Simon Pryce Arboriculture

Report

Client:	**Mr & Mrs Chamberlain**
Site:	**11 Burghley Road, London, NW5 1UG**
Subject:	**Trees and proposed building work**
Inspection date:	**28 March 2017**
Report date:	**22 July 2017**
Reference:	**17/001**
Author:	**Simon Pryce, BSc, FArborA, RCArborA, CBiol, MICFor**

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1 Introduction

1.1 This report has been prepared on the instructions of Guard Tillman Pollock, the architects acting for Mr & Mrs Chamberlain in respect of a proposal to carry out building work at 11 Burghley Road, London, NW5 1UG.

1.2 I have been asked to inspect trees growing on and near the site and to prepare a report impact assessment and tree protection plan, as set out in British Standard 5837: 2012, Trees in relation to design, demolition and construction.

Survey method

1.3 The site was visited and the trees inspected on 28 March 2017. The inspections were visual and made from ground level, with no climbing or test boring as these were not warranted.

1.4 The trees were measured, their maturity, health and structural condition assessed and each was assigned to one of the four retention categories [A,B,C,U] specified by BS5837. The individual descriptions and other relevant information are in the attached schedule and they are shown on the attached plans, based on originals prepared by Guard Tillman Pollock.

2 Background

The site

2.1 Number 11 is a Victorian house in a short terrace with no.9 to the left and no.13 to the right, as seen from the road in front. It has two main storeys plus accommodation in the roof space and a semi basement, which can be reached by steps down into a light well running across the front of the house. The plot is about 10m across the front by about 30m long and more or less level. The rear garden is mainly lawn with a paved area near the back of the house and planting beds round the edges.

Proposal

2.2 This is shown on the drawings produced by Guard Tillman Pollock and is to extend the right hand side of the semi basement into the rear garden. The immediately adjacent part of the rear garden is lowered to match the floor level, with steps up onto the main lawn, where levels are not altered.

2.3 The rear garden is enclosed, so work access will need to be via the main front door or the one in the light well leading to the semi basement.

3 Trees

3.1 The most significant trees are a mature ash and lime growing in the front garden and possibly similar in age to the house. Both were pollarded when younger before being left to grow on and they are now managed by light crown reduction every few years.

3.2 In the rear garden there are a birch and a walnut, both well back from the house and growing very close together, possibly due to one or both of them being self seeded. Both are in good condition, although they are competing with each other. Other trees include a small honey locust near the right hand side boundary, a mature flowering cherry in the rear garden of no.13 and a honey locust in the garden of no.9, close to the back wall of that house.

3.3 Camden Council's web site indicates that the property is not in a conservation area. Their planning records show that the two trees in front are protected by a tree preservation order, TPO, their reference C270. It appears that the trees to the rear are not protected but an enquiry would need to be made to confirm that. TPO trees are a material consideration in planning applications.

4 Discussion

General comments

4.1 The two main functions of tree roots are 1) physical support and 2) the supply of water and nutrients from the soil. Roots will grow wherever conditions are favourable i.e. there is a suitable supply of air and water, so most tend to be in about the upper 600mm of the soil and even shallow excavation or minor level changes can be harmful. Construction near trees can also be harmful in less direct ways, such as soil compaction caused by heavy machinery and spillage of toxic materials such as diesel oil and cement.

Root protection areas

4.2 British Standard 5837: 2012, Tree in relation to design, demolition and construction – Recommendations, specifies measures to avoid or minimise construction damage to trees. One of these is that root protection areas (RPAs) are established round retained trees and that no ground work takes place within them unless suitable alternative measures are taken, such as installing protection on soft ground. RPAs are normally fenced to exclude construction access.

4.3 The starting point is that a single trunked tree's RPA has an area equivalent to a circle with a radius 12 times the trunk diameter measured at 1.5m above ground. Where existing site conditions or other factors indicate that root spread is asymmetrical, the RPA shape can be adjusted to a polygon of the same area, provided this reflects a sound assessment of likely root distribution.

