



Chaucer Landscape Management

Arboricultural Consultancy



Arboricultural Survey and Planning Integration Report

at

78 Darnley Road

Gravesend

DA11 0SE

Version 1.0 2nd October 2023



Contents

1.0	Instructions received and terms of Reference:	3
2.0	Summary:.....	4
3.0	Documents Supplied and supporting documents:	4
4.0	Scope of survey:.....	4
5.0	Survey method:.....	5
6.0	Ecology:	5
7.0	The Site:	6
8.0	Subject Trees:	7
9.0	The Proposal:.....	8
10.0	Arboricultural Landscape Integration:.....	8
11.0	Post Development Pressure:	8
12.0	Tree Protection Measures:	9
13.0	Arboricultural method statement:.....	9
14.0	Conclusion:.....	11
Annex A	Arboricultural Survey	12
Annex B	Site Plan with RPAs.....	14
Annex C	- Proposed Layout and Tree Protection Plan	15
Annex D	Proposed Tree and Shrub Planting Plan	16
Annex E	RPA Radii Table	17
Annex F	Conservation Area Map	18
Annex G	Photographs.....	19

The content and format of this Report as written are for the exclusive use of the Client. It may not be sold, lent, hired out or divulged to any third party not directly involved in the subject matter without our written consent.

Chaucer Landscape Management

Arboricultural Consultancy

Neil Moulton MArborA Dip Arb L4 (ABC)
Taylors Lane, Trottiscliffe Kent ME19 5ES
Tel: 01732 822240 mobile: 07768 202982
Email: neil.moulton@chaucercs.co.uk

Arboricultural Survey and Planning Integration Report

Client: Mr Tahir Saeed

Site address: 78 Darnley Road Gravesend DA11 0SE

Architect: Synergy Planning & Property Consultants Ltd

Local Authority: Gravesham Borough Council

Tree Officer (Planning): TBA

Date of inspection: 02/10/2023

Report prepared by: Neil Moulton

Survey Inspector: Neil Moulton

Our reference: CLM/PD/0118/23 v1.0

1.0 Instructions received and terms of Reference:

INSTRUCTIONS were received from the Client.

TERMS OF REFERENCE – To survey the subject trees to assess their general condition and to provide a statement to accompany a Conservation Area works notice with respect to the proposed development.



2.0 Summary:

The proposal for this site comprises the construction of a single storey unit to the rear of the garden to accommodate a family member in a supported living home.

Within the proposed footprint of the development are 2 semi-mature Ash pollards. The optimal location for the proposed development will require the removal of both Ash trees.

The condition of one of these trees (detailed in Annex A) would in any case require its removal on safety grounds.

The owner proposes new planting (summarised in Annex D) to offset the loss of these trees. The proposed trees will provide biodiversity benefits as well as amenity value.

The development is therefore sustainable in arboricultural terms.

3.0 Documents Supplied and supporting documents:

UK Planning Maps v1e/1008582/1360779

4.0 Scope of survey:

4.1 The survey is concerned with the arboricultural aspects of the site only.

4.2 The site lies within a Conservation Area per Annex F.

4.3 No discussions took place between the surveyor and any other party.

4.4 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The body language of trees, DoE booklet Research for Amenity Trees No. 4, 1994).

4.5 The survey was undertaken in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

4.6 Reference is made to the National House Building Council Standards, 2021, chapter 4.2, Building near trees (NHBC).

4.7 This report sets out the Root Protection Area (RPA), described by the RPA radius RPR



derived from Section 4.6 of BS5837.

4.8 Tree works will be required to be in accordance with British Standard 3998:2010 Tree work - Recommendations (BS3998).

4.9 This report does not cover the arrangements that may be required in connection with the laying or removal of underground services.

4.10 This report sets out the working specifications of tree removal measures, but the specifications of engineering and design features are matters for which I can only provide enough detail in principle to demonstrate the feasibility of the scheme.

5.0 Survey method:

5.1 The survey was conducted from ground level with the aid of binoculars.

5.2 No tissue samples were taken and no internal investigation of the subject trees were undertaken.

5.3 No soil samples were taken.

5.3 The height of the subject trees were determined with a TruPulse200 clinometer.

5.4 The stem diameters [SD] were measured in centimetres at 1.5 metres above ground level and otherwise in accordance with Annex C of BS5837.

5.5 The crown diameters were estimated by pacing or visually I could not gain access.

5.6 The position of the subject trees is listed at Appendix A and plotted at Appendix B. Please note that the attached plan is for indicative purposes only.

