tree belt along the north-eastern boundary of the site. The pine trees are mature, and of variable quality ranging from dead to moderate. Collectively the trees comprise an important group; the pine trees within it are covered by a TPO. With the exception of the two R grade trees (T27 and T28); they will be retained with the proposed development.
- 5.5.2 The trees are located approximately 14 metres from the north-east elevations of the proposed houses. The building line is substantially outside the RPA's of these trees (See Arboricultural Implication Plan). I do not therefore consider that the proposals will have an adverse impact on the condition of the trees.
- 5.5.3 The aspect of the trees to the proposed buildings (north-east) will result in very little if any shade implications to the proposed dwellings. Typically, the pine trees have high crown bases, and accordingly I consider that the affect of daylight loss will be minimal.
- 5.5.4 The average distance of the proposed rear elevations of the houses to the edge of the canopy spread for these trees is approximately 7 metres. I consider that this gives sufficient useable garden space which is not beneath the canopy of trees. The principal trees in the group are mature, have minimal potential to further increase in size, and accordingly the trees can be regarded as fully grown.
- 5.5.5 Tree 22 (Corsican pine) is a sub-dominant tree, suppressed by the larger T21 to its east: as a consequence it has heavily distorted crown asymmetry to the west with a crown spread in this direction of around 9 metres. The tree has good internal growth points, and it is intended that its crown spread is reduced to the west by approximately 2 metres which will reduce the lever-arm effect (thereby improving its balance) and reduce its spread over the site.

5.5.6 The crown spread of T73 (Corsican pine) has strong asymmetry to the west towards proposed Plot 2. This heavy bias has resulted in the crown spread extending to approximately 3 metres from the rear elevation of the proposed house. There are two low limbs on this tree which are significantly longer than the mean crown spread, and I consider that their removal is an acceptable arboricultural treatment in this situation. This would shorten the crown spread of this tree to the west by approximately 3.5 metres.

5.6 **T32-35: Cherry, sycamore, lime**

5.6.1 These are young and middle-aged C grade trees in a poor condition, and of relatively low significance. They are in the way of the proposed house on Plot 2, and will be removed in order to facilitate development.

5.7 **T36: Atlas cedar**

5.7.1 This is a very large prominent tree covered by a TPO located in the rear garden of 61 Nightingale Road. The condition of this tree is poor: throughout its crown, it has suffered from past storm damage with large wounds from limb failures. It has poor form with long extended limbs which appear vulnerable to future failure. At the base of the tree on the south side, there is an old wound which appears to be the seat of internal decay.

5.7.2 During my preliminary site visit in January 2007, I observed a fruiting body of fungus *Sparassis crispa* emerging from the ground close to the trees base on its east side. This fungus is a well documented brown rot decay pathogen on the roots and butts of conifers, often leading to whole tree failure. During my site visit in January, I was unable to photograph the fungus: I subsequently returned in April 2007 and took photographs of the fruiting body which was partially degraded by this time of year. I have included these photographs as Appendix 2. I had a pre-application site visit with Tree Officer James Percy-Lancaster on 28<sup>th</sup> June 2007 and by this time; the fruiting body (being a fleshy annual) was no longer evident.

5.7.3 I do not consider that the short retention span of this tree given the features described above justifies its retention with development proposals. I have graded the tree C as it could possibly be retained (with significant crown management) for up to 10 years. The primary root decay fungus associated with this tree could quite easily result in the realistic retention span being less than 10 years.

5.7.4 As a consequence of the above, there is strong justification for the removal of this tree. I have shown the tree to be removed in order to facilitate the development. Replacement tree planting is proposed at this site in order to mitigate the loss of removed trees (see tree planting plan).

**5.8 T37 – 40: Silver birch, Monterey and Lawson cypress**

5.8.1 These are middle-aged and young C grade trees of relatively low significance which will be removed in order to facilitate the development.

**5.9 T57-58: Norway maple, cherry**

5.9.1 These are B and C grade trees respectively along the road frontage of Number 63. The Norway maple (Grade B) shall be retained. The young C grade cherry shall be removed in order to facilitate development.

**5.10 T59: Norway maple**

5.10.1 This is a young, R grade tree in a poor condition located along the road frontage of Number 63. It shall be removed, and a high quality replacement tree planted in its place.

**5.11 T60: Red horse chestnut.**

5.11.1 This tree is located along the road frontage adjacent to the existing entrance for Number 63. The quality of the tree is poor, and is accordingly graded C: It has had past major limb removal and the wounds created by this appear to be the cause of decay. There is cracking and cankers within the bark.

5.11.2 It is proposed that the tree is removed in order to enable a new access driveway to the site. Space will be created for the re-planting of a large new tree of high quality close to the position of T60 in order to provide continued visual amenity from the road frontage.

**5.12 T61: Cherry**

5.12.1 This is a moderate quality tree 9 metres in height, twin-stemmed from 1.4 metres and with crown bias to the west. It has no apparent significant defects, is of relatively low significance and just passes the B category threshold.

5.12.2 The proposed house on Plot 4 is positioned some 5 metres from the tree. I consider that although the tree could be retained, its position relative to the proposed house given its form will not be ideal, and that as a consequence it has been shown for removal. A re-planting scheme is proposed for the site which will mitigate its loss.

### 5.13 T62: Deodar cedar

5.13.1 This is a high quality A grade tree covered by a TPO. The tree will be retained and protected with the development process.

5.13.2 The access road and pedestrian footpath into the site passes to the south of this tree, outside the line of its RPA. To the east of the tree, at a distance of 5.5 metres from its stem, the rear garden for Plot 4 ends with a close boarded fence. Beyond this there are two proposed parking bays located partially within the RPA which shall be constructed on no-dig, 3 dimensional cellular confinement, with a permeable wearing course (see arboricultural method statement). At the top of the small bank a light weight garage structure located within the RPA will be constructed: this will be built on a slab raised above ground level supported by mini piles (see arboricultural method statement). I do not consider that the tree will be damaged by the incursions into the RPA given: the small percentage of overall RPA involved (25 m sq out of a total RPA of 352, or 8.8%); and the 'tree-friendly' no dig solutions that will be employed within this area.

5.13.3 The house on Plot 4 is to be constructed in a similar position to the existing building to be demolished. The tree is located approximately 12 metres to the north-east of the rear elevation of the proposed house, and its footprint is located outside the RPA of the tree. The impact of the tree to the living conditions within the proposed house is minimised by its aspect to the north-east (ie it will not cast shadow to the house), and is unlikely to be different to the conditions within the existing building. The tree has a high crown base (approximately 6 metres on its south side facing the building), and this allows direct sunlight to the garden beneath the trees canopy. This tree is mature, has a small potential to further increase in size, and accordingly I consider that it can be regarded as close to fully grown.

### 5.14 T76: London plane

5.14.1 This tree is owned by the Local Authority, and is positioned within the pavement adjacent to Nightingale Road. The entrance to the new access road encroaches slightly into the RPA of this tree (by 8.3 square metres out of a total RPA requirement of 226 square metres) where it crosses the pavement. I do not however consider that this will be detrimental to the health of the tree for the following reasons:

- The pavement is constructed on compacted sub base. It is unlikely that construction for the new access will extend significantly, if at all below the compacted sub base into virgin soil.
- There are numerous linear strips in the existing pavement indicating the position of the services which have been trenched. It is likely therefore that there will be no roots from past severance in this area.