Implications for this case

4.4 The RPAs have been shown as circles in order to illustrate the areas concerned, although root spread of the ash and lime in front of the house will be restricted by their surroundings, particularly the sub base of the carriageway and the various foundations and level changes. These two trees are well away from the main work area, so no ground works will take place near them, but they are close to the only work access routes. This is a small scale project with no access for heavy plant and the existing hard surfaces will safeguard underlying roots, but it is important that the areas of soft ground near the tree's bases are not disturbed in the process.

4.5 To the rear growing conditions are more uniform, so circular RPAs will be more realistic, although the garden wall foundations are likely to restrict root spread. Tree 3 is 70mm in diameter, so is under the minimum size limit for assessment recommended by BS5837, but its RPA and those 4, 5 and 6 are clear of the work area, so they can all be safeguarded effectively with a simple run of fencing, as shown on the tree protection plan.

4.6 Tree 6 could not be inspected closely, but from no.11 it is possible to see a very large surface root growing towards the back of the house, which also suggests that a large part of its root system, possibly all of it, is within the garden no.13 in any event.

4.7 A minimal part of the RPA circle of tree 7 extends into the rear garden and is well away from the work area, so the work poses no significant threat to that tree, which is a young, healthy specimen.

4.8 These trees are all well away from the work area and access routes, so they are not vulnerable to indirect damage from the work, such as vehicle impacts.

4.9 The plan showing the proposed layout, illustrates suitable fencing and other measures and serves as the tree protection plan (TPP) specified by BS5837. Once the layout is finalised these can be specified in more detail in an arboricultural method statement if required.

5 Conclusions

5.1 The most significant trees are the ash and lime in front of the house, trees 1 & 2, both of which are well away from the work area and not directly affected. They are near the only access route, but the combination of existing hard surfaces and basic fencing round soft ground will protect them against incidental damage.

5.2 The proposal avoids any ground work within the RPAs of trees 3 - 5 in the rear garden and tree 6, which is at no.13. These can all be safeguarded by the same run of fencing.

5.3 The RPA of tree 7 is just in the garden but the area concerned is minimal and it is a young healthy specimen not at risk from the proposed work.

5.4 All the trees to the rear are well away from the work area and not vulnerable to incidental damage.

5.5 The plan showing the proposed layout, illustrates suitable fencing and other measures and serves as the tree protection plan (TPP) specified by BS5837.

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Tree no.	Species	Age / vigour	Ht. m	Spread				Dia. mm	RPA rad m	RPA area m^2	Crwn ht. m	Comments and recommendations	Cat
				N	S	E	W						
The trees are described in order as shown on the plan, starting in front of the house and going to the rear. Asterisks indicate those in adjacent rear gardens; some dimensions of these are estimated.													
1	Ash *Fraxinus excelsior*	M/N	12	3	4	4	4	570	6.9	148	7	Pollarded at about 3m when younger and probably recut regularly for a number of years then left to grow on. Has been moderately crown reduced within the last 1 - 2 years and is growing on. Has some old wounds but is sound and healthy.	**B**
2	Lime *Tilia x europaea*	M/N	17	3.5	4.5	4	3.5	510	6.1	117	4	Also pollarded earlier in its life then left to grow on before being reduced more recently. Regrowth is healthy and vigorous and it has fairly dense shoots at the base, which is common in limes. Upper roots slightly deformed by the surrounding path but not seriously.	**B**
3	Honey locust *Gleditsia triacanthos*	Y/N	5	2.5	2.5	2.5	2.5	70	0.8	2.2	1.5	Young tree, healthy but not an outstanding specimen. Small enough to transplant without undue difficulty or could be replaced.	C
4	Birch *Betula pendula*	MA/N	14	3	4	4	2.5	250	3.0	28	5	Drawn up and slender due to growing near the walnut. A long branch extending over the garden to the right has been shortened but there are no signs of any other work.	C
5	Walnut *Juglans regia*	Y/N	9	3	5.5	4.5	3	250	3.0	28	5	Very sinuous and has an irregularly shaped crown due to growing near the birch, but sound and healthy. The two trees are very close together and are competing, both are healthy at present but the walnut is the longer lived of the two.	C
6 * (13)	Flowering cherry *Prunus serrulata*	MA/N	7	2.5	2.5	2.5	2.5	2 x 160	2.7	23	2	In the rear garden of no.13, so could not be inspected closely but looks sound and healthy. Has been reduced several years ago and is growing on. The boundary wall foundation will inhibit root spread into no.11 and the tree has a very large surface root extending towards the back of the house, indicating that much of the root system is in that garden	C
7 * (9)	Honey locust *Gleditsia triacanthos*	Y/N	11	3	3	1.5	3.5	180	2.2	15	3	In the rear garden of no.9, so could not be inspected closely, but is relatively young and looks sound and healthy. One sided due to growing near the house and will need trimming in future to maintain clearance.	C

