R W Green Limited

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Arboricultural Report

29 Charles Street, Barnes

On behalf of

County Gate Properties

Undertaken by

Nicholas D Jones *FdSc. NCH Arb. M Arbor A.*

June 2012

Contents

LIABILITY

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Executive Summary

R W Green Limited was commissioned by County Gate Properties to prepare an arboricultural report in order to advise on the potential impact of the proposed development upon the tree population adjacent to 29 Charles Street, Barnes.

The proposed development involves the demolition of the existing garages on site and the construction of six new dwellings.

The report confirms that there are no trees located on the development site and provides details the working methodology required to ensure that the proposal does no impact on the trees located on the adjacent land.

Moreover the report confirms that there is ample scope within the site for the construction process and the associated activities required to facilitate the proposed development.

Nicholas D Jones *FdSc. NCH Arb. M Arbor A.*

Section 1 Introduction

1.1 Formal details – My name is Nicholas Jones I am the principal arboricultural consultant for R W Green Limited based at The Lister Building, Upper Stoneham Farm, Lewes, East Sussex, BN8 5RH. I have 22 years' experience in the arboricultural industry with the past 10 years acting as a consultant; I am a Professional Member of the Arboricultural Association and a Lantra accredited Professional Tree Inspector giving advice to clients on a wide range of arboricultural issues.

1.2 The following arboricultural report has been commissioned by County Gate Properties in order to advise on the following:

- The species, size and position of any trees within the area of the proposed development and within neighbouring and adjoining areas where trees may have some significance to the proposed development.
- The maturity and condition of the trees surveyed with appropriate recommendations for action.
- The impact of the proposed development upon the tree population in and around the site.
- Specific measures required to protect retained trees during the development works and the ongoing monitoring of construction works to ensure that retained trees remain protected effectively.

1.3 The site was visited on 11th October 2011 and a survey carried out identifying and locating the relevant trees and other vegetation. An assessment of the trees in the vicinity of the proposed development has been

made in line with the guidance provided in British Standard 5837:2012 'Trees in relation to design, demolition and construction Recommendations'.

1.4 There are no trees located on the site of the proposed development.

1.5 This report has been undertaken with reference to the following drawings:

Originator	Drg No	Title	Scale
Giles Jollands	12.16/102	Ground Floor Plan	1:100@A1
R W Green Limited	RG-NDJ-CGCS 001	Tree Layout	Not scaled
R W Green Limited	RG-NDJ-CGCS 002	Tree Protection Plan	Not scaled
R W Green Limited	RG-NDJ-CGCS 003	Proposed Site Layout	Not scaled
R W Green Limited	RG-NDJ-CGCS 004	Proposed Landscaping	Not scaled

1.6 The following documents are referred to in this report:

Originator	Title/Reference
British Standards Institute	5837:2012 Trees in relation to design, demolition and construction - Recommendations
London Borough of Richmond Upon Thames	Adopted Development Management Plan – Policy DM DC 4 – Trees and Landscape
London Borough of Richmond Upon Thames	Design Guidelines Trees: Landscape Design, Planting & Aftercare - Design Guide Leaflet No. 5

1.7 The site to the west containing tree numbers T4 and T5 is located within the Barnes Green Conservation Area. In addition T4 and T5 are protected under Tree Preservation Order No. 1390090 and are trees T10 and T8 of that order respectively. Tree numbers T1 and T2 are also afforded protection under Tree Preservation Order No. 5680523 and are listed as trees T1 and T2 of that order respectively. Please see the tree layout plan attached in **Appendix 4**.

Section 2 Tree Survey

2.1 All trees potentially affected by the proposed development are recorded in the tree schedule (**Appendix 1**) with all key trees plotted onto Drg no RG-NDJ-CGCS 001 Tree Layout (**Appendix 4**). The trees have been visually assessed from ground level only using non invasive methods of inspection. Tree height is an estimation, crown spread and height to underside of canopy are measured with a Disto laser measure.

2.2 Stem diameters of tree number T1 and T2 have been measured with a calibrated diameter tape. Due to the location of trees T3, T4 and T5 stem diameters are an estimate only.