**5.15 T77: Red oak**

5.15.1 This tree is owned by the Local Authority, and is positioned within the pavement adjacent to 67 Nightingale Road. It will be unaffected by the development proposals.

**5.16 T78-79: Norway maple**

5.16.1 These are Norway maple trees located in the front garden of 65 Nightingale Road. They are in a poor condition, having re-grown from past topping operations, and are consequently graded C. They will be unaffected by the proposals.

**5.17 T80-82, G2: Lawson cypress, Norway maple, weeping willow**

5.17.1 These trees are either in a poor condition, or are of relatively low significance located within the grounds of 65 Nightingale Road. The trees will be retained, and are unlikely to be affected by the proposals.

**5.18 T83: Weeping willow**

5.18.1 This C grade tree is of low significance. It is in the way of the proposed garage on Plot 3, and accordingly will be removed in order to facilitate development. New planting is proposed along the boundary (see tree planting plan on page 14).

**5.19 T84-85: Silver birch, ash**

5.19.1 These relatively young trees are of moderate quality and value graded B1. They are located in the way of the proposals, and accordingly will be removed in order to facilitate development.

5.19.2 The trees have potential to develop into good quality trees with time, however I consider that currently they are replaceable with new trees with an equally high future potential. I consider that the constraints posed by retaining these trees are disproportionate to their current value, and that replacement can therefore be justified. It is proposed that high quality new tree planting will be provided with the scheme.

**5.20 T86, 90, G1: Various species**

5.20.1 These are C grade trees of relatively low significance that will require removal in order to facilitate the development.

5.21 **T88: Corsican pine**

- 5.21.1 This tree is in a poor condition: the stem leans heavily to the south east overhanging the neighbouring property, and has a major wound caused by the loss of a limb at 1 metre. The tree is grade R, and will be removed in order to facilitate the development.

5.22 **T89: Sycamore**

- 5.22.1 This is a small, young tree is in a poor condition with considerable squirrel damage throughout. The tree is grade R, and will be removed for reasons of sound arboricultural management. This tree is located close to the rear boundary, however its removal will have minimal impact given the presence of the lime screen (G3) located in the neighbouring property.

5.23 **T91: Holly**

- 5.23.1 This is a B grade tree close to the eastern boundary of the site, located approximately 15 metres from the corner of the proposed house on Plot 3. The tree shall be retained with the development proposals.

5.24 **T93-95: Sycamore x 2, Scots pine**

- 5.24.1 These trees are included within the TPO, and are in a poor condition. T93 is twinned stemmed from 1.8 metres, and has a tight compression fork developing with included bark as indicated by the swelling beneath the fork. This is a significant structural defect which limits the retention span of the tree. While the tree may possibly have a retention span of a further 10 years, I recommend that it is removed now, and replaced with a tree of greater longevity in order to provide a more sustainable approach to tree management.

- 5.24.2 In the absence of T93, the position of Trees 94 and 95 are untenable. They have heavily distorted crowns as a result of competition, and require Tree 93 for shelter. These shall also be removed for reasons of sound arboricultural management, and replanted with new trees.

- 5.24.3 These trees are a significant distance from the proposed development, and their removal is **not** required for development facilitation. If the loss of these trees is unacceptable to the Local Authority, they can be retained in the short term, though we consider that this would be poor management. New tree planting is proposed along this boundary.

5.25 **T96: Sycamore**

5.25.1 This is a moderate quality tree graded B1 which is included within the TPO. It shall be retained with the development process. The tree has re-grown from past pollarding works, and consequently is multi-stemmed from approximately 4 metres.

5.25.2 The proposed house on Plot 3 is located 10.5 metres from this tree. The wall facing the tree is a single storey flank wall containing a utility room with dual aspect windows, a kitchen with triple aspect windows, and a family room with dual aspect windows of which the principal ones face to the rear away from the tree. In addition, the proposed building is 3 metres clear of the crown spread. I do not therefore consider that it is foreseeable that the future occupiers will resent this tree and apply to the LPA to have it pruned.

**6. SUMMARY OF TREE WORK REQUIRED.** (RTFD = Remove in order to facilitate the development. RSAM = Remove for reasons of sound arboricultural management)

Tree No	Species	Grade	Work required	Reason
8	Apple	C	Remove	RTFD
9	Plum	C	Remove	RTFD
10	Apple	C	Remove	RTFD
11	Apple	C	Remove	RTFD
12	Dogwood	C	Remove	RTFD
13	Norway spruce	C	Remove	RTFD
14	Rowan	C	Remove	RTFD
22	Corsican pine	B1, B2	Reduce crown spread on west side by approximately 2 metres	Reduce excessive crown imbalance
27	Corsican pine	R	Remove	RSAM
28	Corsican pine	R	Remove	RSAM
32	Cherry	C	Remove	RTFD
33	Sycamore	C	Remove	RTFD
34	Sycamore	C	Remove	RTFD
35	Common lime	C	Remove	RTFD
36	Atlas cedar	C	Remove	RTFD
37	Silver birch	C	Remove	RTFD
38	Monterey cypress	C	Remove	RTFD
39	Lawson cypress	C	Remove	RTFD
40	Monterey cypress	C	Remove	RTFD
51	Eucalyptus	C	Remove	RTFD
58	Cherry	C	Remove	RTFD
59	Monterey cypress	R	Remove	RSAM
60	Red horse chestnut	C	Remove	RTFD
61	Cherry	B1	Remove	RTFD
73	Corsican pine	B1	Remove lowest two limbs	Reduce excessive crown imbalance
83	Weeping willow	C	Remove	RTFD
84	Silver birch	B1	Remove	RTFD
85	Ash	B1	Remove	RTFD
86	Apple	C	Remove	RTFD

G1	Leyland cypress	C	Remove	RTFD
88	Corsican pine	R	Remove	RSAM
89	Sycamore	R	Remove	RSAM
90	Apple	C	Remove	RTFD
93	Sycamore	C	Remove	RSAM
94	Sycamore	C	Remove	RSAM
95	Scots pine	C	Remove	RSAM

6.1 Section 5 and the table above demonstrate that the majority of trees proposed for removal are either small trees of low significance, or trees with structural defects. Trees for removal for reasons of sound arboricultural management (RSAM) should not be counted when assessing tree loss in relation to development. C grade trees are of sufficiently poor quality or low significance that they should not constrain development (ref BS5837 Table 1). The three B grade trees for removal (trees 61, 84 and 85) are relatively small young to middle-aged trees located within the rear gardens and are easily replaceable with new planting.

6.2 All work specified must be carried out in accordance with BS3998 (1989).

### 6.3 **Wildlife**

6.3.1 Nesting birds and bats have legal protection afforded to them by Wildlife and Countryside Act 1981 (W&CS), and the Countryside and Rights of Way Act 2000 (CROW). The Habitats Regulations (2007) have provided increased legal protection to European Protected Species (EPS) which includes all bat species.

6.3.2 It is an offence to disturb a protected species, and this includes the destruction of an active nest or bat roost.

6.3.3 An ecologist or the contractor (if trained as a bat surveyor) shall undertake a thorough inspection of the site prior to the start of works to ensure so far as reasonably possible that protected species will not be affected by the proposed works.

6.3.4 If protected species are found during the pre-work inspection, work shall not proceed without further advice being sought, and if required authorisation obtained from the relevant statutory body.