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Notes
Observations are made from ground level unless stated otherwise.
Trunk diameters are measured in millimetres at 1.5m above ground or at the narrowest point between the root buttresses and branch flare in multiple trunked trees; in such cases this is indicated by [c].
Crown spreads are taken from the trunk centre to the end of the longest live branches in the directions indicated [usually the four cardinal compass points]
Crown height is the clearance under the lowest significant branches.

Tree ages are estimated as below, based on the normal life expectancy of a tree of the species concerned on the site:

Immature.	[IM]	Newly planted or self-set tree.
Young	[Y]	Young tree that is established but has not yet attained the size or form of a fully developed example of its type.
Middle aged	[MA]	Between one third and two thirds of its estimated lifespan.
Mature	[M]	Over two thirds of it's estimated life span.
Over mature	[OM]	Declining and/or approaching the end of it's natural lifespan.
Dying/Dead	[D]	Dead/dying or so badly decayed that it should be removed without delay if a potential threat.

Vigour is assessed on the basis of what is normal for that the species concerned as:

High	[H]
Normal	[N]
Low	[L]
Dead / dying	[D]

Root protection areas [RPAs] - BS5837:2012

For single trunked trees these are calculated as an area equivalent to a circle with a radius 12 times the trunk diameter at 1.5m. For multiple trunked trees it is based on the diameter of a single trunk that would have the same cross sectional area at 1.5m.

Any deviation from a circular plot should take into account the following factors whilst still providing adequate protection for the roots.

- The shape and disposition of the root system when known to be influenced by past or existing site conditions, such as the presence of roads, structures and underground services.
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance based on factors such as species, age and past management.