2.3 British Standard 5837:2012 provides guidance for the assessment of trees on development sites and suggests four primary quality assessment categories and three associated sub categories into which trees should be placed. These categories are defined in Table 1:

Category & Definition	Criteria	Identification on Plan
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (ie. Where for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant immediate and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality **NOTE:** Category U trees can have existing or potential conservation value which it might be desirable to preserve	Dark Red

Trees to Be Considered For Retention

Category & Definition	Criteria - Subcategories			Identification on Plan
	1. Mainly arboricultural qualities	**2. Mainly landscape qualities**	**3. Mainly cultural values, including conservation**	
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 (eg. The dominant and/or principal trees within an avenue)	Trees, groups or woodlands or particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (eg. Veteran trees or wood-pasture)	Light Green
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually as groups or woodlands, such that they attract a higher collective rating that they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid 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 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present on groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary/transient landscape benefit	Trees with no material conservation or other cultural value	Grey

Table 1

2.4 The following information has been recorded for each tree assessed:

- Tree reference number: As recorded on the site plan.
- Tree species: Common name only
- Age class: (J) Juvenile, (SM) Semi mature, (EM) Early mature, (M) Mature, (OM) Over mature, (V) Veteran
- Estimated remaining contribution in years eg: Less than 10, 10-20, 20-40, more than 40
- Height: In metres
- Stem diameter measured in millimetres as follows:
    - Single stem trees - measured at 1.5m above ground level
    - Multi stem trees (less than five stems) total of all stem diameters measured at 1.5m above ground level
    - Multi stem trees (more than five stems) mean stem diameter measured at 1.5m above ground level
- Adjusted root protection area radius (Metres) calculated in accordance with the formulas provided in chapter 4.6 and Annex D of BS5837:2012
- Crown Spread: Measured at the four cardinal points (Metres)
- Height to underside of canopy: Measurement from ground level to the lowest branch (Metres)
- Physiological condition: Excellent, Fair, Poor, Dead
- Structural condition: Assessed as previous item on presence of decay and potential structural defects
- Quality assessment category: As defined in Table 1
- Comments and observations: Information regarded as relevant by the assessing arborist
- Recommended works: Details of any remedial action required to address significant defects and or facilitate development

2.5 There are no trees located on the site of the proposed development.

2.6 Mature trees are located to the east, north and west of the site.

2.7 T1 and T2 are located off site immediately adjacent to the eastern boundary (Plate 1 **Appendix 3**).

2.8 T3 is located is located off site to the north of the existing garages (Plate 2 **Appendix 3)**

2.9 T4 and T5 are located off site the west in the garden of the neighbouring property (Plate 3 **Appendix 3**).

Section 3 Site Specific Tree Protection Method Statement

3.1 The Principal purpose of a Tree Protection Method Statement is to ensure the preservation of retained trees through setting out appropriate working practices, construction techniques and tree protection measures that will be adopted when construction work is undertaken.

3.2 On site monitoring - Arboricultural monitoring will involve a schedule of visits, frequency to be agreed with the Local Planning Authority, and completion of a standard form an example of which is provided in **Appendix 5** which must be completed by the project arborist and signed by the client, site manager or their representative and the project arborist. A copy is then kept by the client, the project arborist and an additional copy forwarded to the Local Planning Authority.

3.3 It is the responsibility of the client to appoint a suitably qualified project arborist prior to the commencement of works.

3.4 The supervision may require the project arborist to be present throughout the tasks to ensure all of the arboricultural objectives are met.

3.5 Arboricultural supervision is to be carried out at all crucial stages throughout the construction process to ensure that tasks are undertaken in accordance with the approved methodology.

3.6 If the task is to be prolonged, provided the project arborist is satisfied, the supervision may be reduced to telephone contact between the site manager and the project arborist.

3.7 The Local Authority Arborist shall have free access to the site and pass any observations and recommendations directly to the project arborist.

3.8 The purpose of monitoring visits is to ensure that the method statement is continually adhered to and if any issues arise they are promptly addressed with any remediation measures notified to all parties immediately.

3.9 British Standard recommendations provide a formula for calculating the Root Protection Area which indicates the area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability. The protection of the roots and soil within this area should be treated as a priority. The shape of the root protection area and its exact location will depend upon arboricultural considerations and the area will normally be represented on a constraints plan as a circle or polygon.

3.10 The Root Protection Areas of the adjacent trees are detailed in the tree schedule **Appendix 1** and are indicated on Drg No. RG-NDJ-CGCS 002 **Appendix 4**.

3.11 Due to the existing site layout and the surrounding boundary features tree protection fencing will not be erected on site.

3.12 Any accidental damage to the retained trees or any associated protection measures must be reported to the site manager immediately. Works occurring in the vicinity must cease immediately until adequate remediation has been completed. A record of any damage will be made by the site manager and in consultation with the project arborist any remediation undertaken.

