

## Simon Pryce Arboriculture

### Report

**Client:** Ms Sarah Gentleman

**Site:** 64 Gloucester Crescent, London, NW1 7EG

**Subject:** Trees and proposed building work.

**Inspection date:** 7 January 2015

**Report date:** 20 January 2015

**Reference:** 15/115

**Author:** Simon Pryce, B.Sc., F.Arbor.A, C.Biol, MSB, MICFor  
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## **I Introduction**

- 1.1 This report has been prepared on the instructions of Burd Haward Architects (BHA) in connection with proposed building work at 64 Gloucester Crescent, London, NW1 7EG.
- 1.2 I have been asked to inspect trees growing on and near the site and to prepare a report on them, as set out in British Standard 5837: 2012, Trees in relation to design, demolition and construction.
- 1.3 The site was visited and the trees inspected on 7 January 2016. The inspections were visual and made from ground level, with no climbing or test boring as these were not warranted. Trees in adjacent gardens were inspected as closely as possible from within no.64.
- 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 contained in the attached schedule and they are shown on the attached plans, based on originals prepared by BHA.

## **2 Background**

- 2.1 No.64 is a Victorian terraced house with three main floors and a lower ground floor that opens onto the garden at the rear. The rear garden is about 5m wide and rises from the back of the house with the natural lie of the land, narrowing to about 3m. It is bounded to the sides by the gardens of no.65 to the left and 63 to the right, which are similar in size.

## **Proposal**

- 2.2 This is shown on the drawings produced by BHA. The work that might affect trees is the extension of the existing lower ground floor room at the rear farther into the garden. Ground level at the back of the house is not altered significantly but the existing set of steps up to the farther part of the rear garden is altered slightly.

## **3 Trees**

- 3.1 The only significant tree within no.64 is a middle aged Norway maple growing in the front garden. Others nearby are a Ceanothus in the rear garden of 65, to the left and a weeping willow and magnolia, both in the rear garden of no.63, to the right.
- 3.2 The house and adjacent ones are in Primrose Hill Conservation Area and the maple in front garden is protected by a tree preservation order (TPO), Camden's reference C718.

## **4 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.
- 4.2 British Standard 5837: 2012, Tree in relation to design, demolition and construction – Recommendations, specifies measures to avoid or minimise damage to trees that are retained on or near construction sites. This recommends that root protection areas [RPAs] are established round retained trees and that no ground work takes place within them unless measures are taken to safeguard the trees. RPAs are normally enclosed by suitable fencing such as weld mesh sections supported by scaffold poles driven into the ground.

## Root protection areas

- 4.3 The size of the RPA is based on the size of the tree concerned. The starting point is that for a single trunked tree it has an area equivalent to a circle with a radius 12 times the trunk diameter measured at 1.5m above ground. With multiple trunked trees it is based on the diameter of a single trunk that would have the same cross sectional area. The shape of the RPA can be modified where there is evidence that root spread is uneven or where there is sufficient rooting space in other directions to compensate for working closer to the tree on one side.

## Implications for this case

- 4.4 Root spread of the maple in the front garden will be restricted by the various features around it, including the foundations of the front wall, the carriageway sub base and the coal cellars beneath, so the circular RPA will not be a very accurate indication of its actual root spread. However no work takes place near it and most of the surrounding ground is hard surfaced, which will protect underlying roots. It can be safeguarded from incidental damage from the work by preventing access or material storage on the soft ground immediately round its base by fencing it to prevent access.
- 4.5 The fatsia, item 2, in the rear garden would be removed but it is a barely significant shrub and below the size limit at which it would be protected by being in the conservation area
- 4.6 Some work takes place within the RPAs of the ceanothus, weeping willow and magnolia, items 3, 5 and 6. These have been drawn as circles in order to illustrate the areas concerned, but all the plants are in other gardens and in practice the wall foundations and difference in levels will reduce spread into no.64. As a result fewer roots will be there than the circular RPAs might suggest. The relevant figures based on circular RPAs are:

No.	RPA m <sup>2</sup>	Incursion m <sup>2</sup>	%	Comments
3	18	1.7	9.4%	Tolerable, probably an over estimate as the wall foundation and level changes will act as barrier
5	56	1.9	3.4%	Minimal figure, resilient species actual figure likely to be lower given pruning history and presence of the wall.
6	41	0.6	1.4%	Insignificant, unlikely that any roots will have grown under the wall.