## 7 **STORAGE OF MATERIALS**

7.1 There will be sufficient space for the storage of materials, and positioning of a site hut without putting pressure on retained trees. There is space for this to the front of the proposed houses on Plots 1-3

## 8 SERVICES

8.1 New services will be provided up the access road to each of the proposed properties, without encroaching into the RPA of retained trees. It is therefore not foreseeable at this stage that trenching operations will adversely affect trees.

8.2 If it transpires during the development process that trenching is required within the RPA of retained trees, this shall be carried out in accordance with guidelines set out in National Joint Utilities Group (NJUG) Volume 4 (2007). This can be downloaded at no charge from the following website:  
<http://www.njug.org.uk/publication/51>. All trenching work carried out within the RPA of retained trees shall be supervised by the project arboriculturalist.

## 9 PROTECTION OF THE RETAINED TREES

9.1 With sufficient care, I believe that the retained trees can be adequately protected during the development process. Tree protection is to be strictly in accordance with an Arboricultural Method Statement which is appended to this report.

## 10 RE-PLANTING

10.1 The re-planting of new trees is proposed for the site in order to: mitigate the loss of those to be removed; and to provide trees suited to, and to compliment the development proposals. Refer to the tree planting plan, drawing number DS250407.08.

## 11 REFERENCES

The following documents have been referred to in this report:

BSI BS5837:2005 Trees in relation to construction - Recommendations

BSI BS3998:1989 Recommendations for tree work

NJUG (1995). Publication no. 10 *Guidelines for the planning, installation and maintenance of utility services in proximity to trees*. National Joint Utilities Group, London



**PATRICK STILEMAN** Bsc(hons), MICFor, Dip.Arb(RFS), M.Arbor.A  
Chartered Forester  
Director Patrick Stileman Ltd

**ARBORICULTURAL IMPLICATION PLAN**

**SITE ADDRESS**  
61-65 Nightingale Road,  
Rickmansworth

**CLIENT**  
Henry Homes plc

**REF**  
DS25040701

**DRAWING NO**  
DS250407.07

**DATE**  
28/05/2008

Patrick Silleman Ltd  
9 Chestnut Drive, Berkhamstead, Herts, HP4  
2JL 01442 866112

**TREE RETENTION PRIORITIES**



Tree to be retained



Tree to be removed in order to facilitate development



Tree to be removed for reasons of sound arboricultural management

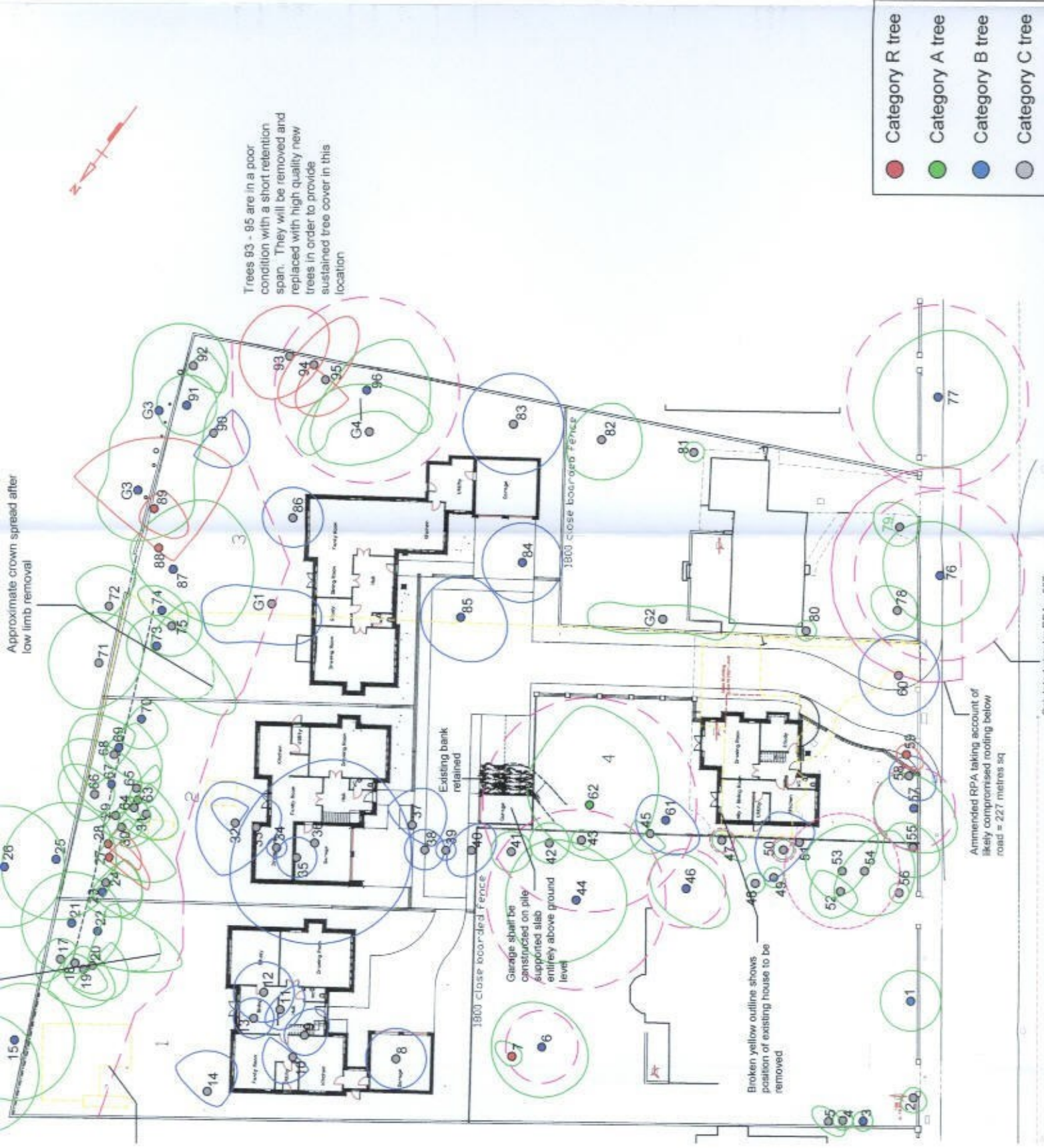


Root Protection Area (RPA) for tree to be retained

**SCALE**  
1:500 @ A3

**NOTE:** The following trees were excluded from the topographic survey, and their positions shown are indicative only: 1, 3, 4, 5, 16, 26, 34, 35, 46, 48, 50, 52, 56, 64, 68

This drawing based on the topographic survey prepared by KND Surveys Ltd dated 23 May 2007