Section 4 Method Statement for Works within the RPA's of Adjacent Trees

4.1 The proposed development involves the demolition of the existing garage buildings on site.

4.2 Sections of the existing garages are located within the Root Protection Areas (RPA's) of the adjacent trees, as detailed on Drg No. RG-NDJ-CGCS 002 Tree Constraints Plan **Appendix 4.**

4.3 In order to ensure demolition and construction operations do not result in any long term damage to the trees the following methods will be adopted within the RPA's of the adjacent trees:

- Demolition of the existing above ground structures will be undertaken using a mechanical excavator
- Breakout of the existing ground floor slab and hard surfacing will be undertaken with a hand operated pneumatic breaker under the supervision of the project arborist. All arisings will be removed from within the RPA by hand. No mechanical excavation or loading is permitted with the exposed RPA of adjacent trees
- Foundation systems for the proposed development within the RPA's will be short bore pile and beam construction supporting a ground floor slab
- The proposed surfacing within the RPA's of T1 and T2 will be permeable block paved

Section 5 Arboricultural Implications Assessment

5.1 The arboricultural impact of the proposed development is fully detailed in **Appendix 2**.

5.2 There are no trees located on the proposed development site.

5.3 The proposed development maintains the existing distances between the adjacent trees and developed areas.

5.4 The proposed surfacing within the RPA's of T1 and T2 is block paving which will result in an improvement in both water percolation and aeration within the RPA's.

5.5 The proposed site layout will result in an enhancement to T5 with a significant percentage of the existing hard surfaced root protection area being removed and replaced with landscaped garden as indicated on Drg No RG-NDJ-CGCS 003 Proposed Site layout **Appendix 4**.

Section 6 Post Development Tree Planting

6.1 The proposed site layout makes allowance for the inclusion of new tree planting. Details of species and sizes specified are included in table 4 below. Locations are indicated on Drg No. RG-NDJ-CGCS 004 Proposed Landscaping **Appendix 4**.

Quantity	Species	Size
1no.	*Ficus carica*	12-14cmg 45-85 litre
1no.	*Olea europea*	12-14cmg 45-85 litre
1no.	*Prunus dulcis*	12-14cmg 45-85 litre
1no.	*Malus Cox's Orange Pippin*	12-14cmg 45-85 litre
1no.	*Mespilus germanica*	12-14cmg 45-85 litre
1no.	*Prunus domestica 'Victoria'*	12-14cmg 45-85 litre

Table 4

6.2 The proposed species are suitable for inclusion within the post development landscape and have been selected in line with the guidance provided in London Borough of Richmond Upon Thames, Design Guide Leaflet No. 5 and accords with Policy DM DC 4 (Trees and Landscape).

6.3 An outline of the key characteristics along with illustrative examples of each tree is provided in **Appendix 6**.

6.4 The tree species proposed are suitable for planting in the urban environment and will not form overpowering crowns on maturity. All of the trees provide good year round interest and edible fruits.

6.5 Individual specimen tree size is given as container size in litres and stem size as centimetre girth (cmg) and must be treated as the minimum standard required.

Section 7

Planting Specification

7.1 Planting is to be carried out in accordance with the above schedule and attached drawings. Planting shall take place in the first available planting season post development.

7.2 Plant Handling - All trees and should be carefully packed and kept so, to ensure, as far as possible that no damage occurs during loading, transit and unloading, or adverse weather conditions. If, however, roots, shoots or branches suffer slight damage prior to planting, they should be carefully pruned.

7.3 The Landscape Contractor shall ensure that the trees and retain a moist fibrous root system and that by appropriate treatment plants are protected from the effects of drying out, heat, waterlogging or physical damage during the period between delivery and planting on site.

7.4 Trees shall be planted at the same depths as those at which they have been previously growing in the nursery/container. Great care shall be taken to ensure that the root system is not damaged during planting, and the soil is consolidated in layers around the roots when planting.

7.5 All planting pits shall be finished slightly proud of the surrounding surfaces.

7.6 After planting tree pits and planted areas shall be lightly forked over and/ or raked, to bring the surface to a moderately fine, weed-free tilth.

7.7 Container-grown trees must have been containerised at least during the previous dormant season in containers filled with suitable compost and large enough to hold the root growth with minimal restriction. Before planting commences the plants shall be thoroughly soaked with water and care shall be taken to avoid root damage when removing the container prior to planting.

7.8 Stock - All stock shall comply with the current edition of British Standard 3936:1992 Nursery Stock – Specification for Trees and Shrubs. All root systems shall be adequate in relation to the size of the plant and conducive to successful transplantation.

7.9 Specification of Trees - All trees shall be supplied according to the specified heights/container sizes as detailed in Tables 4 above.

7.10 Planting operations - The Landscape Contractor shall excavate planting pits to a size of one third larger than the root ball/container and of adequate size to accommodate root systems without distortion. The bottom 100mm of each pit shall be well broken up, and any rubble, debris, stones, etc., larger than 75mm found in the excavated material will be removed from site.

7.11 Each tree will be planted centrally in its pit; roots shall be carefully spread with the backfill consolidated by foot in layers.

7.12 Backfill shall consist of excavated material well mixed with approved **peat-free** planting compost to the manufacturer's recommendations. TPMC + Enmag fertilizer.

