Greengage

Dollis Mews, ZM Development Management Ltd
BS5837 Tree Survey and Arboricultural Impact Assessment, November 2016

QA

Dollis Road – BS5837 Tree Survey and Arboricultural Impact Assessment

Issue/Revision:	Draft	Final
Date:	November 2016	November 2016
Comments:		
Prepared by:	James Rawlinson	Naomi Foot
Signature:		
Authorised by:	Mitch Cooke	
Signature:		
File Reference:	550838JRNov16DV02_AIA	550838JRNov16FV01_AIA

CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Greengage Environmental Ltd were commissioned by PGMI Finchley Limited to undertake an appraisal of the trees at the proposed Dollis Mews development site within the London Borough of Barnet to the *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*[1].

1.2 A visit was made to the site on the 5th November 2016 to survey all trees, following the guidance in the British Standard. The crowns and stems were inspected from the ground using the 'Visual Tree Assessment' (VTA) method; no invasive techniques were used at this stage.

1.3 The purpose of this report is to provide an assessment of the arboricultural value of the trees based on their current quality and to provide recommendations to help inform the proposed development of the assessment site.

1.4 The survey focused on the trees, within and directly adjacent to the assessment site, that would be directly affected by the sites proposed development. The report also indicates any trees requiring removal on the grounds of sound arboricultural management and those that would not be considered a major constraint to the development of the site.

1.5 During the survey, 33 individual trees were assessed including 20 on-site trees and 13 off-site trees. The on-site trees where generally found to be in poor condition comprising of 8 Category C and 12 Category U trees. Limited access to the off-site trees on private land directly adjacent to the site boundary, showed there to be 1 Category B, 9 Category C and 3 Category U trees. The appended arboricultural data tables (Appendix 1.0) contain details of all the surveyed trees falling within the scope.

1.6 As required by the British Standard, an Arboricultural Impact Assessment has been undertaken to evaluate the constraints to the development from the existing trees both on and adjacent to the site. This includes details of tree loss and encroachment into root protection areas from the proposed development. Any identified tree loss is further evaluated within the context of the development landscaping plans.

1.7 The Tree Constraints Plans (Appendix 2.0 – Existing; Appendix 2.1 – Proposed) present the locations, crown spreads, root protection areas (RPAs) and British Standard Categories of the surveyed trees.

2.0 METHODOLOGY

Tree Categorisation

2.1 The survey was undertaken on 5th November 2016 during mild and partially cloudy weather conditions, with deciduous trees largely still in leaf. A summary table of all the trees included in the Tree Schedule, detailing further information on each tree, is shown in Appendix 1.0.

2.2 Trees, tree groups and woodlands have been considered following evaluation into one of four categories (U, A, B, C) based on tree quality as outlined in British Standard 5837 (2012) which has been followed. Categorisation of trees, following the British Standard, gives an indication as to the trees' importance in relation to the site and the local landscape and also, the overall value and quality of the existing tree stock on site. This allows for informed decisions to be made concerning which trees should be removed or retained, should development occur. For a tree to qualify under any given category it should fall within the scope of that category's definition. In the categories A, B, C which collectively deal with trees that should be a material consideration in the development process, there are three sub-categories which are intended to reflect arboricultural, landscape and cultural values respectively. Category U trees are those which would be lost in the short-term for reasons connected with their poor physiological or structural condition. They are, for this reason, not usually considered in the planning process.

2.3 In assigning trees to the A, B or C categories the presence of any serious disease or tree related hazards are taken into account. If the disease is considered fatal and/or irremediable, or likely to require sanitation for the protection of other trees it may be categorised as U, even if they are otherwise of considerable value.

2.4 **Category (A)** – trees whose retention is most desirable and is of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years) and may comprise:

- Trees which are particularly good examples of their species especially rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue);
- Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups); and
- Trees or groups or woodlands of significant conservation, historical, commemorative or other value (e.g. Veteran or wood-pasture trees).