6.0 Ecology:

6.1 Bats are protected under the Wildlife & Countryside Act 1981 and subsequent legislation and The Conservation of Habitats and Species Regulations 2010 and it is an offence to deliberately or recklessly disturb them or damage their roosts. Trees should be inspected before any works commence and if the presence of bats is suspected advice will need to be sought from the Natural England Bat Line on 0845 1300228. Further advice on bats is available from The Bat Conservation Trust (020 7627 2629).

6.2 Tree work should as far as is possible avoid the bird nesting season, which officially (natural England) is from February until August, although the busiest time is from 1st March until 31st July.



6.3 Please also be aware that ecology is governed principally by;

- the Wildlife and Countryside Act 1981 (as amended by the CRow Act 2000),
- the Conservation of Habitats and Species Regulations 2010,
- the Wild Mammals (Protection) Act 1996, and
- the Natural Environment and Rural Communities (NERC) Act 2006.

6.4 I have completed the Arboricultural Association's course on Bats in Trees and am conversant with the BS986 Micro-Guide for arboriculturists and the Natural England Bat Habitat Assessment Guidance 2010, and I could not see any indication of bat roosts in the subject tree that might be affected by the proposal

7.0 The Site:

7.1 With reference to the British Geological Survey Geology of Britain Viewer the indicated soil parent material is the Lewis Nodular, Seaford and Newhaven - Chalk. No information was available with respect to the surface geology, from which an absence of clay may be reasonably inferred (since these are recorded on the BGS Viewer within 500m of the Site).

The soil is unlikely to be shrinkable (and therefore not susceptible to compaction which is harmful to tree roots) therefore ground protection measures to protect the planting site for new trees set out in Annex D are not proposed.

7.2 I am not a soil scientist and while I have some expertise, if accurate soil analysis is required then a soil specialist should be contacted.



8.0 Subject Trees:

8.1 This report addresses 2 trees in a Conservation Area which are identified in the format “T(no.)” and discussed in sections 8 and 10 of this report.

BS5837:2012 Quality Category	Total Number of Individual Trees Surveyed	Total Number of Tree Groups Surveyed	Total Number of Tree Areas Surveyed	Total Number of Woodland Areas Surveyed	Total Number of Hedgerows Surveyed	Total
A (High - Most desirable for retention)	1	0	0	0	0	1
B (Moderate - Desirable for retention)	0	0	0	0	0	0
C (Low - Optional for retention)	1	0	0	0	0	1
U (Poor - Unsuitable for retention)	0	0	0	0	0	0
Total A,B,C,U	2	0	0	0	0	2

8.2 T1 is an early mature Ash. The black buds and leaf form would indicate it is the native common Ash *Fraxinus excelsior* although the foliage is in good condition with no signs of Ash dieback disease *Hymenoscyphus fraxineus* (this disease is so widespread in Kent, healthy foliage is often an indication of a ‘species’ Ash). T1 was subject to crown reduction pruning in 2009, but not re-pollarding, which would have retained its form in optimal condition *the crown is asymmetrical). The base of this tree is in direct contact with the boundary wall, which were the tree to be retained would be problematic at some point as the stem girth expands. The removal of this tree is recommended to accommodate the proposed development.

8.3 T2 is a larger specimen of the same species as T1. This may be an older tree, or planted at the same time as T1 and has received the benefit of better resources (e.g., root run/access to hydration/nutrients). This tree has a 10 degree lean to the southwest which is likely to be a phototropic response to non-extant shading. T2 has a significant crack in the stem facing the southwest with extensive hollowing. It is not possible to determine without further examination (e.g. by resistograph testing) whether the decay is insipient, however the extent is such that I would in any case be recommending the removal of this tree to avoid the risk of damage to the boundary wall(s) (although ‘target’ risk is relatively low in this area). The removal of this tree is also recommended to accommodate the proposed development.



8.4 There are no other trees within the site (above 75mm stem diameter at DBH), nor are there any trees on neighbouring properties whose root protection areas would require protection as stipulated by BS5837:2017 Trees in relation to construction: recommendations.

8.5 Note: trees in a Conservation Area are protected by Section 211 of the Town and Country Planning Act 1990. These provisions require landowners or their appointed agents to notify the local planning authority, using a 'section 211 notice', 6 weeks before carrying out certain work on such trees, unless an exception applies. The work may go ahead before the end of the 6 week period if the local planning authority gives consent. This notice period gives the authority an opportunity to consider whether to make an Order on the tree. The authority can deal with a section 211 notice in one of three ways. It may:

- make a Tree Preservation Order if justified in the interests of amenity, preferably within 6 weeks of the date of the notice;
- decide not to make an Order and inform the person who gave notice that the work can go ahead; or
- decide not to make an Order and allow the 6-week notice period to end, after which the proposed work may be done within 2 years of the date of the notice.