7.13 Watering - The Landscape Contractor is to supply all watering equipment. All trees are to be well watered in immediately after planting.

7.14 Mulching - Post planting, the bases of all planted trees (600mm diameter) will have a covering of 75-100mm depth wood chip mulch to suppress weed growth and aid moisture retention.

7.15 Stakes - All trees shall each be supported by a minimum of 1 no. 2m x 80mm peeled and pointed chestnut stake.

7.16 Tree Ties - Trees will be secured to the stakes via a rubber tie and block fixed to the stake with galvanised nails

7.17 Aftercare will consist of weekly watering and manual weeding between the months of April – September inclusive and will continue for a minimum of 3 years post planting as an aid to establishment.

Section 8 Summary and Conclusions

8.1 British Standard 5837: 2012 contains clear and current recommendations for a best practice approach to the assessment, retention and protection of trees on development sites. The proposed development has followed this guidance by:

a) Seeking arboricultural advice to inform the layout and design of the proposal

b) Respecting the constraints posed to development of the site by high or moderate quality trees located on adjacent land, and taking proactive steps to ensure their protection during development

c) Continuing to take advice on all aspects of the proposal that may impact upon the adjacent trees

d) Committing to enhancing the arboricultural value of the area by undertaking post development tree planting

8.2 There is no tree loss associated with the proposed development

8.3 The proposed development is largely located outside the root protection areas of the retained trees. Where development is within the root protection areas of retained trees it is confined to areas of existing development.

8.4 The proposed development will result in an enhancement to the root protection areas of trees T1, T2 and T5.

8.5 The proposed development accords with Policy DM DC 4 (Trees and Landscape) through the inclusion of post development tree planting. The

proposed quantities and species ensure continuity of sustainable tree cover in the area.

8.6 By adopting appropriate working practices on the site, it is my considered opinion that there is ample scope within the site for the construction process and associated activities required to facilitate the proposed development.

8.7 In summary I consider that there are no valid arboricultural issues that reasonably restrict the proposed development of the site.

Signed: 

Date: 28.06.2012

DIRECTORS: RICHARD W GREEN, NCH (ARB) & ALISON J GREEN
VAT Reg. No. GB 781 8713 96
Registered in England & Wales No. 03949783
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Appendix one

Tree Schedule

29 Charles Street Tree Schedule

Tree number	Tree species	Age class	Estimated remaining contribution (years)	Tree Height (m)	Number of stems	Stem diameter (mm)	Adjusted Root Protection Area Radius (m)	Crown spread (m)				Height to underside of canopy (m)	Physiological condition	Structural condition	Comments and observations	Recommended works	Quality Assessment Category
								N	E	S	W						
1	Lime	M	40+	18	1	730	8.7	4.0	4.8	5.8	4.1	1.5	Fair	Fair	Located off site to the east. Fair specimen. Previously reduced, dense regrowth. Major dead wood evident in the upper crown	Remove dead wood	A1
2	Lime	M	40+	17	1	610	7.3	3.9	3.0	3.7	3.5	1.5	Fair	Fair	Located off site to the east. Fair specimen. Previously reduced, dense regrowth	No work required	A1
3	Sycamore	M	<20	7	1	320	3.8	3.0	3.6	2.4	3.8	2.0	Fair	Poor	Located off site to the north. Basal decay evident	No work required	B1
4	Lime	M	40+	10	1	310	3.7	4.4	4.4	4.4	4.4	5.0	Fair	Fair	Located off site to the west. Fair specimen	No work required	B1
5	London Plane	M	40+	21	1	1500	15.0	6.0	6.0	6.0	6.0	8.0	Fair	Fair	Located off site to the west. Recently crown reduced, excellent specimen	No work required	A1

Appendix two

Arboricultural Impact Assessment

29 Charles Street Arboricultural Impact Assessment

Tree number	Tree species	Retention category	Age class	RPA Affected	Nature of impact	Comments and observations	Mitigation Required
1	Lime	A1	M	<45%	Demolition of the existing garage structure and removal of the existing hard surfacing	Proposed surfacing will be a porous paved construction ensuring aeration and drainage within the RPA. This is a significant improvement on the existing site layout	Works to accord with the detail provided in section 6 of this report
2	Lime	A1	M	<30%	Demolition of the existing garage structure and removal of the existing hard surfacing	Proposed surfacing will be a porous paved construction ensuring aeration and drainage within the RPA. This is a significant improvement on the existing site layout	Works to accord with the detail provided in section 6 of this report
3	Sycamore	B1	M	<50%	Demolition of the existing garage structure and construction of the proposed dwellings	The proposed layout maintains the existing distances from the tree to development	Works to accord with the detail provided in section 6 of this report
4	Lime	B1	M	N/A	The proposed development is located out side the RPA	N/A	None required
5	London Plane	A1	M	<10%	Demolition of the existing garage structure and construction of the proposed dwellings	The propopsed site layout provides an incresed distance between the tree and the developed area resulting in an ehancement to the rooting area of approximately 17m²	Works to accord with the detail provided in section 6 of this report