- 4.7 The highest figure is for the ceanothus, no.3, but is well within what a healthy shrub like this will tolerate. As noted above, the actual figure will be lower, as it is not a particularly large growing or invasive species, so the wall foundation and difference in levels will inhibit root growth into no.64. The weeping willow, no.5, is larger and willow roots tend to be deep and wide spreading, so the wall will be less of a barrier than it would for the ceanothus. However the percentage of the RPA affected is minimal and well within what a resilient species like this will tolerate. Also its crown is reduced regularly, which will also restrict its root growth, so basing the RPA on the trunk diameter gives an additional safety margin. The magnolia, no.6, is not as naturally resilient as the willow, but is a healthy specimen and the proportion of its root system that might be affected is insignificant.
- 4.8 Although the direct effects of the proposal are barely significant some work space will be needed within the RPAs of the ceanothus and willow. However this is a small scale project with no access for heavy plant and the area concerned is at the top of a set of steps at the far end of the work area, so the trees are not very vulnerable to indirect harm from things like soil compaction or contamination. They can be safeguarded easily with a combination of lightweight ground protection, such as heavy duty plywood and a simple fence.

- 4.9 It is unlikely that any roots from the magnolia have grown into no.64 and it is well away from the work area, so is not vulnerable to direct or indirect damage and there is no need for any protective measures.
- 4.10 The trees to the front and rear are at different levels, so they are shown on separate proposed layout plans. These show suitable layouts for fencing and other measures and serves as the tree protection plans (TPP) recommended by BS5837:2012. Once the layout is finalised, this can be the basis of an arboricultural method statement, which can be made a condition of consent.

## 5 Conclusions

- 5.1 The only significant tree at no.64 is the Norway maple at the front. No work takes place near it and it can be safeguarded against incidental damage by fencing the soft ground round its base.
- 5.2 To the rear only two trees and a large shrub might be affected by the work; all of these are in adjacent gardens, although they could have made some root growth into no.64.
- 5.3 Some work takes place within their potential rooting areas, but the amounts concerned are small and actual root growth there is likely to be less than the circular RPAs might suggest. As a result any direct root disturbance will be well within what they will tolerate.
- 5.4 Some additional work space will be needed near the ceanothus and willow, but they can be safeguarded with basic lightweight ground protection and fencing.
- 5.5 Once the layout is finalised these measures can be specified in more detail in a method statement, if required.

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Tree no.	Species	Age / vigour	Ht. m	Spread				Dia. mm	RPA rad m	RPA area m <sup>2</sup>	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 in the first column indicate those in other ownership, which house numbers in brackets.													
1	Norway maple <i>Acer platanoides</i>	MA/N	12	5.5	4.5	5	3	480	5.7	103	5	Pollarded at about 3m when younger, left to grow on and has been crown reduced on several occasions in recent years. Protected by a TPO.	B
2	Fatsia <i>Fatsia japonica</i>	Y/N	3.5	2.5	0	1	2	65	0.8	1.8	2	Rooted in a narrow planting bed and leans due to growing close to the wall. Healthy but an insignificant specimen.	C
3 * (65)	Ceanothus <i>Ceanothus arboreus</i>	MA/N	5	2	5	4	2.5	200	2.4	18	2	Leans away from the boundary wall, could not be inspected closely but looks sound and healthy. Wall foundation and level change will inhibit root growth into the garden of 64.	C
4	Apple <i>Malus variety</i>	MA/N	3.5	1.5	2.5	1.5	1	50	0.6	1.0	1	Small, barely significant specimen.	C
5 * (63)	Weeping willow <i>Salix babylonica</i>	M/N	9	4	3.5	4	4	350	4.2	56	3	Healthy specimen that has been pollarded and is recut regularly, last done about a year ago, new growth is healthy and vigorous looking.	C
6 * (63)	Magnolia <i>Magnolia spp.</i>	MA/N	9	4	4	4	4.5	300	3.6	41	5	Drawn up due to growing close to the tall buildings. Could not be inspected closely but is sound and healthy looking.	B

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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 its estimated life span.
Over mature	[OM]	Declining and/or approaching the end of its 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.