2.5 **Category (B)** – are trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years) and may comprise:

- Trees that might be included in the high category but because of their numbers or slightly impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage), are downgraded in favour of the best individuals;
- Trees present in numbers such that they form distinct landscape features and attract a higher collective rating than they would as individuals. Individually these trees are not essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site and have little visual impact beyond the site; and
- Trees with clearly identifiable conservation or other cultural benefits.

2.6 **Category (C)** – are trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150mm and may comprise:

- Trees not qualifying in higher categories;
- Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value and or trees offering low or only temporary screening benefit; and
- Trees with very limited conservation or other cultural benefits.

2.7 **Category (U)** – trees for removal are those trees in such a condition that any existing value would be lost within 10 years and which should in the current context be removed for reasons of sound arboricultural management. Trees within this category are:

- 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;
- Trees that are dead or are showing signs of significant, immediate or irreversible overall decline; and
- Trees infected with pathogens of significance to the health and or/safety of other trees nearby trees or very low quality trees suppressing adjacent trees of better quality.

2.8 Species have been recorded by both common and botanical names and included in the Arboricultural Data Tables in Appendix 1.0. Height has been estimated in metres and stem diameters have been measured at 1.5 metres above ground level and recorded in millimetres. Crown spreads have been measured in half meters at the four cardinal points. The measurements have always been considered in the following sequence,

North, East, South, and West, and therefore appear as such within the Arboricultural Data Tables.

2.9 In the assessment, particular consideration has been given to the following when deciding the most appropriate British Standard Category and Sub-Category allocation:

a. the health, vigour and condition of each tree;

b. the presence of any structural defects in each tree and its life expectancy;

c. the size and form of each tree and its suitability within the context of the proposed scheme; and

d. the location of each tree relative to existing site features, e.g. its value as a screen or as a skyline feature.

Age Class & Condition

2.10 Age class is assessed according to the age class categories referred to in BS 5837.

- **Y:** Young trees up to five years of age;
- **SM:** Semi-mature, trees less than 1/3 life expectancy;
- **EM:** Early mature, trees 1/3 – 2/3 life expectancy;
- **M:** Mature trees over 2/3 life expectancy;
- **OM:** Over mature – declining or moribund trees of low vigour; and
- **V:** Veteran - Characteristics have been noted where a tree exhibits certain characteristic features of veteran trees.

2.11 The overall condition of the tree, or group of trees, has been referred to as one of the following. A more detailed description of condition has been noted in the Arboricultural Data Tables and discussed in the Arboricultural Impact Assessment Report.

- **Good:** A sound tree, trees, needing little, if any, attention;
- **Fair:** A tree, trees, with minor but rectifiable defects or in the early stages of stress, from which it may recover;
- **Poor:** A tree, trees, with major structural and physiological defects or stressed such that it would be expensive and inappropriate to retain; and
- **Dead:** A tree, trees, no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are/have become dangerous.

2.12 Major defects or diseases and relevant observations have also been recorded under Structural Condition. The assessment for structural condition has included inspection of the following defects:

- The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay;

- Soil cracks and any heaving of the soil around the base indicating possible root plate movement;
- Any abrupt bends in branches and limbs resulting from past pruning, as it may be an indication of internal weakness and decay;
- Tight or weak 'V' shaped unions and co-dominant stems;
- Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994);
- Cavities as a result of limb losses or previous pruning;
- Broken branches;
- Storm damage;
- Canker formations;
- Loose bark;
- Damage to roots;
- Basal, stem or branch / limb cavities;
- Crown die-back;
- Abnormal foliage size and colour;
- Any changes to the timing of normal leaf flush and leaf fall patterns; and
- Other pathological diseases affecting any part of the tree.

2.13 Dead wood has been defined as the following:

- Twigs and small branch material up to 5cm in diameter;
- Minor dead wood 5cm to 10cm in diameter; and
- Major dead wood 10cm in diameter and above.

2.14 The survey was completed from ground level only; aerial inspection of trees was not undertaken. Investigations as to the internal condition of a tree have not been undertaken. Further investigations of this type can be made and are recommended where it has been considered necessary within the report, although these investigations are beyond the scope of this report.

2.15 Evaluation of the trees condition given within this assessment applies to the date of survey and cannot be assumed to remain unchanged. It may be necessary to review these within 12 months, in accordance with sound arboricultural practice.