Appendix three

Photographs

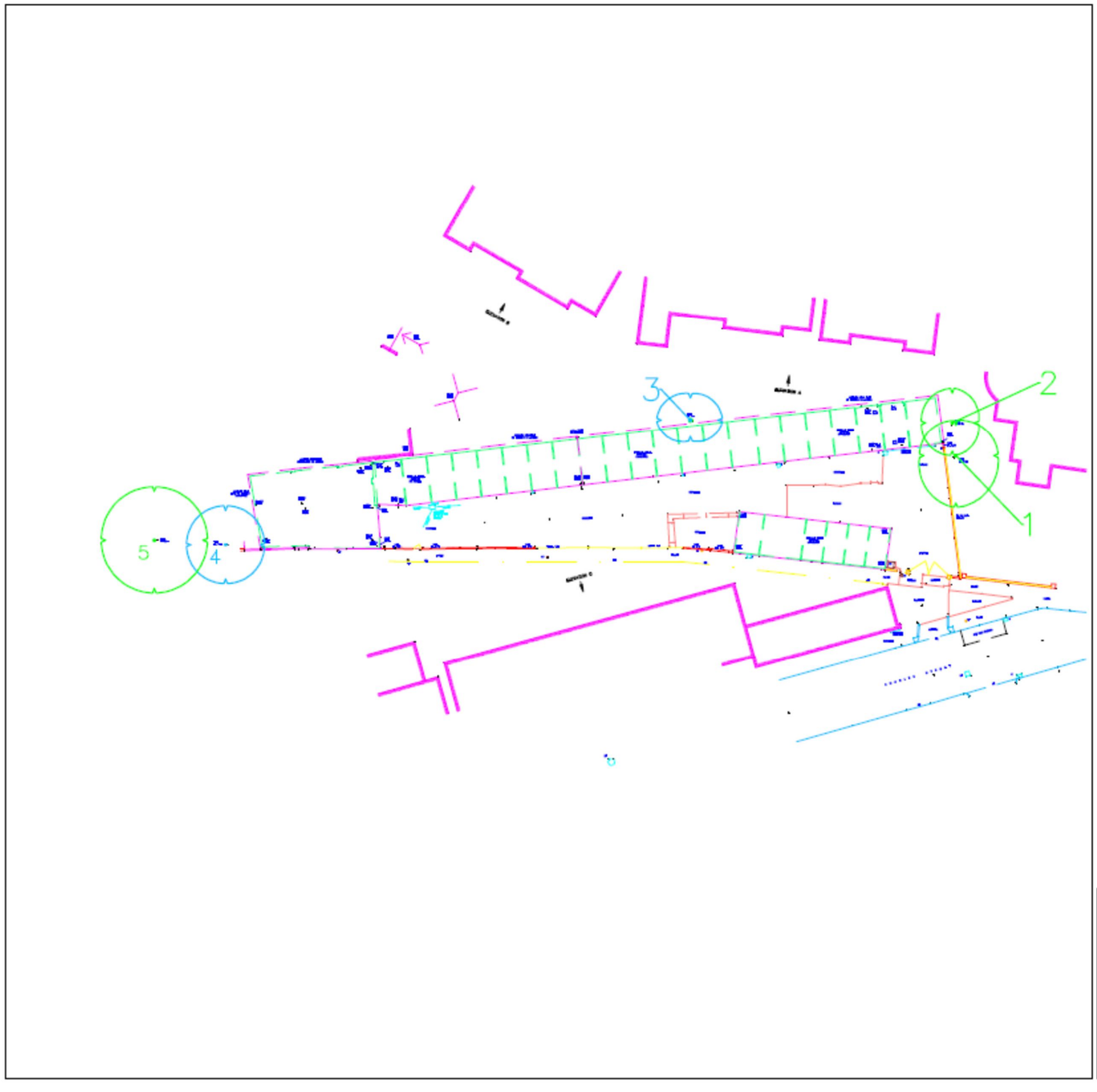
Plate 1

Plate 2

Plate 3

Appendix four

Site Drawings



County Gate Properties
Charles Street
Barnes
London

Drg No: RG–NDJ–CGCS 001

Tree Layout

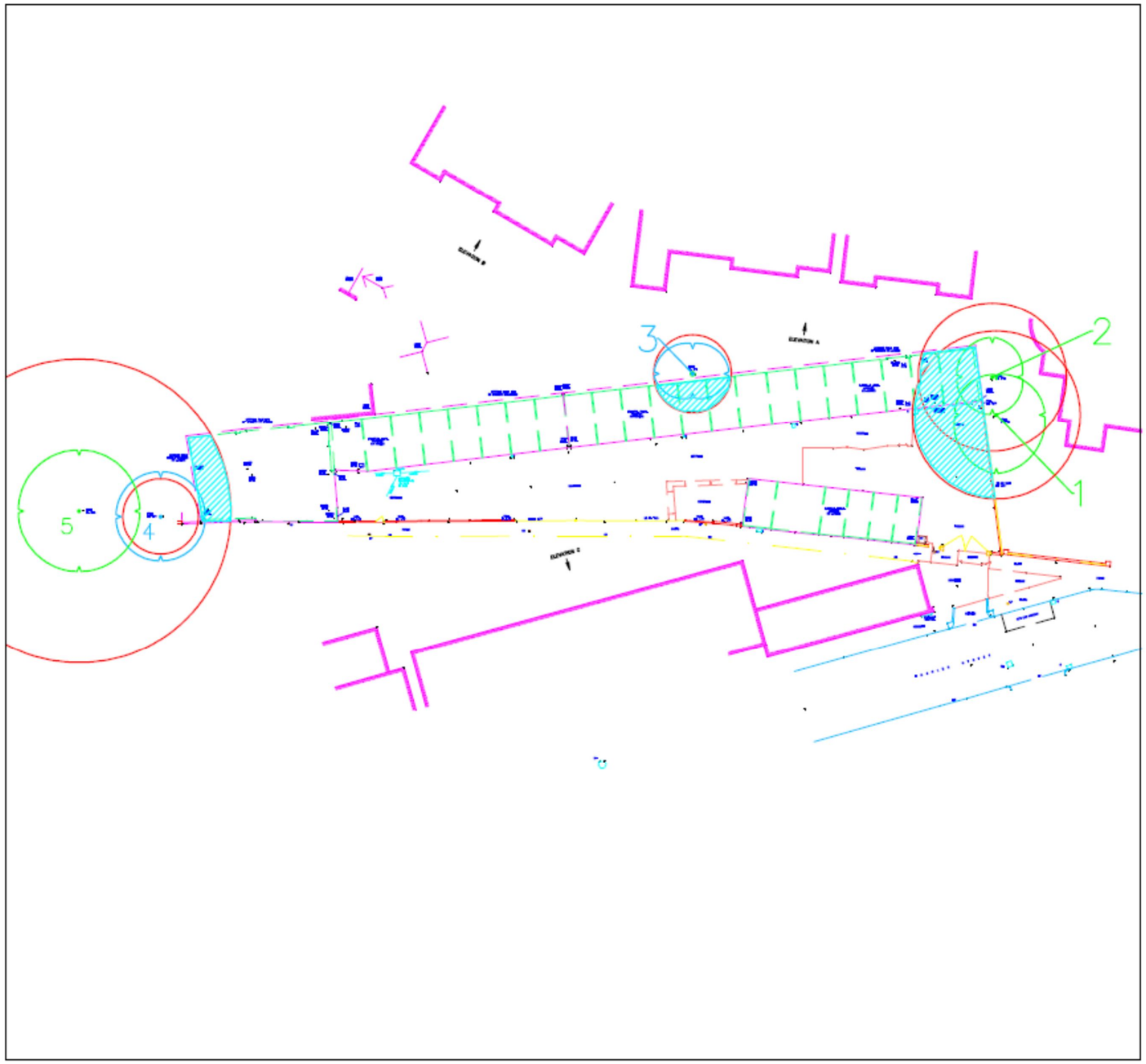
June 2012

R W Green Limited
Upper Stoneham Farm
Lewes
East Sussex
BN8 5RH

01273 480727

Catergory A – Trees of high quality and value, in such a condition to make a substantial contribution (a minimum of 40 years is suugested)

Category B – Trees of moderate quality and value, those in such condition to make a substantial contribution (a minimum of 20 years is suggested)