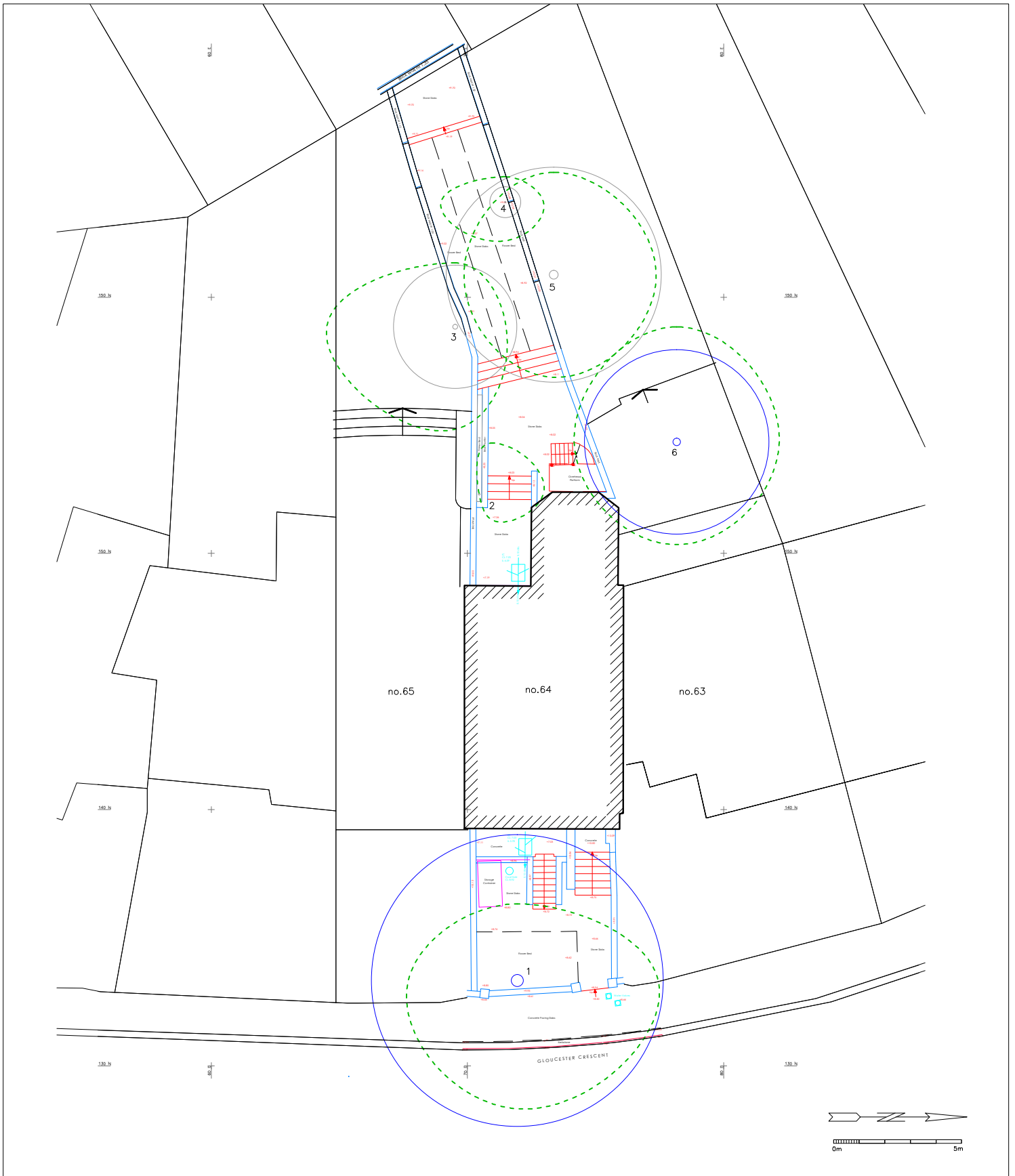
- The shape and disposition of the root system when known to be influenced by past or existing site conditions, such as the presence of roads, structures and underground services.
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance based on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