**TREE PLANTING PLAN**

**SITE ADDRESS**  
61-65 Nightingale Road,  
Rickmansworth

**CLIENT**  
Henry Homes plc

**REF**  
DS25040701


**DRAWING NO**  
DS250407.08

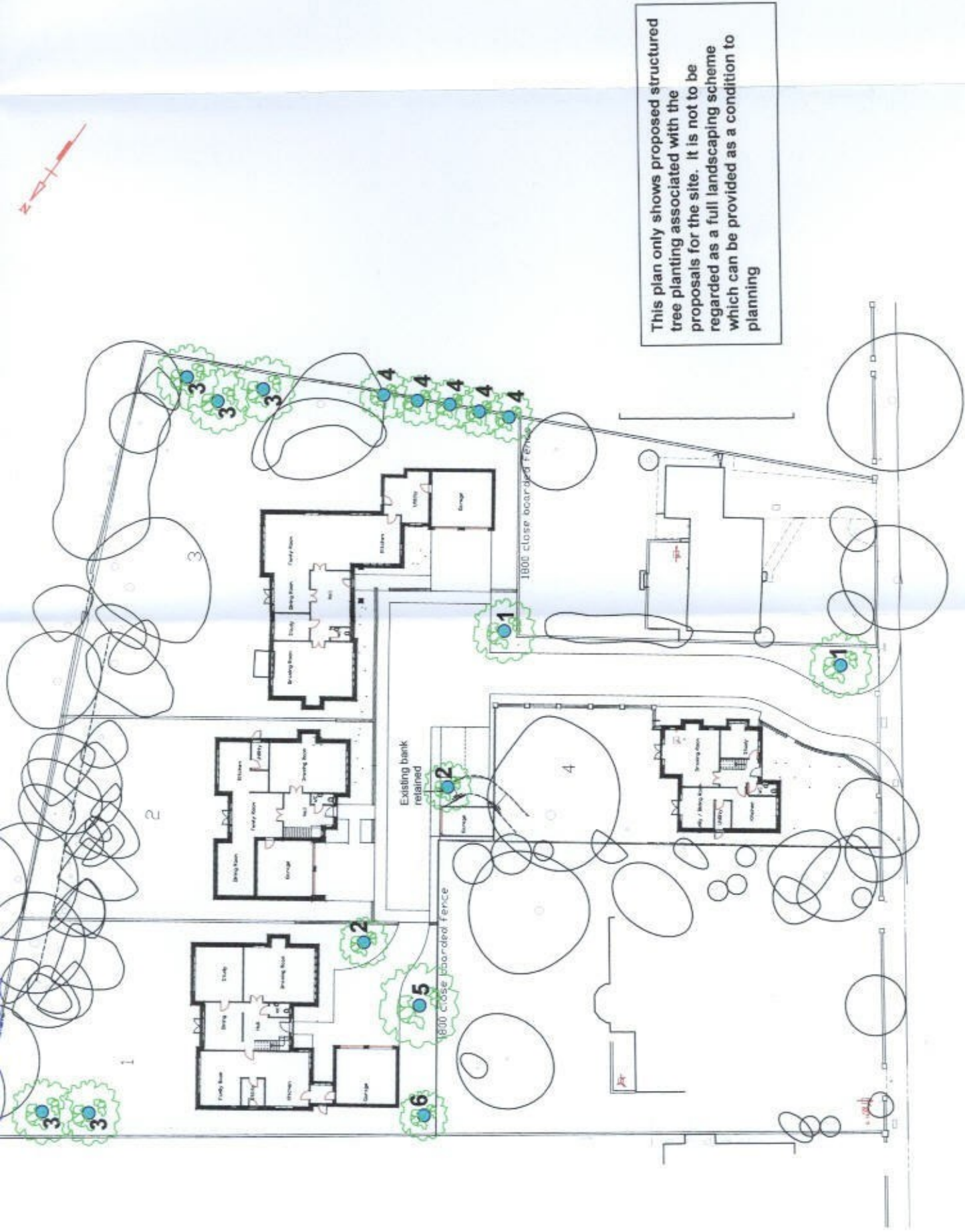
**DATE**  
28/05/2008

Patrick Silleman Ltd  
9 Chestnut Drive, Berkhamsted, H  
2.JL 01442 866112

Tree to be retained

**Tree planting schedule**

-  Solid pale blue disc canopy outline indicates of new tree or shrub planted.
- 01** Dawn redwood (*Metasequoia glyptostroboides*) 30 cm stem girth. Containerised
- 02** Swedish birch (*Betula pendula*) 20-25 cm stem girth. Containerised stock
- 03** Field maple (*Acer campestre*) 20-25 cm stem girth. Containerised stock
- 04** Hornbeam (*Carpinus betulus*) 12-14 cm stem girth. Containerised stock maintained as a main stem
- 05** Decodar cedar (*Cedrus deodora*) 30-35 cm stem girth



This plan only shows proposed structured tree planting associated with the proposals for the site. It is not to be regarded as a full landscaping scheme which can be provided as a condition to planning

**Planting and maintenance schedule**

# **APPENDIX 1:**

## **TREE SURVEY DATA** (Taken from tree survey report)

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
	Monkey puzzle	MA	10	2m S	S	3	3	3	3	417	FAIR. Some resin bleeding to stem east. Some minor decline evident to lower canopy typical for species	No action required at time of survey.	20-40	B1
	Holly	MA	6	2m S	S	1.5	1	1.5	1	249	POOR. Sparse canopy. Stem divides into three at 1.8 metres with tight unions.	No action required at time of survey.	10-20	C
	Incense cedar	Y	7	1m S	S	1	1	1	1	198	FAIR. Slender tree with good conical form. No apparent significant defects.	No action required at time of survey.	20-40	B1
	Lawson cypress	Y	6	1m S	S	1	1	1	1	115	POOR. Very slender tree. Sparse foliage. Tree of relatively low significance.	No action required at time of survey.	10-20	C
	Loquat	MA	4	0	M	1	1	2	2	271 GL	FAIR. Multi-stemmed from ground level. Established shrub. No apparent significant defects.	No action required at time of survey.	20-40	C
	Cherry	MA	12	2m N	S	5	4	5	5	297	FAIR. Slight basal sweep to north. Some surface roots on lawn to north. No apparent significant defects.	No action required at time of survey.	20-40	B1
	Apple	MA	4	2m E	M	1	1	1	2	274 GL	POOR. Stem divides at 1.2 metres. West stem is dead. Significant bark necrosis on stem. Previously topped.	No action required at time of survey.	5-10	R
	Apple	M	7	2m S	S	3	3	3	3	354	FAIR. Some decay in old pruning wounds. Minor ivy on lower stem. Canopy is regularly managed.	No action required at time of survey.	10-20	C
	Plum	MA	6	1.2m W	M	2	3	2	2	271 GL	POOR. Multi-stemmed from 200mm. Tight compression fork near base with included bark. Longitudinal crack in bark north stem at 1.5-1.95 metres.	No action required at time of survey.	10-20	C
	Apple	MA	6	2m N	S	3	0	2	3	260	FAIR. Crown bias to north. Topped in past and managed regularly. Heavy ivy on stem. Tree of relatively low significance.	No action required at time of survey.	10-20	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
11	Apple	MA	4	1m N	M	2	3	2	1	514 GL	POOR. Splayed stems give large diameter measurement. Very heavy ivy on stem and canopy. Tree of relatively low significance.	No action required at time of survey.	10-20	C
12	Dogwood	MA	6	1.5m E	M	3	3	3	3	375 GL	FAIR. Multi-stemmed from ground level. Many tight unions and crossing/rubbing limbs. Very heavy ivy.	Girdle ivy near ground	10-20	C
13	Norway spruce	MA	11	0	S	2	2	2	2	216	POOR. Stem heavily clad. Holes in canopy due to light competition. Tree of relatively low significance.	No action required at time of survey.	10-20	C
14	Rowan	Y	7	2m S	S	1	4	2	4	148	POOR. Stem leans to south. Several bark wounds on major limbs. Tree of relatively low significance.	No action required at time of survey.	10-20	C
15	Yew	M	14	1.5m E	M	6	6	6	5	660 GL	FAIR. Offsite by 1 metre. Crown bias to west. Many crossing limbs. Some significant dead wood and hanging limbs.	No action required at time of survey.	20-40	B1
16	Common lime	M	24	2m E	S	6	6	6	6	950 (est)	FAIR. Offsite by three metres. No apparent significant defects.	No action required at time of survey.	20-40	B1
17	Hawthorn	MA	7	2m E	S	3	2	1	2	245	POOR. Decline evident throughout canopy. Stem heavily ivy clad.	Girdle ivy near ground	10-20	C
18	Sycamore	MA	13	2m N	S	4	2	5	1	230	POOR. Slender tree with significant squirrel damage. Stem heavily ivy clad.	Girdle ivy near ground	10-20	C
19	Corsican pine	MA	18	6m W	S	2	1	3	2	475	POOR. Slender specimen. Some dead wood present. Stem heavily ivy clad.	Girdle ivy near ground	10-20	C
20	Hawthorn	MA	4	1m W	M	3	3	4	0	426 GL	FAIR. Low spreading tree. Crown bias to west. Multi-stemmed from ground level with slender stems. Tree of relatively low significance.	No action required at time of survey.	10-20	C
21	Corsican pine	M	22	4m N	S	5	5	5	5	885	FAIR. Mature specimen. Some dead wood present. Moderate ivy on stem. No apparent significant defects.	No action required at time of survey.	20-40	B1