While bearing in mind the 6-week notice period, the authority should allow sufficient time for it to receive objections to the work. The authority should consider duly submitted objections when deciding whether the proposals are inappropriate and whether an Order should be made.

A section 211 notice is not, and should not be treated as, an application for consent under an Order. So the authority cannot:

- refuse consent; or
- grant consent subject to conditions.

9.0 The Proposal:

9.1 The proposal is summarised in Section 2.0

10.0 Arboricultural Landscape Integration:

10.1 Summarising section 8, both trees will be removed under the proposal subject to S211 process as set out in 8.5. The Client is however amenable to offset planting in accordance with Annex D to retain the arboricultural integrity of the Site.

11.0 Post Development Pressure:

12.1 The concept of post development pressure is not that routine maintenance work to maintain clearances and the proportionality of trees is unacceptable. The term should



more accurately be one of irresistible post development pressure where the spatial or physical relationship of a retained tree to a structure or feature demands pruning or removal that is inappropriate, but to which the local planning authority could not reasonably refuse consent.

12.2 The proposal takes account of the close proximity of trees with a combination of pruning existing trees where necessary.

12.3 As a consequence there will be no post development pressure, and none that would require the Council to give consent where unjustified.

12.0 Tree Protection Measures:

12.1 The BS5837 gives a Root Protection Area (RPA) for each retained tree by reference to Section 4.6 in the BS. The RPA is an estimation of the area of the root system that would need to be retained to sustain the condition of the tree if all the other roots outside it were to be severed. The RPA represents a smaller proportion, (on average only a third), of a tree's root system and consequently whilst the RPA is particularly important to ensure that there are no adverse effects upon stability, if an encroachment does not reduce the overall assimilative function of the root system significantly it is unlikely to cause harm. However, as with any factor relating to trees each individual situation must be justified in site-specific terms.

12.2 The RPA is usually described as a circle with a radius of the prescribed distance within which no unspecified activity should occur, though the shape and position of the RPA can be modified by an arboriculturist to meet individual site conditions according to the probable distribution of the tree roots. Intrusion into the RPA can take place only where the ground is adequately protected in accordance with the requirements of Section 6.2.3 of BS5837 or where work is carried out to an agreed design and working method.

12.3 I use a tabular method¹ to derive rounded-up RPA radii in half-metre graduations (Appendix E). I have adjusted the shapes of the RPAs where the proximity of the hard landscaping will have caused some root growth asymmetry. Elsewhere there is unencumbered rooting area for the RPAs.

¹ reproduced by courtesy of Quaife Woodlands

13.0 Arboricultural method statement:

13.1 Arboricultural best practice must be followed to remove T1 and T2 and to ensure the success of the new planting recommended in Annex D. The following table below provides a



detail sequence of events that must occur in order to ensure this best practice is followed. These methods must be clearly communicated to the entire construction team prior to commencement of any work on site.