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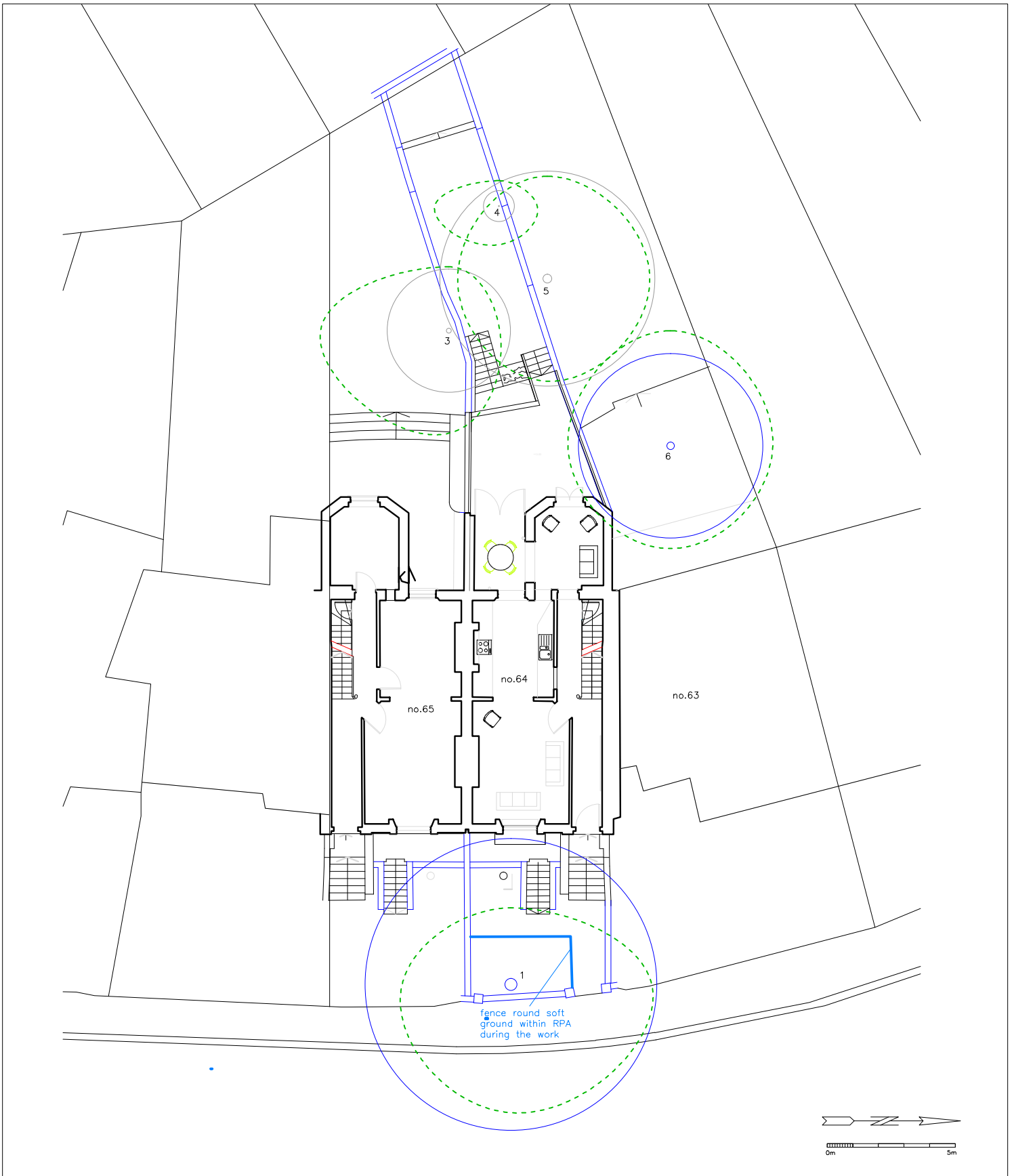
**Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations**

<b>Trees for removal</b>				
<b>Category and definition</b>				<b>Colour code</b>
<b>Category U</b>				<b>Red</b>
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	<ul style="list-style-type: none"> <li>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.)</li> <li>Trees that are dead or showing signs of significant immediate and irreversible decline.</li> <li>Trees infected with pathogens significant to the health and/or safety of other trees nearby, or very low quality trees suppressing better ones nearby.</li> </ul> <p><i>NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i></p>			
<b>Trees for retention</b>				
<b>Category and definition</b>	<b>Criteria – sub categories</b>			<b>Colour code</b>
	<b>1 – mainly arboricultural values</b>	<b>2 – mainly landscape values</b>	<b>3 – mainly cultural / conservation values</b>	
<b>Category A</b>				
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)	<b>Green</b>
<b>Category B</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.	<b>Blue</b>
<b>Category C</b>				
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.	<b>Grey</b>