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
22	Corsican pine	M	16	3m W	S	3	3	9	0	689	FAIR. Heavy crown bias to west. Top of stem sweeps to west. Stem heavily ivy clad. Sub dominant tree suppressed by T21	Girdle ivy near ground.	20-40	BI
23	Corsican pine	M	19	9m S	S	1	4	4	1	529	FAIR. Moderate ivy on stem. Some dead wood present. No apparent significant defects.	No action required at time of survey.	20-40	BI
24	Sycamore	MA	10	3m W	S	3	3	4	0	229	POOR. Heavily suppressed specimen. Heavy crown bias to west. Moderate ivy on stem. Tree of relatively low significance.	No action required at time of survey.	10-20	C
25	Holm oak	M	16	2m E	M	6	6	6	5	850 GL est	FAIR. Offsite by one metre. Compression fork at base.	No action required at time of survey.	20-40	BI
26	Lime	M	24	2m E	S	6	6	6	6	950	FAIR. Offsite by three metres. No apparent significant defects.	No action required at time of survey.	20-40	BI
27	Corsican pine	MA	10	5m W	S	0	2	5	0	325	POOR. Low vitality. Poor form. Stem heavily ivy clad.	Remove for reasons of sound arboricultural management.	5-10	R
28	Corsican pine	MA	10	5m W	S	0	2	4	0	260	DEAD.	Remove for reasons of sound arboricultural management.	0	R
29	Corsican pine	MA	15	10m W	S	2	2	3	0	409	POOR. Low live crown ratio. Stem heavily ivy clad.	Girdle ivy near ground	10-20	C
30	Sycamore	Y	11	2m W	M	4	1	7	0	408	POOR. Heavy crown bias to west. Significant squirrel damage. Some hanging branches in canopy. Tree of relatively low significance.	No action required at time of survey.	10-20	C
31	Sycamore	MA	7	2m W	S	4	1	2	0	240	POOR. Stem leans to west. Stem heavily ivy clad. Poor pruning to lower limbs west.	No action required at time of survey.	10-20	C
32	Cherry	Y	4	2m S	S	1	2	0	3	107	POOR. Heavily suppressed with crown bias to east. Stem heavily ivy clad. Tree of relatively low significance.	No action required at time of survey.	10-20	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)					Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E						
3	Sycamore	MA	10	3m N	M	6	3	2	6		385 GL	POOR. Multi-stemmed from ground level. With compression fork and included bark. Moderate ivy on stem and some squirrel damage.	No action required at time of survey.	10-20	C
4	Sycamore	Y	10	3m N	S	1	1	1	1		130	POOR. Co-dominant union at 3 metres with included bark. Very slender tree. Tree of relatively low significance.	No action required at time of survey.	10-20	C
5	Common lime	Y	10	1m S	S	2	2	2	2		128	POOR. Suppressed, slender specimen. Crossing stems above union at 7 metres. Tree of relatively low significance.	No action required at time of survey.	10-20	C
6	Atlas cedar	M	20	1m N	S	10	9	10	7		1300	POOR. Significant damage to north-west canopy at various heights. Top has been lost to storm damage resulting in upturned limbs susceptible to further failure. Some large pruning wounds lower in the north-west canopy due to removal of broken limbs damaged by limbs falling from above. Old elliptical wound on lower stem south, between 1-1.5 metres. Hammer reveals low tone below wound and also slightly above. Degraded <i>Sparassis crispa</i> fruiting body close to tree base on east side	Reduce spread of long lateral limbs by approximately 3 metres	10-20	C
37	Silver birch	Y	11	2m S	S	1	4	3	3		183	FAIR. Stem leans to south. Crown bias to south. Young tree of relatively low significance.	No action required at time of survey.	20-40	C
38	Monterey cypress	MA	6	0	S	2	2	2	2		140	FAIR. Tree of relatively low significance.	No action required at time of survey.	20-40	C
39	Lawson cypress	Y	5	0	S	1	1	1	1		126	FAIR. Tree of relatively low significance.	No action required at time of survey.	20-40	C
40	Monterey cypress	MA	14	0	S	3	3	2	2		382	FAIR. Tree of relatively low significance.	No action required at time of survey.	20-40	C
41	Monterey cypress	MA	13	0	S	2	2	2	2		322	FAIR. Tree of relatively low significance.	No action required at time of survey.	20-40	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
12	Lawson cypress	Y	6	0	M	2	2	2	2	207 GL	FAIR. Tight union developing at base. Tree of relatively low significance.	No action required at time of survey.	20-40	C
13	Lawson cypress	Y	6	0	M	1	1	1	1	255 GL	FAIR. Tight union developing at base. Tree of relatively low significance.	No action required at time of survey.	20-40	C
14	Copper beech	M	18	2m N	S	7	5	5	7	740	GOOD. Evidence of minor decay in old pruning wound on stem at three metres south. Large stem removed at six metres west with good occlusion of wound. Some fluting of stem. No apparent significant defects.	No action required at time of survey.	20-40	B1
45	Yew	Y	6	0	S	2	0	2	2	195	FAIR. Regularly pruned on south of canopy. Crown bias to north. Tree of relatively low significance.	No action required at time of survey.	20-40	C
46	Yew	MA	8	2m N	S	3	3	5	4	327	FAIR. Crown breaks at 1.9 metres into five upright stems. No apparent significant defects.	No action required at time of survey.	20-40	B1
47	Silver birch	Y	7	2m W	S	1	1	3	1	100	FAIR. Slender tree. No apparent significant defects.	No action required at time of survey.	20-40	C
48	Lawson cypress	Y	7	2m W	S	1	1	1	1	225	POOR. Slender tree. Multi-stemmed from ground level with poor basal unions.	No action required at time of survey.	10-20	C
49	Lawson cypress	Y	7	1m N	M	1	1	1	1	235	POOR. Slender tree. Multi-stemmed from ground level with poor basal unions.	No action required at time of survey.	10-20	C
50	Lawson cypress	Y	4	0	S	1	1	1	1	96	FAIR. No apparent significant defects. Tree of relatively low significance.	No action required at time of survey.	20-40	C
51	Eucalyptus	MA	16	5m N	S	5	2	1	4	460	POOR. Stem leans to north. Slender tree. Moderate ivy on lower stem. Approximately 1 metre from building	No action required at time of survey.	20-40	C
52	Hawthorn	MA	8	2m N	M	3	1	2	3	405 GL	POOR. Multi-stemmed from ground level. Several stems with tight unions. Canopy appears slightly sparse.	No action required at time of survey.	10-20	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
53	Sycamore	MA	13	2m S	M	3	5	2	4	570 GL	POOR. Multi-stemmed from ground level. Very tight union at base with included bark.	No action required at time of survey.	10-20	C
54	Sycamore	MA	13	2m W	M	4	5	5	2	525 GL	POOR. Multi-stemmed from ground level. Very tight union at base with included bark.	No action required at time of survey.	10-20	C
55	Laburnum	MA	6	2m N	M	3	2	3	3	515 GL	FAIR. Multi-stemmed from ground level. Several tight unions within the branch structure.	No action required at time of survey.	10-20	C
56	Lawson cypress	MA	9	0	M	1	1	1	1	366 GL	POOR. Slender tree with sparse canopy. Tree of relatively low significance.	No action required at time of survey.	10-20	C
57	Norway maple	MA	10	2m N	S	4	3	5	4	345	FAIR. Stem divides into three at 1.7 metres with co-dominant unions. No apparent significant defects.	No action required at time of survey.	20-40	BI
58	Cherry	Y	4	2m N	S	2	2	3	2	149	FAIR. Stem divides into three at 1.7 metres. Pruning wounds present on north stem. No apparent significant defects.	No action required at time of survey.	10-20	C
59	Norway maple	Y	4	1.5m W	S	1	1	2	1	75	POOR. Significant basal wound through mower damage.	No action required at time of survey.	5-10	R
60	Red horse chestnut	M	13	2m W	S	4	4	4	4	619	POOR. North stem has undergone significant branch removal with a coalescence of decay evident. Remaining stem above this point has bark fissures at 4 metres south, consistent with torsional movement through release. Cankers are present on the stem at 1.7 metres, at 3 metres, and on the north stem at 4 metres.	No action required at time of survey.	10-20	C
61	Cherry	MA	9	4m W	M	3	2	4	3	320 GL	FAIR. Stem divides at 1.4 metres. Crown bias to west. No apparent significant defects.	No action required at time of survey.	20-40	BI