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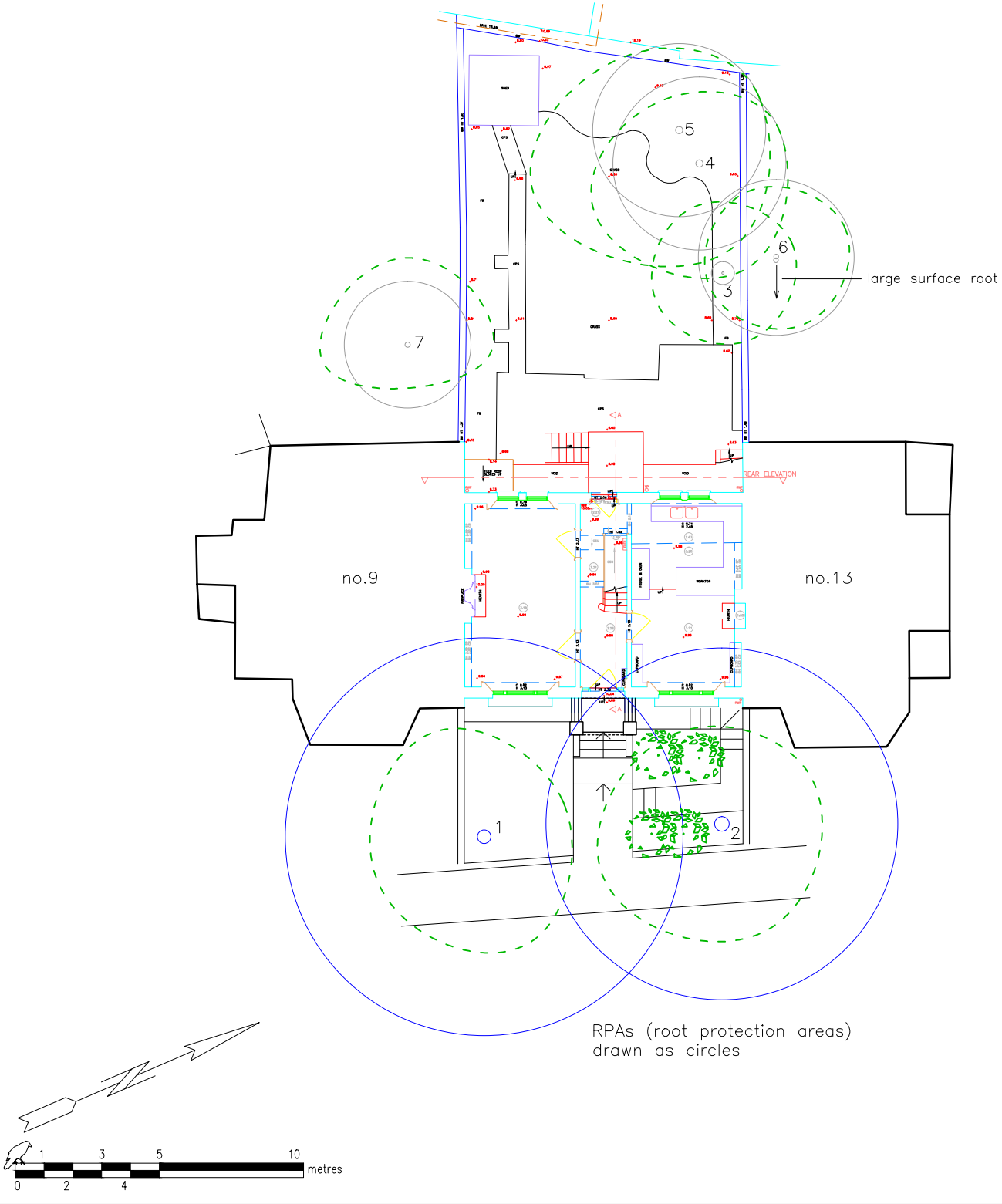
Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations

Trees for removal				
Category and definition				**Colour code**
Category U				**Red**
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 in the foreseeable future, including any that will become unviable after the removal of other U category trees. (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning.) • Trees that are dead or showing signs of significant immediate and irreversible decline. • Trees infected with pathogens significant to the health and/or safety of other trees nearby, or very low quality trees suppressing better ones nearby. *NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.*			
Trees for retention				
Category and definition	**Criteria – sub categories**			**Colour code**
	1 – mainly arboricultural values	**2 – mainly landscape values**	**3 – mainly cultural / conservation values**	
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 historical, commemorative or conservation value. (e.g. veteran trees or wood -pasture)	**Green**
Category B				
Trees of moderate quality with an estimated remaining life expectancy 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 benefits.	**Blue**
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 benefit.	**Grey**