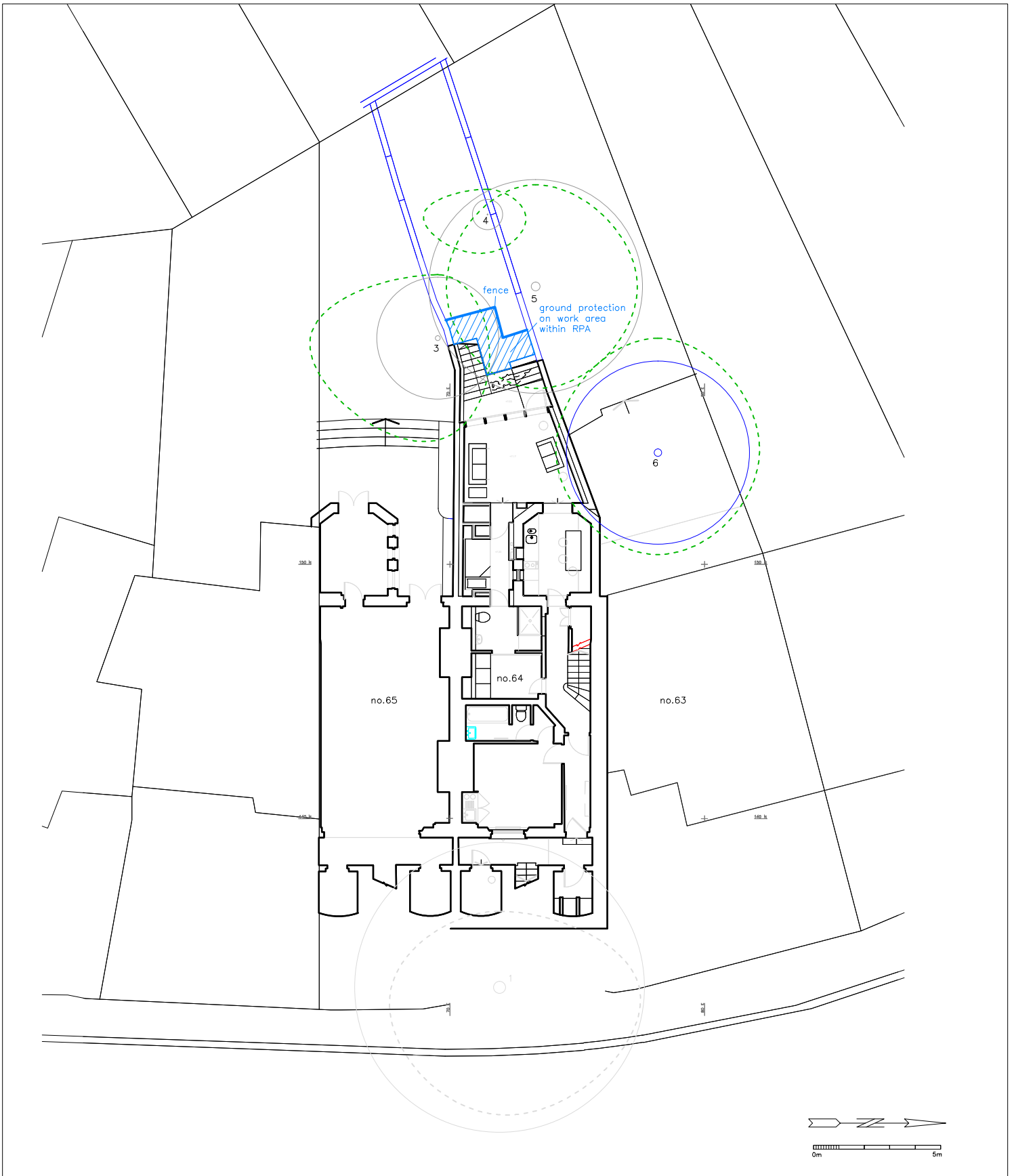


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	<b>Site:</b> 64 Gloucester Crescent, NW1 7EG	<b>Scale:</b> 1:200 at A4		
	<b>Title:</b> Trees and proposed building work - existing site	<b>Original drawing:</b> Burd Haward Architects		
	<b>Date:</b> 7 January 2015			





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	Site: 64 Gloucester Crescent, NW1 7EG	Scale: 1:200 at A4		
	Title: Trees and proposed building work - proposed ground floor	Original drawing: Burd Haward Architects		
	Date: 7 January 2015			



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	<b>Site:</b> 64 Gloucester Crescent, NW1 7EG	<b>Scale:</b> 1:200 at A4		
	<b>Title:</b> Trees and proposed building work - proposed lower ground floor	<b>Original drawing:</b> Burd Haward Architects		
	<b>Date:</b> 7 January 2015			