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
52	Deodar cedar	M	20	5m E	S	5	8.5	6	7	881	GOOD. Slight crown bias to south through companion shelter with beech. 10metre crown spread to south-east. Prominent tree of high quality	No action required at time of survey.	40+	A1
53	Sycamore	MA	12	5m S	S	3	2	5	0	309	POOR. Stem leans to west. Significant squirrel damage. Stem heavily ivy clad.	No action required at time of survey.	10-20	C
54	Sycamore	MA	11	5m W	M	1	1	2	1	371 GL	POOR. Multi-stemmed from ground level with compression fork. Moderate ivy on stem.	No action required at time of survey.	10-20	C
65	Holm oak	Y	6	0	S	1	3	2	0	116	POOR. Heavily suppressed specimen with lean to west. Tree of relatively low significance.	No action required at time of survey.	10-20	C
66	Yew	MA	6	1m W	S	3	2	2	4	200	POOR. Heavily suppressed. Some decline of major branches. Low future potential.	No action required at time of survey.	10-20	C
67	Corsican pine	M	17	8m N	S	3	3	3	6	688	FAIR. Stem has slight lean to east. Some dead wood and hanging branches within canopy. Stem heavily ivy clad.	Remove major dead wood and hanging branches	20-40	B1
68	Sycamore	MA	14	2m E	S	4	3	1	5	300	POOR. Crown bias to east. Squirrel damage to branch structure. Stem heavily ivy clad.	No action required at time of survey.	10-20	C
69	Sycamore	MA	14	6m E	S	2	3	5	1	312	FAIR. Crown bias to west. Moderate ivy on lower stem. No apparent significant defects. Tree of relatively low significance.	No action required at time of survey.	20-40	B1
70	Corsican pine	MA	15	10m W	S	3	2	3	1	497	FAIR. Slender specimen. Crown bias to west. Light ivy on lower stem. No apparent significant defects.	No action required at time of survey.	20-40	B1
71	Holm oak	M	15	2m E	S	5	5	4	5	580 est	POOR. Off site by 2 metres. Good vigour but stem has been recently lost leaving large wound at base with visible decay at base of remaining stem.	No action required at time of survey.	10-20	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
72	Yew	M	10	2m E	M	2	4	1	4	560 GL	POOR. Canopy in decline. Significant bark necrosis to west stem between 0.5-4 metres.	No action required at time of survey.	10-20	C
73	Corsican pine	M	17	5m W	S	3	3	10	3	785	FAIR. Crown bias to west. Broken, hung up limb at 14 metres north. Stem heavily ivy clad.	Remove broken limb. Girdle ivy near ground	20-40	B1
74	Corsican pine	M	17	10m W	S	1	2	3	3	497	FAIR. Stem leans to south-east slightly. Moderate ivy on stem. Stem in contact with chain link fence. No apparent significant defects.	No action required at time of survey.	20-40	B1
75	Ash	Y	5	3m W	S	3	3	3	1	163	POOR. Suppressed tree with poor form and low vitality	No action required at time of survey.	10-20	C
76	London plane	MA	14	4m W	S	5	5	5	6	705	GOOD. Off site street tree. No apparent significant defects. Has distorted line of kerb stones to west.	No action required at time of survey.	40+	B1
77	Red oak	M	14	5m W	S	7	7	7	6	757	GOOD. Off site street tree. No apparent significant defects. Some distortion of pavement by shallow roots close to stem.	No action required at time of survey.	20-40	B1
78	Norway maple	M	6	2m N	S	2	2	2	3	396	POOR. Heavily topped at 4 metres. Significant decay visible at 2 metres north and ground level east.	No action required at time of survey.	10-20	C
79	Norway maple	M	5	2m N	M	2	2	2	3	535 GL	POOR. Heavily topped at 2 metres. Significant decay evident at topping points and from ground level to 1.2 metres east.	No action required at time of survey.	10-20	C
80	Lawson cypress	Y	5	0	M	1	1	1	1	162 GL	POOR. Compression fork at base. Tree of relatively low significance.	No action required at time of survey.	10-20	C
81	Norway maple	M	6	3m N	S	1	1	1	1	588	POOR. Recently topped - no crown structure.	No action required at time of survey.	10-20	C
82	Weeping willow	MA	7	0	S	4	4	4	3	290	FAIR. Domed, dense canopy. No apparent significant defects. Some historical pruning to termination of main leader. Tree of relatively low significance	No action required at time of survey.	20-40	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
83	Weeping willow	MA	7	1m W	S	5	5	5	5	290	FAIR. Domed canopy. No apparent significant defects. Tree of relatively low significance	No action required at time of survey.	20-40	C
84	Silver birch	MA	13	2m W	S	4	4	4	4	350	FAIR. Attractive, conical habit. No apparent significant defects.	No action required at time of survey.	20-40	B1
85	Ash	Y	12	2m S	S	4	4	5	4	299	FAIR. Good form and structure. No apparent significant defects. Young, potentially replaceable tree	No action required at time of survey.	40+	B1
86	Apple	MA	5	2m W	S	3	3	3	3	370	POOR. Decline of several main branches, large dead wood present. Managed by topping repeatedly.	No action required at time of survey.	10-20	C
87	Corsican pine	M	19	3m S	S	3	8	8	5	895	FAIR. Heavy crown bias to west. Some moderate dead wood present. No apparent significant defects.	No action required at time of survey.	20-40	B1
88	Corsican pine	M	10	5m S	S	0	11	2	11	680	POOR. Stem very heavily inclined to south east (approximately 33 degrees off the horizontal). Large wound through branch loss at 1 metre. Canopy is entirely over east boundary.	Remove for reasons of sound arboricultural management	5-10	R
89	Sycamore	Y	6	2m W	S	2	2	4	1	108	POOR. Significant squirrel damage has caused decline of upper stem. Tree of relatively low significance.	No action required at time of survey.	0-5	R
90	Apple	MA	5	2m W	S	3	3	4	0	246	POOR. Tree of poor form. Heavy crown bias to west. Tree of relatively low significance.	No action required at time of survey.	10-20	C
91	Holly	M	12	2m W	S	3	3	3	3	377	GOOD. Good form and structure. No apparent significant defects.	No action required at time of survey.	40+	B1
92	Ash	Y	6	1m W	S	1	2	4	0	117	POOR. Heavily suppressed with low vigour. Leans to west.	No action required at time of survey.	10-20	C
93	Sycamore	M	14	5m S	S	5	5	3	5	635	FAIR. Stem divides at 1.8 metres with compression fork and included bark. Limited retention span	No action required at time of survey.	10-20	C