County Gate Properties
Charles Street
Barnes
London

Drg No: RG–NDJ–CGCS 002

Tree Constraints Plan

June 2012

R W Green Limited
Upper Stoneham Farm
Lewes
East Sussex
BN8 5RH

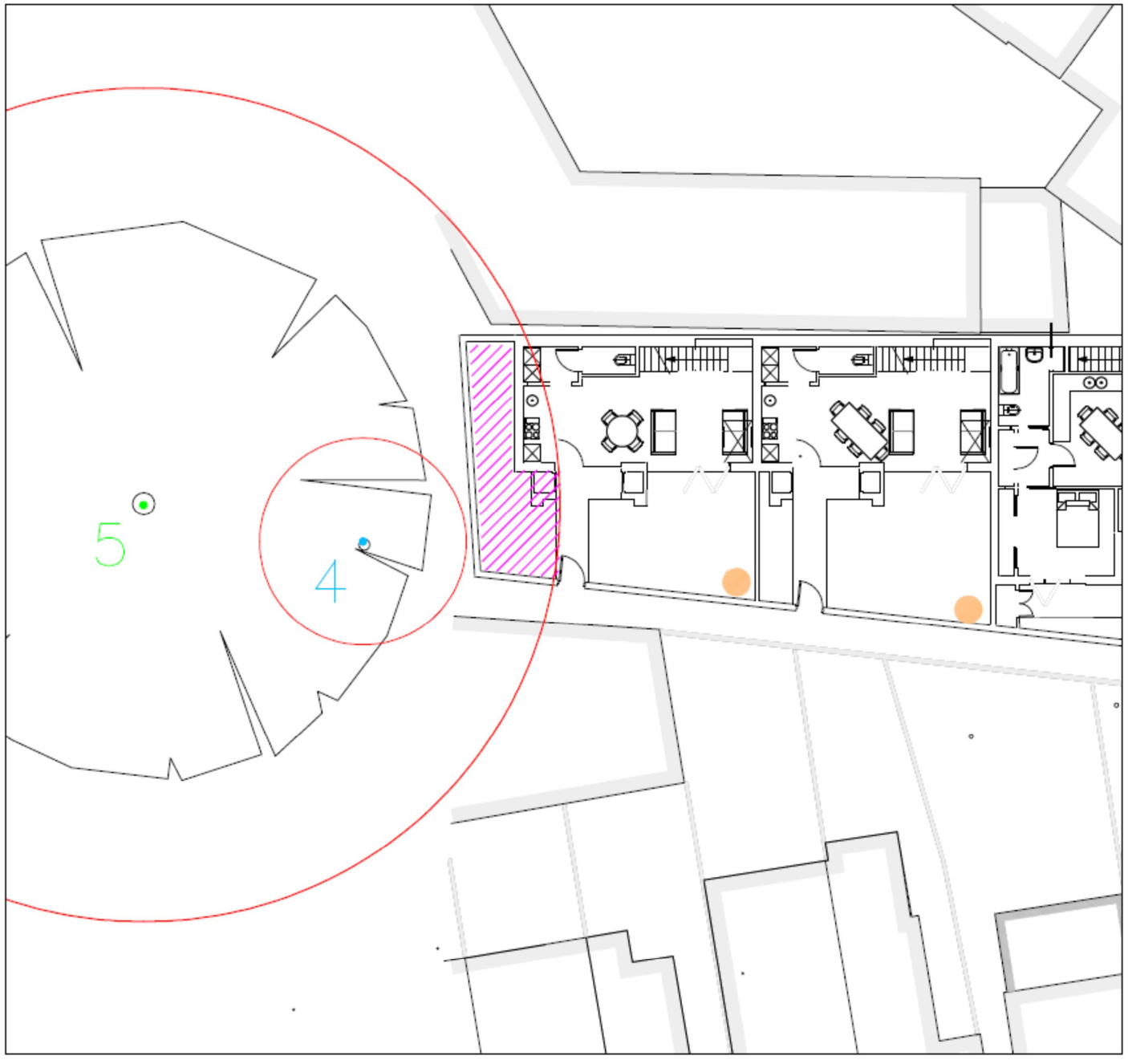
01273 480727

Catergory A – Trees of high quality and value, in such a condition to make a substantial contribution (a minimum of 40 years is suugested)

Category B – Trees of moderate quality and value, those in such condition to make a substantial contribution (a minimum of 20 years is suggested)