2.16 The individual positions of trees and groups of trees recorded in the Arboricultural Data Tables have been shown on the Tree Constraints Plan, in Appendix 2.0. The positions of trees are based on a topographical/land survey supplied by the development and client in dwg. format for the purpose of plotting the trees.

Root Protection Areas

2.17 The Root Protection Areas (RPA) for individual and groups of trees are indicated on the Tree Constraints Plan and are formulated as described below.

2.18 Below ground constraints to future development is represented by the area surrounding the tree that contains sufficient rooting volume to ensure survival of the tree, which need protecting in order for the tree to be incorporated into any future scheme, without adverse harm to the tree or structural integrity of buildings. This is referred to as the RPA and is shown as a circle of a given radius.

2.19 The circle may be modified in shape to maintain a similar total area depending on the presence of surrounding obstacles. Where groups of trees have been assessed, the RPA has been shown based on the maximum sized tree in any one group and so would automatically exceed the RPA's required for many of the individual specimens within the group. A RPA is equivalent to a circle with a radius 12x the stem diameter for single stem trees and 10x the basal diameter for trees with more than one stem arising less than 1.5 meters above ground level. The RPA for the trees in the Arboricultural Data Tables are shown on the Tree Constraints Plan in Appendix 2.0.

3.0 BACKGROUND

Site Description

3.1 The assessment site is approximately 0.3 hectares (ha) and is centred on National Grid Reference TQ242911, OS Co-ordinates 524264, 191152.

3.2 The site is situated in Mill Hill in the London Borough of Barnet to the west of Bittacy Hill Road (B1462) and the Holders Hill Circus Roundabout. The site currently consists of a number of brick buildings and an area of bare ground and scrub vegetation. There are residential properties and gardens directly to the north, east and south of the site boundary with mixed residential/commercial to the west. All on-site trees surveyed lie to the east and west of the overgrown rough grassland/scrub area, with the majority of off-site trees bordering the east, forming a screen between the site and the residential properties in Abercorn Close. Two single off-site trees border the site, one to the north and one to the south, both in residential gardens.

3.3 The onsite trees are generally in poor structural and physiological condition as a result of a number identified defects; these are considered in the appended arboricultural data tables (Appendix 1.0). Given the private residential location of the off-site trees, it was not possible to fully survey all aspects in line with the British Standard, therefore a number of stated assumptions have been made. However, despite this the trees were considered to be in significantly better condition than the those on site.

The Proposals

3.4 Proposals comprise a residential led scheme with one and two bedroom units provided over three storeys.

4.0 THE TREES

4.1 The existing on-site tree population comprises individual trees to the east and west of the grassy scrub area within the proposed development site. The majority are in poor condition showing defects relating to both their structural and physiological heath. The surveyed off-site trees in contrast are in significantly better condition, and despite sharing the same overall C Categorisation as some of the on-site trees, fair markedly better in terms of their structural and physiological health. Full details are located in the appended arboricultural data tables together with category ratings (Appendix 1.0).

4.2 All on-site trees are most likely self-seeded, with all but T1 Willow and T3 Sycamore being set away from any existing buildings. T1 Willow is growing over and leaning on the adjacent building, with T3 Sycamore growing from underneath the same building, seemingly having now caused significant cracking in the brick work. The off-site mixture of deciduous and coniferous species were seemingly planted at different times during the last 10 to 25 years, with the older trees being T26 Norway Maple, T30 Apple and T21,23,27,29 and 32 Leyland Cypress. With the exception of T30 Apple and T32 Leyland Cypress, all off-site trees have been planted and grown anyway from existing site buildings. Of these two only T32 Leyland Cypress has been historically pruned to maintain building height clearance.

4.3 All trees (including those on and off-site) located on the eastern boundary of the grassy scrub area, form a tall visual barrier between the development site and the residential properties in Abercorn Close. These trees, when considered as a group, therefore add significant landscape value to the site.