Stage	Arboricultural Method Statement (In sequence of events)
1.) Preconstruction (Prior to any construction work on site including demolition work, site material storage etc.)	1.1 – Design areas for construction site storage by site supervisor and the appointed Arboriculturist.
	1.2 – Design position, form and construction methods of all utility services with Arboricultural consideration. All underground service designs MUST conform to the NJUG Volume 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees and BS5837:2012. The full document is available at http://www.njug.org.uk/ . Local Planning Authority to be consulted on utility service design details and if satisfied to be approved in writing prior to installation during the construction phase.
	1.3 – Site storage area containers etc. installed as designed and supervised by site supervisor and the appointed Arboriculturist.
2.) Construction	2.1 – Site supervisor to be briefed by the appointed Arboriculturist regarding the Tree Protection Plan/Methods and a laminated copy of the plan/methods to be secured onto the wall in the site supervisor's office. Contact details of the appointed Arboriculturist, Council's Tree Officer to be included. Emphasis made to site supervisor on the importance of the Tree Protection Plan/Methods and possible planning enforcement action (Stop Notice), problems with discharging tree protection conditions and/or legal action of noncompliance with these tree protection methods.
	2.2 – All contractors to be briefed by site supervisor and/or the appointed Arboriculturist regarding the tree protection plan and methods before starting work on site. Emphasis made to contractors on the importance of the Tree Protection Plan/Methods and possible planning enforcement action (Stop Notice), problems with discharging tree protection conditions and/or legal action of noncompliance with these tree protection methods.
	2.3 – Construction phase begins
	2.4- Tree Safe Construction (Throughout Site) – areas outside of the construction exclusion zones as shown on the tree protection plan must adhere to the following: • Building materials and fuels such as oil, bitumen or cement should not be stacked or discharged within 20 metres of the trees stem. • Fires will not be lit beneath any tree or in a place where flames could extend to within 10 metres of the tree. • Trees that are to be retained and be protected should not be used as anchorage for services or equipment. • The use of cranes and large machinery on site should be planned and care taken not to damage the trees during the process.
	2.5 – Unforeseen issues which require the alteration of the Tree Protection Plan/Methods, required tree surgery work or immediate remedial work will be submitted to the Local Planning Authority for approval in writing.
3.) Post Construction (Once all construction work has been completed, this includes all utility services)	3.1 – Hard and soft landscaping commence - All landscape team members to be briefed regarding tree protections by an Arboriculturist.
	3.2 – Any required remedial tree action taken , such as Leaf Mulch Application, soil de-compaction methods, contamination clean up etc. to be carried out.



14.0 Conclusion:

14.1 While the removal of both subject trees T1 and T2 is regrettable given their relative vigour for ash, T2 is in any case vulnerable to failure as a result of advanced stem decay. Since the landowner is amenable to planting new trees to offset these losses, biodiversity net gains and an improvement in amenity value will over time result from the development.

Signed:  Neil Moulton BSc Hons, MArborA, L4 DipArb(ABC)

Date: 3rd October 2023.



Annex A Arboricultural Survey

KEY

Prefix: **T** = Tree **G** = Group **H** = Hedge **No** Tree reference number.

Ht Tree Height in metres.

SD Stem diameter in centimetres at 1.5 metres above ground level and otherwise in accordance with Annex C of BS5837.

* Estimated. **m** Multi-stemmed (bracketed number is single-stem equivalent diameter).

N-S-E-W Branch spread in metres to the four compass points – $\emptyset$ average crown diameter.

CrB Height in metres of crown clearance above adjacent ground level.

AC Age Class **Y** – Young. **E** – Early mature. **M** – Mature. **O** – Over-mature. **V** – Veteran.

PC Physiological Condition **G** – Good **F** – Fair **P** – Poor **D** – Dead

SC Structural Condition **G** – Good **F** – Fair **P** – Poor **D** – Dead

BS Category grading

U – Existing condition is such that any existing value would be lost within 10 years and should therefore be removed for reasons of sound arboricultural management.

A – High quality and value (40+ years).

1) Mainly arboricultural values 2) Mainly landscape values 3) Mainly cultural values incl. conservation.

B - Moderate quality and value (20+ years).

1) Mainly arboricultural values 2) Mainly landscape values 3) Mainly cultural values incl. conservation.

C – Low quality and value (10+ years).

Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a SD of less than 15cm should be considered for relocation.



Rad Root Protection Radius in metres.

RPA Root Protection Area in square metres.

ADD Ash Dieback Disease

Arboricultural Survey CLM/PD/0118/23

No	Species	Ht	SD	NESW	CrB	AC	PC	SC	BS	RPA	Rad	Observations
T1	Ash <i>Fraxinus excelsior</i>	10.5	27.4	3,3,3,5	3	E	G	G	A	38	3.5	Lapsed pollard. Crown reduction 2009. Root flare contact with boundary wall at NW aspect.
T2	Ash <i>Fraxinus excelsior</i>	12.1	39.0	2,5,4,4	3	E	G	P	C	79	5.0	Lapsed pollard. Crown reduction 2009. Leaning 10° to SW. Crack , up to 150mm deep and wide on SW stem from ground level to 1.6m, 400mm below the site of original pollard. Decay evident within occluded boundary. Hollowing found on resonance assessment between 1m and 1.5m. Stem bulging on opposite side of crack (indication of significant decay/hollowing).