Denotes Root Protection Area

Hand dig/pile and beam foundation areas



County Gate Properties
Charles Street
Barnes
London

Drg No: RG–NDJ–CGCS 003

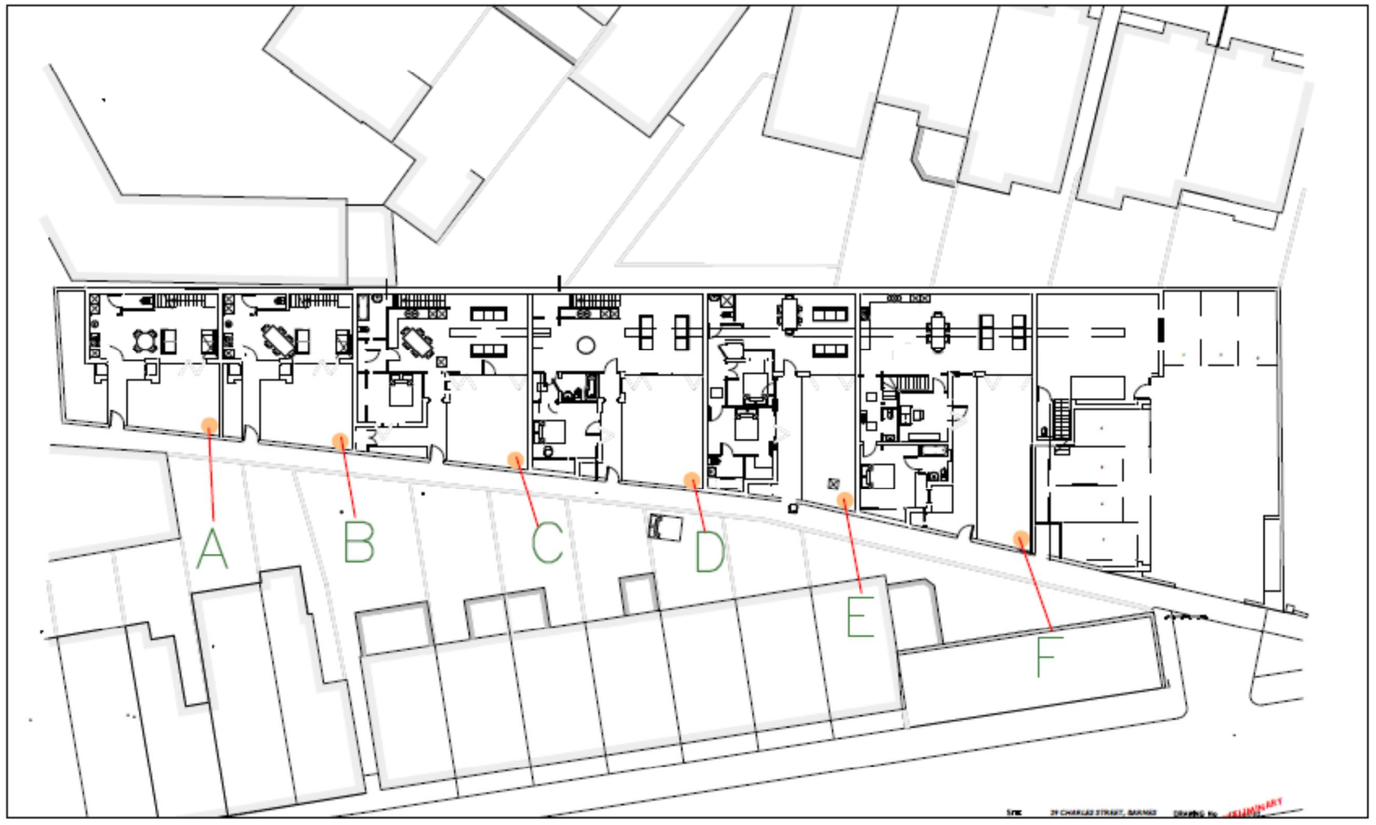
Proposed Site layout

June 2012

R W Green Limited
Upper Stoneham Farm
Lewes
East Sussex
BN8 5RH

01273 480727

Enhancemt Area within RPA of T5



County Gate Properties
Charles Street
Barnes
London

Drg No: RG–NDJ–CGCS 004

Proposed Landscaping

June 2012

R W Green Limited
Upper Stoneham Farm
Lewes
East Sussex
BN8 5RH

01273 480727

A – 1no. Ficus carica 12–14cmg
B – 1no. Olea europea 12–14cmg
C – 1no. Prunus dulcis – 12–14cmg
D – 1no. Malus Cox's Orange Pippin 12–14cmg
E – 1no. Prunus domestica 'Victoria' 12–14cmg
F – 1no. Mespilus germanica 12–14cmg

Appendix five

Additional Information

R W Green Limited
Construction Site Monitoring Record

Site Address: **Client:**

Date	Activity	Comments	Actions	By whom	Signed (on behalf of R W Green)	Signed (on behalf of client)

Appendix six

Species Detail (Proposed Planting)

Species	Characteristics	Images
Ficus carica (Common Fig)	A well-known fruiting species forming a small and elegant tree. Perfect for gardens were space is restricted, reaching 3-5m in height on maturity.	 
Olea europea (Olive)	A small tree of rounded form. Small leathery leaves and fragrant white flower, reaching 5-7m in height on maturity	 
Prunus dulcis (Common Almond)	An early flowering tree forming impressive pink flowers, reaching 5-10m on maturity.	 

Species	Characteristics	Images
Malus Cox's Orange Pippin (Apple)	A small tree forming profuse white flowers, leading to good sized eating apples. Reaching 5-7m in height on maturity	
Mespilus germanica (Medlar)	The Medlar has been in cultivation for many years producing small brown edible fruits. Reaching 5-10m on maturity	
Prunus domestica 'Victoria'	The nations favourite eating Plum, small white flowers in spring, reaching 5-10m in height on maturity