4.4 All Category U trees have been so graded as a direct result of their current condition and the likelihood of them not remaining as viable trees, post development, for more than 10 years. These trees show a number of VTA symptoms that are likely to contribute to their continual decline. These symptoms include major crown and stem damage in the case of T1 Willow; significant root damage and dysfunction in the case of T4,6,7,8 and 10 Ash, T15 Sycamore and T16,18, and 20 Norway Maple; stem damage and slenderness issues with T2 Sycamore; through to T12 Sycamore and T19 Norway Maple being dead or dying. These trees should therefore not be considered for retention as part of the site development.

4.5 In line with the categorisation descriptions in BS5837 the remaining surveyed on-site trees have been given a Category C rating. It is the findings of this assessment however that these trees should be considered as poor quality examples of Category C trees, as they are in generally poor condition.

4.6 Despite the aforementioned overall poor quality, a number of trees on the eastern border of the site (T16 to T20) have greater retention quality as they (along with the off-site trees in this area) form part of the visual barrier between the site and the residential properties in Abercorn Close. These have therefore been categorised C2 instead of C1,

referring to the landscape qualities of the trees, as opposed to C1 which refers only to the arboricultural qualities of the trees under assessment.

4.7 Given the access restrictions to the off-site trees on the day of surveying, it was not possible to obtain all relevant data for the arboricultural data tables. Stated estimations have therefore been included where measurements could not be made. With respect to this, careful consideration should be given to the RPA and structural condition of T33 Oak, a large mature specimen outside the boundary of the site to the north. Visually from site it seems structurally and physiologically fair, but given its close proximity to the site boundary, closer BS5837 and VTA assessments are advised with respect to both its condition and RPA.

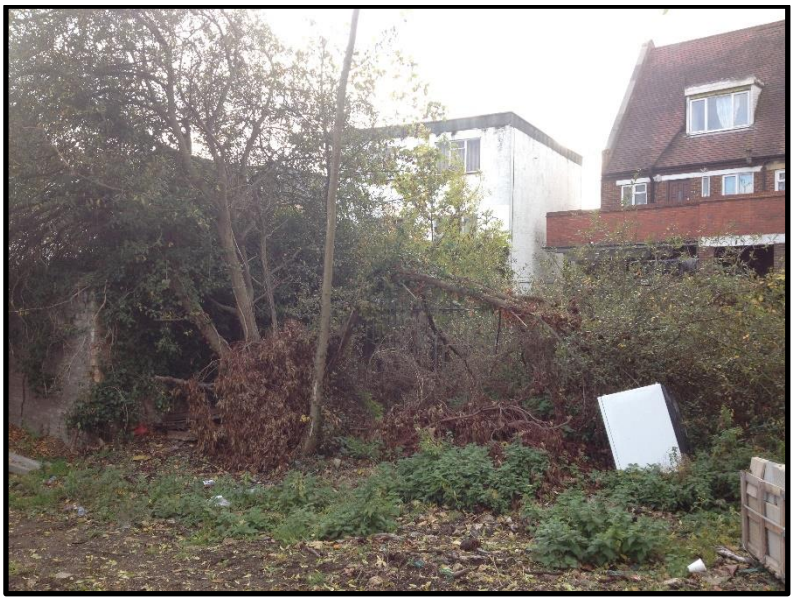


Figure 4.1 T1 Willow with snapped out central stem and T2 Sycamore, showing a tall thin unstable stem.