Tree No.	Species	Age Class	Ht. est. (m)	Crown base	Stems	Crown spread est. (m)				Dia. 1.5m (mm)	Condition & Observations	Preliminary management recommendations	Ret span (yrs)	Gr
						N	S	W	E					
4	Sycamore	MA	14	4m N	S	5	6	3	2	374	POOR. Poor form with a splayed top to stem through companion shelter. Some squirrel damage evident.	No action required at time of survey.	10-20	C
5	Scots pine	MA	10	6m N	S	4	0	3	2	403	POOR. Low vitality. Heavily suppressed. Decline evident throughout canopy.	No action required at time of survey.	10-20	C
6	Sycamore	M	14	2m S	S	8	6	7	3	763	FAIR. Historically pollarded. Re-grown stems have good unions. No apparent significant defects. Useful screening function	No action required at time of survey.	20-40	B2
i1	Leyland cypress	MA	10	0	M	2	2	2	2	420 GL largest	FAIR. Unmanaged hedge. Trees of relatively low significance.	No action required at time of survey.	10-20	C
i2	Monterey cypress	MA	2.3	0	M	1	1	1	1	304 GL largest	POOR. Established hedge but foliage has been pruned from lower branches creating gap at base of hedge. Trees of relatively low significance.	No action required at time of survey.	10-20	C
i3	Common lime	MA	12	2m W	M	4	4	4	4	320 GL est	FAIR. Off site group by 0.5 metres. Previously topped at 2-3 metres. Some decay at topping points and some tight unions of re-grown stems. Individually 'C' grade trees.	No action required at time of survey.	20-40	B2
i4	Monterey cypress	MA	2.3	0	M	1	1	1	1	160 GL avg	FAIR. Reasonably well kept hedge. Trees of relatively low significance. No apparent significant defects.	No action required at time of survey.	10-20	C

**APPENDIX 2:**  
**Photographs of *Sparassis crispa* fungus at the base of T36**



Degrading fungal  
fruiting body of  
*Sparassis crispa*



## **APPENDIX 3**

# **ARBORICULTURAL METHOD STATEMENT FOR TREE PROTECTION DURING DEVELOPMENT AT 61-65 NIGHTINGALE ROAD, RICKMANSWORTH**

## 1.0 INTRODUCTION

- 1.1 **Brief:** We are instructed by Henry Homes plc to prepare an Arboricultural Method Statement (AMS) for the protection of trees during development at 61-65 Nightingale Road, Rickmansworth, Herts.
- 1.2 This Method Statement is to be made available to all operatives on site during the development process so that they understand the scope and importance of the measures set out for tree protection.
- 1.3 This Method Statement refers to the Tree Protection Plan (TPP), which is included as Page 37 of this report.
- 1.4 This Method Statement has been written taking into account requirements set out in British Standard 5837 'Trees in Relation to Construction – Recommendations' 2005 (hereafter referred to as BS5837).

## 2.0 TIMING OF OPERATIONS

- 2.1 The timing of operations is essential if trees are to be effectively protected. Figure 1 in BS 5837 provides guidance for the sequential order of events on development sites. At this site, operations are to occur in the following sequence:
  1. Carry out the tree work operations as specified in the Arboricultural Implication Assessment, Section 6.
  2. Erect Tree Protection Fencing (TPF) in the positions shown on the Tree Protection Plan (TPP) by solid blue lines. (See Section 3 for details).
  3. Install temporary ground protection in the area shown on the TPP by blue hatching. (See Section 4.1. for details).
  4. Carry out demolition of the existing house on Number 63. Install access road, commence construction of the new houses and install services (see Section 5 for details).
  5. After construction on the site is complete, install additional tree protection fencing in the positions shown on the tree protection plan by the broken blue lines adjacent to the garage and parking bays on Plot 4, and around the out-building to be demolished on Plot 1. Install no-dig cellular confinement in the position shown by the red hatching on the TPP over the two parking bays allocated for Plot 4. (See Section 4.2 for details). Install garage for Plot 4 (See Section 6 for details).
  6. Demolish out-building located in the corner of the proposed garden on Plot 1 (See Section 7 for details).

7. Remove existing hard surface driveway within root protection area (RPA) of T76 and replace with graded topsoil.
8. Remove all TPF and temporary ground protection within the site.
9. Carry out tree planting and other landscaping works after construction work is completed.

### 3 TREE PROTECTION FENCING (TPF)

- 3.1 **Before** the commencement of any construction work on-site, TPF is to be erected to protect the trees being retained.
- 3.2 The position of the TPF has been calculated by taking into account recommendations set out in BS5837. The Tree Protection Plan contained within this report shows the Root Protection Areas (RPA's) by the dashed purple lines.
- 3.3 Durable, all-weather signs are to be attached to the fencing. A suggested sign to be used has been attached to this report as Appendix 1. This shall be printed out, laminated and attached to every third fence panel.
- 3.4 Once erected, the protective fencing is to be regarded as sacrosanct. There is to be no access by pedestrians into the area protected by the TPF and no works carried out whatsoever in this zone, including the storage of materials. The protective fencing is to be maintained in good order so that it is fit for purpose throughout the construction process. The fencing will not be altered in any way, or prematurely removed without prior consent of the project arboriculturalist, in consultation with Three Rivers District Council Arboricultural Department.
- 3.6 **Specification of Tree Protection Fencing.**
  - 3.6.1 TPF is to be constructed of 2.2 metre weldmesh (Herras type) panels, as set out on the insert on the TPP. The panels are to be fixed to a scaffold framework either with wire ties or with scaffold clamps. The scaffolding shall comprise a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum of 3 metres, and driven into the ground by 0.6 metres. It is not sufficient to place the panels in rubber or concrete 'boots' alone.