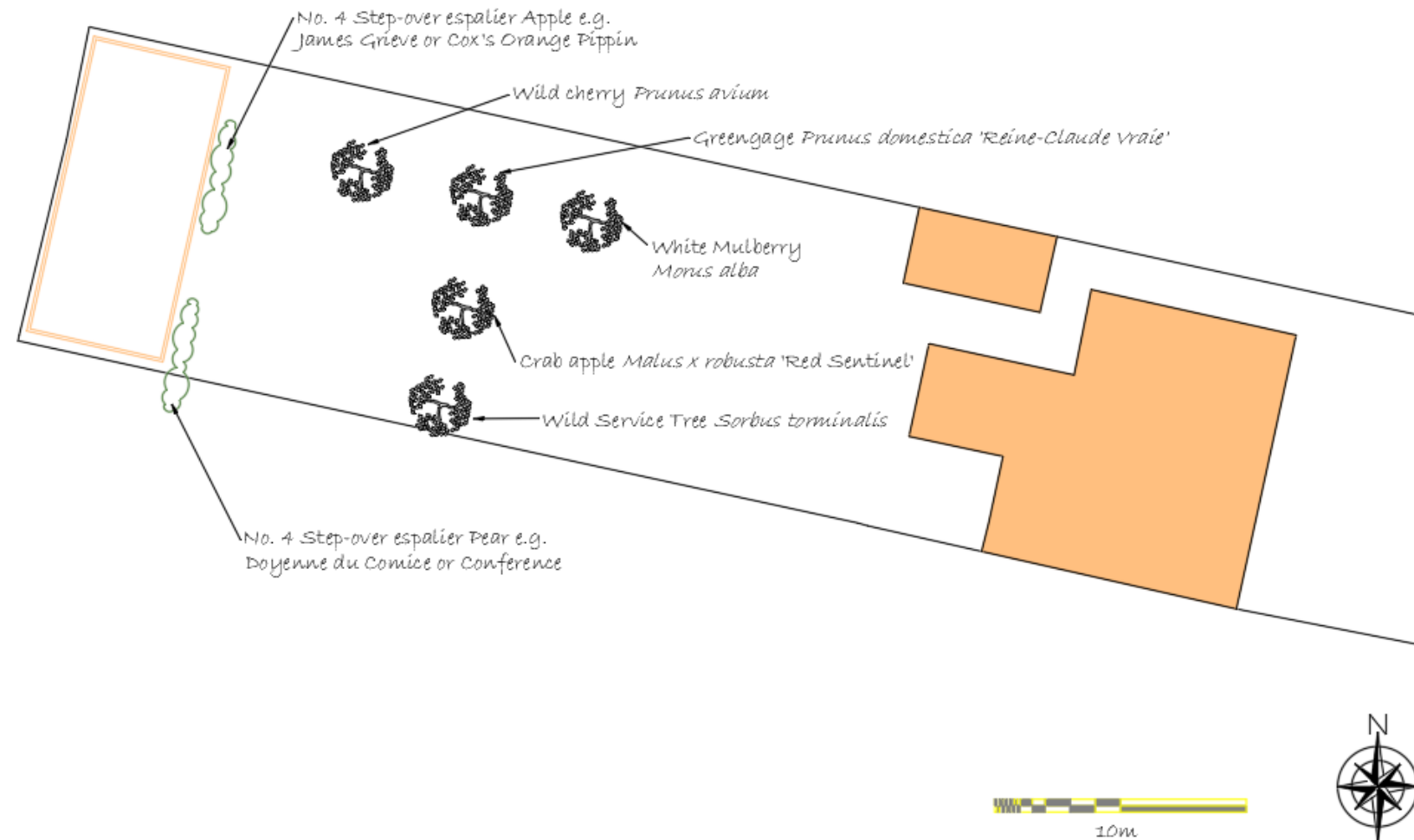
Annex B Site Plan with RPAs

Annex C - Proposed Layout and Tree Protection Plan

Not used – trees are to be removed



Annex D. Proposed Tree and Shrub Planting Plan



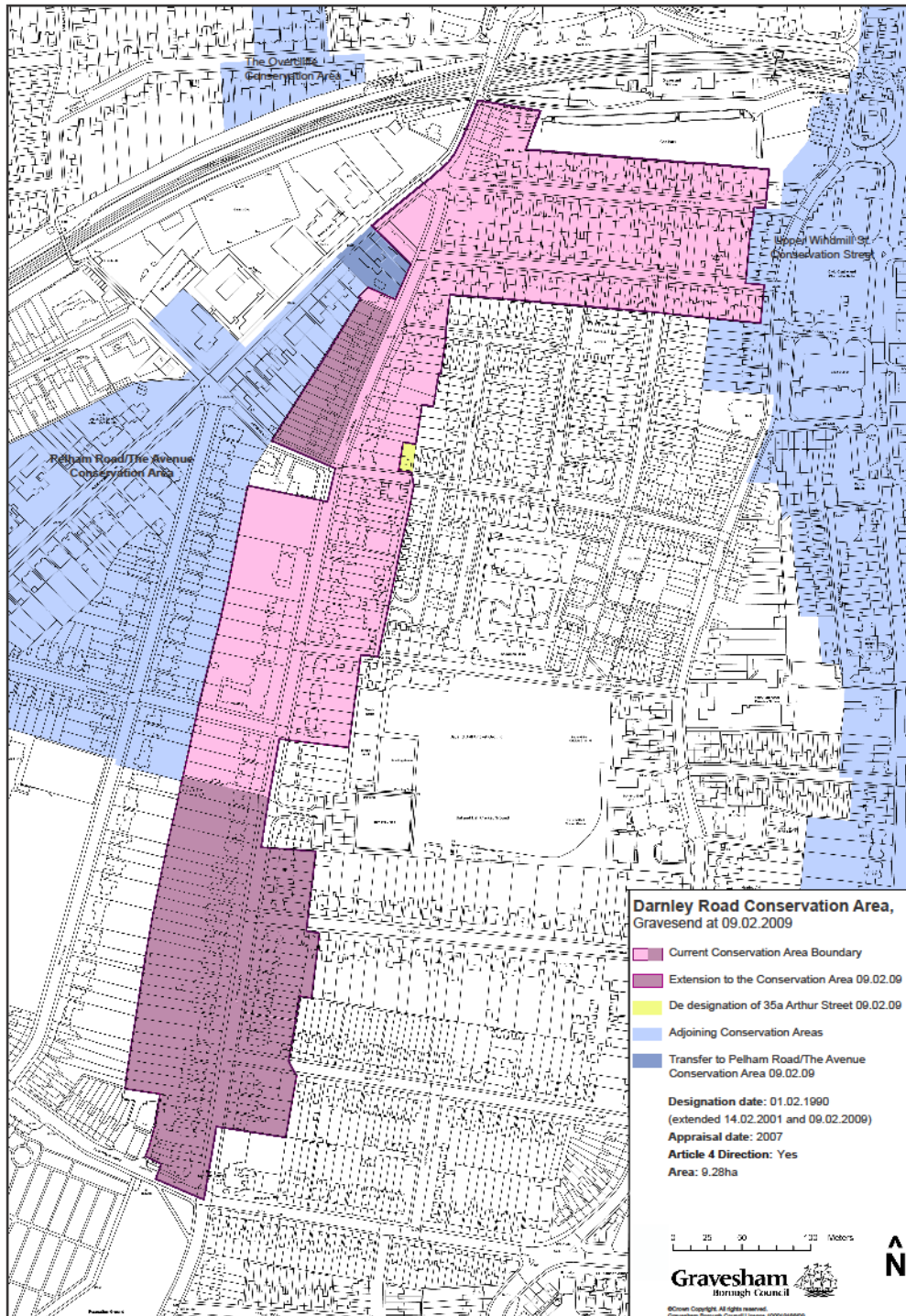
Annex E RPA Radii Table**BS5837:2012 (Paragraph 4.6.1) Root Protection Area radii in 0.5 metre graduations**

The 0.5 metre graduations of RPA radii have been calculated back to produce diameter dimensions, which in turn have been rounded down to the nearest centimetre. If the BS5837 multiplier factor is plotted on a graph it produces a straight gradient and if the 0.5 metre steps are plotted they are all above that line, thus ensuring that the RPA radii err on the generous side. Table reproduced by kind permission of Quaife Woodlands

<i>Single Stem up to diameter (mm)</i>	<i>RPA Radius (m)</i>	<i>RPA (m²)</i>
1250	15.0	707
1210	14.5	660
1170	14.0	616
1120	13.5	573
1080	13.0	531
1040	12.5	491
1000	12.0	452
960	11.5	416
920	11.0	380
870	10.5	346
830	10.0	314
790	9.5	284
750	9.0	255
710	8.5	227
670	8.0	201
620	7.5	177
580	7.0	154
540	6.5	133
500	6.0	113
460	5.5	95
420	5.0	79
370	4.5	64
330	4.0	50
290	3.5	38
250	3.0	28



Annex F Conservation Area Map



Annex G Photographs

Pic 1 T1 and T2



Pic. 2 T1



Pic. 3 T2



Pic. 4 Transverse stress T2



Pic. 5 Decay T2



Pic. 6 Stem crack T2



Pic. 7 Wall proximity T1