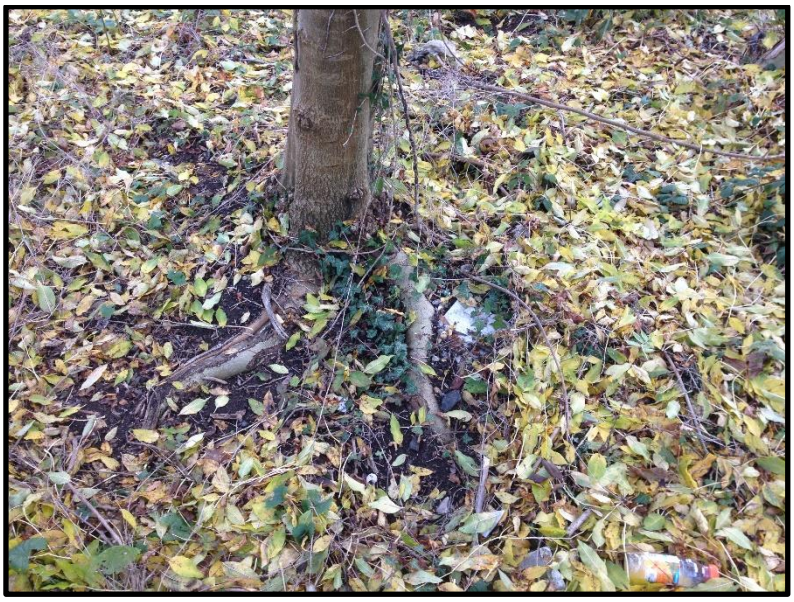


Figure 4.2 T7 Ash with significant root exposure and damage.

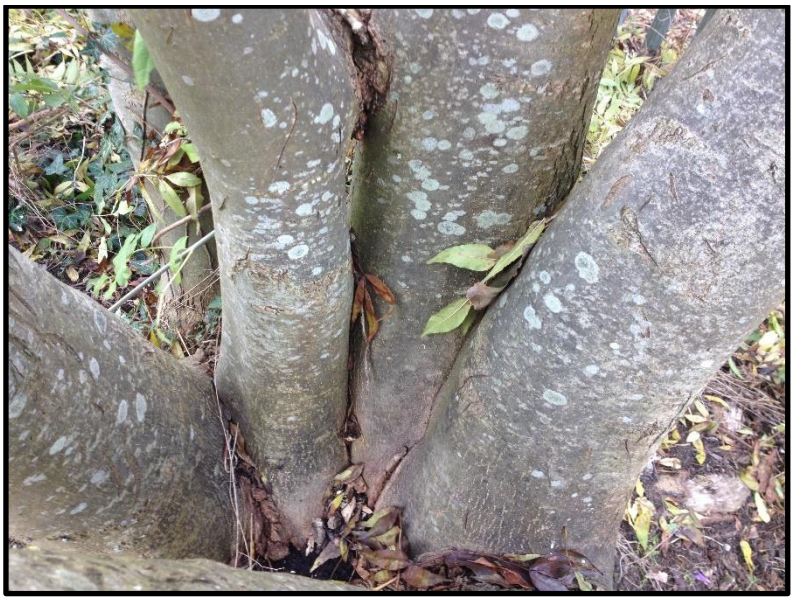


Figure 4.3 T11 Ash showing numerous tight V-unions with included bark at the base.

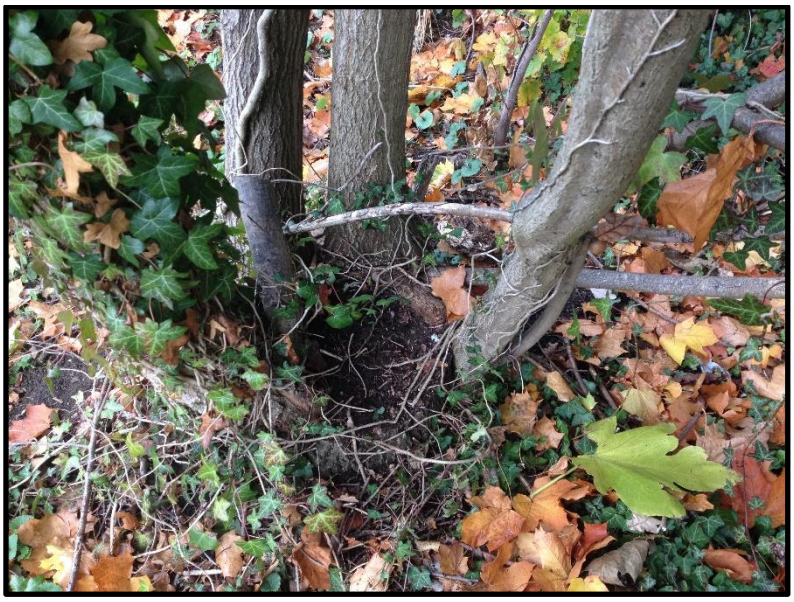


Figure 4.4 T17 Oak showing multi stem regrowth from a previously felled tree.