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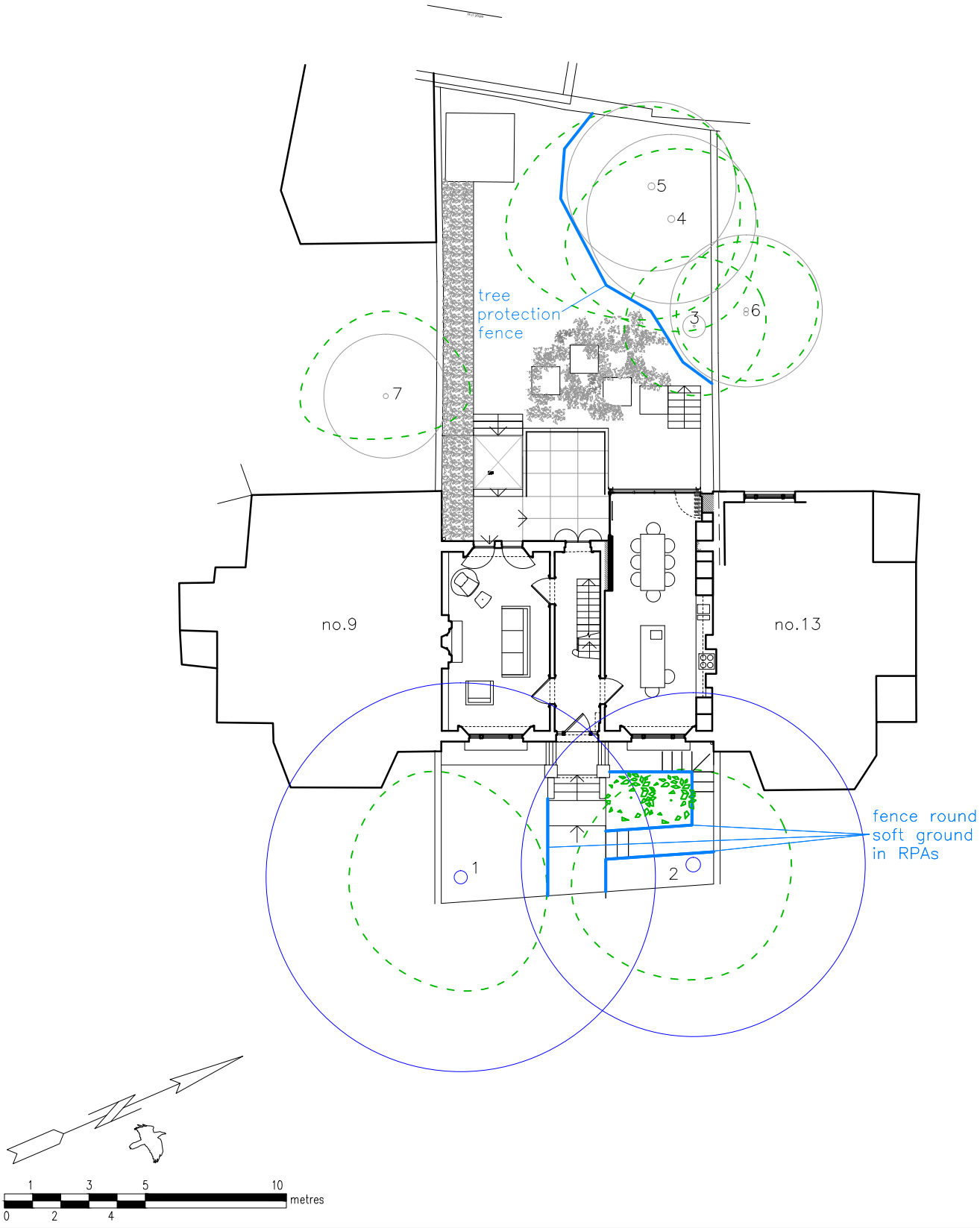
Client: Mr & Mrs Chamberlain		Ref: 17/001	Rev: a
Site: 11 Burghley Road, London, NW5 1UG		Scale: 1:200 at A4	
Title: Trees and proposed building work - existing site		Original drawing: Guard Tillman Pollock Architects	
Date: 28 March 2017			

Root protection areas [RPAs] are colour coded according to retention category from BS5837:2012, Trees in relation to design, demolition and construction:

A = green
B = blue
C = grey
U = red - dashed - also used to denote dead trees with no RPA
Tree protection fencing = mid blue

Crown spreads = mid green



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Title: Trees and proposed building work - tree protection plan (TPP)		Original drawing: Guard Tillman Pollock Architects	
Date: 28 March 2017			

Root protection areas [RPAs] are colour coded according to retention category from BS5837:2012, Trees in relation to design, demolition and construction:

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