### 4. GROUND PROTECTION

#### 4.1 Temporary ground protection

- 4.1.1 Where temporary ground protection is required, this shall be to the following specification: It shall comprise a geotextile membrane (eg *Terram*), topped with a

## 6.0 GARAGE CONSTRUCTION

- 6.1 The garage for Plot 4 is located on top of a small bank within the RPA for T62. **After** all building construction has been completed, the TPF shall be moved back and re-located within its secondary position shown on the TPP by the broken blue line.
- 6.2 A mini piling rig shall be used to install piles sufficient to support a concrete floor slab and garage structure. The slab shall be entirely above ground level, ensuring that excavation of the ground is not required (with the exception of the piles) in order to install the floor slab. Temporary ground protection shall be installed prior to moving the rig into the site (see section 4.1 for specifications), and there shall be no machinery access over unprotected ground.
- 6.3 In the position of each pile hole, the ground shall initially be excavated by hand to a depth of 1.5 metres with the use of an *air spade* in order to ascertain the presence or otherwise of significant roots. Minor roots (below 25mm diameter) shall be pruned with sharp secateurs in accordance with BS5837 Section 11.3.5. Larger roots shall necessitate the repositioning of pile holes. If piles to be used are formed of concrete, they shall be sleeved in order to prevent soil contamination.
- 6.4 Details of the foundation design for the garage shall be provided by an engineer prior to commencement, and are to be approved by the project and Local Authority arboriculturalist. Installation of the garage structure shall be supervised by the project arboriculturalist.

## 7.0 DEMOLITION OF OUT-BUILDING

- 7.1 There is an existing out-building to be demolished within the RPA of trees 15 and 16. **After** all building construction has been completed; the TPF shall be moved back and re-located within its secondary position just outside the building in the position shown on the TPP by the broken blue line.
- 7.2 The building shall be demolished carefully **by hand only**, using the top-down pull-back method. No heavy machinery shall be used. The floor slab shall be broken carefully by hand, if necessary with a hand-held jack hammer, and slab sections lifted clear. Removal of the slab shall start from the north-east edge (closest to the boundary) and shall work back in sections, with top soil being replaced by wheelbarrow a small section at a time, thus ensuring that no access is required over the removed slab.

## 8.0 REMOVAL OF EXISTING DRIVEWAY SECTION

- 8.1 There is a short section of existing driveway located within the RPA of T76. Prior to the commencement of landscaping work, this shall be removed.
- 8.2 The existing tarmac surface shall be broken carefully by hand, if necessary with a hand-held jack hammer, and sections lifted clear. This shall be replaced with topsoil to BS3882:1994. This work shall be supervised by the project arboriculturalist.

## 9.0 GENERAL PRECAUTIONS

- 9.1 **Storage of materials:** No materials or spoil are to be stored within the construction exclusion zone (CEZ), as demarcated by the TPF and temporary ground protection. At this site, there is sufficient space for the storage of materials and positioning of site huts and facilities to the front of the proposed houses. No materials that could have an adverse effect on the trees by nature of toxicity are to be stored within 10 metres from their stems. This includes substances such as bitumen, oil and cement.
- 9.2 **Levels:** There is to be no alteration of ground levels within the CEZ, unless previously specified, and agreed upon.
- 9.3 **Fires:** No fires are to be lit within 20 metres of the stems of trees to be retained.
- 9.4 **Above ground damage to trees:** Care must be taken in planning the location and operation of machinery to avoid above ground damage to trees. BS5837 Section 9.4.2 states '*Care should be taken when planning site operations to ensure that wide or tall loads, or plant with booms, jibs or counterweights can operate without coming into contact with retained trees.*'

## 10.0 ARBORICULTURAL SUPERVISION

- 10.1 A qualified arboriculturalist will be required to provide on-going supervision during works at this site. The critical times when supervision is required are:

Prior to any works starting, meet the site manager(s) to discuss exactly what is required in order to ensure that the retained trees receive full protection, and to discuss the consequences of non-compliance with the agreed Arboricultural Method Statement. During this initial induction meeting a site supervisor will be appointed to take responsibility for tree protection and to be given the responsibility of reporting any damage to trees, or deviation from the arboricultural method statement to the project arboriculturalist.

Meet the arboricultural contractors to ensure that they fully comprehend the scope of the specified tree work.

After the erection of the TPF and temporary ground protection, but before the start of construction.

During the construction process as necessary, no less frequent than monthly.

After the tree protection fencing has been moved to its secondary positions.

During installation of the garage and parking bays for Plot 4.

During demolition of the out-building in the corner of the plot.

During removal of the existing driveway surface within the RPA of T76.

At project completion, after removal of the tree protection fencing.

10.2 A written log shall be kept of each site visit made.

10.3 The purpose of the supervision is to provide guidance on tree protection and to act as a link between the site operatives, and the Local Planning Authority Arboricultural Department.



**PATRICK STILEMAN** Bsc(hons), MICFor, Dip.Arb(RFS), M.Arbor.A  
Chartered Forester  
Director Patrick Stileman Ltd

**APPENDIX 1 for Arboricultural Method Statement**

**NOTICE TO BE ATTACHED TO TREE PROTECTION FENCING**

# **TREE PROTECTION FENCING**

## **KEEP OUT**

**This fencing must not be moved or altered in any way without prior consultation with the project arboriculturalist. There is to be no access, or material storage within the fenced area**

**Trees located on this site are legally protected. Any damage to them could result in**

## **CRIMINAL PROSECUTION**

**Report any damage to trees or inadequacy of fencing to the site rep, or to the project arboriculturalist: Patrick Stileman Ltd 01442 866112**

**SITE ADDRESS**  
61-65 Nightingale Road,  
Rickmansworth

**CLIENT**  
Henry Homes plc

**REF**  
DS25040701

**DRAWING NO**  
DS250407.09

**DATE**  
28/05/2008

Patrick Sullivan Ltd  
9 Chestnut Drive, Berkhamsted, Her  
2.JL 01442 866112

**KEY**

Tree to be retained

Tree to be removed

Position of Tree Protection Fencing (TPF)

Position of Tree Protection Fencing (TPF) Phase erected after construction buildings has been completed

Root Protection Area tree to be retained

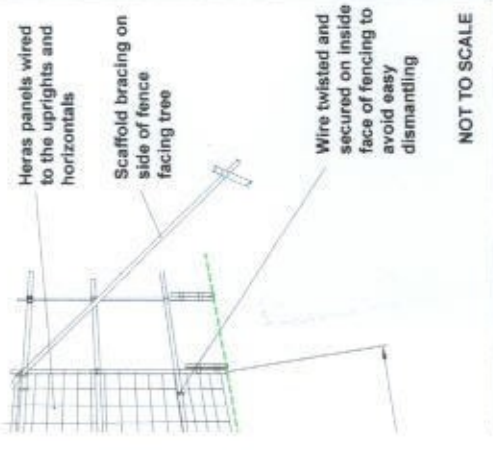
Area for temporary protection

Area for permanent protection using no confinement

**SCALE**  
1:500 @ A3

**NOTE:** The following trees were excluded from topographic survey, and their positions are indicative only: 1, 3, 4, 5, 16, 26, 34, 35, 52, 56, 64, 68

Stem diameters are not drawn to scale.



**T NO - DIG GROUND**

nd protection shall comprise:

membrane (eg Terram) laid

cellular confinement such as /web filled with clean, angular 20-40mm / no fines

wearing course that will permit water seepage exchange

rotection must provide adequate support of vehicles, while minimising ground n acceptable level.

provided by an engineer, and approved by ncuturalist. **No-dig means that there shall during its construction**

ted by tree  
in the

on fencing

a  
ISS.