Figure 4.5 On-site and off-site trees to the east of the site forming a visual barrier between the site and Abercorn Close.

Figure 4.6 T32 Oak to the north of the site boundary.

5.0 ARBORICULTURAL IMPACT ASSESSMENT

OVERVIEW

5.1 The proposed development site designs include building, carpark and associated access road and path development.

5.2 All offsite trees are sought to be retained (T21-33). All onsite trees (T1-20) are proposed to be removed, with the exception of T11 which is to be retained.

5.3 The proposed removal of the trees onsite is not considered to be a significant loss in consideration of their poor physiological/structural quality, and reduced remaining useful life expectancies. The onsite trees proposed to be removed comprise 7 Category C trees and 12 Category U trees. The Category C trees are poor quality and should not be considered a constraint to development. The Category U trees are those that are dead/dying and cannot be retained beyond 10 years; in this instance, their removal is recommended for sound arboricultural practice.

5.4 It is recommended that the onsite trees in proximity to the proposed parking bays (T16-T20) are removed and new tree planting is provided to reinstate the screen formed by trees T16-30. This new planting is shown on the ground floor plan at Appendix 3.

5.5 There are no proposals to negotiate the removal of any off-site trees adjacent to the site boundary. The estimated RPA of T31 (inaccessible to survey) extends onto the site and is potentially impinged by the northern corner of Building A. This is a minor impingement and any potential impacts can likely be avoided through sensitive construction techniques in this area. Aside from this, there are no identified impacts of the proposals upon off-site trees.

5.6 At this stage, boundary treatments have not been finalised, however, where necessary, fencing/walls along the boundary will avoid the RPAs of any offsite trees that overlap the site.

5.7 Prior to considering landscape design and planting proposals, the required tree loss is not considered significant as the trees proposed for removal are either Category U (dead/dying) or poor Category C trees that can be replaced and fully mitigated for. It is recommended that the site is enhanced through provision of new tree planting comprising a diverse mix of native species to create a sustainable tree population.

5.8 No facilitation pruning is proposed to any existing site trees.

TREE PROTECTION

5.9 Tree protection measures throughout the construction process will be required to ensure protection of those trees to be retained.

5.10 It is recommended that details of tree protection are specified within an Arboricultural Method Statement (AMS) and Tree Protection Plan. These items may be secured through planning condition.

LANDSCAPING AND TREE PLANTING

5.11 Detailed landscaping proposals have not yet been provided. It is recommended that any new planting associated with the development provides a greater screening between the development site buildings and the existing residential/commercial properties along Bittacy Hill Road (B1462) the planting of screening trees will be included as part of the development proposals.

5.12 It is considered that the inclusion and commitment to undertake this tree planting as part of the development design will fully mitigate the proposed tree loss, and provide overall net gains in visual amenity.

6.0 CONCLUSIONS

6.1 The survey identified a number of trees at the Dollis Road site which have the potential to be impacted by the proposed development.

6.2 A TCP has been produced to outline any above and below ground constraints to the development. This shall be viewed in the context of the development proposals to help inform the details of the scheme.

6.3 At this stage, a number of trees within the boundary of the site are proposed to be removed to facilitate the construction and development of the site. This identified loss is not considered significant given their overall poor quality and the fact that additional screening planting is proposed.

6.4 Any trees sought to be retained will be protected via the implementation of tree protection measures recommended to be detailed within an Arboricultural Method Statement and Tree Protection Plan for the site. These items may be secured through planning condition.

Limitations

6.5 This report includes information on only the trees that were inspected and the condition they were observed in at the time of survey. The condition of trees can change, and as such any findings from this report should be held valid to inform for purposes of development for no longer than 12 months from the survey date.

6.6 No guarantee can be given for the structural integrity of any trees on site as a full hazard assessment has not been made. Inaccessible trees will have best estimates made about location, physical dimensions and characteristics.

APPENDIX 1.0: ARBORICULTURAL DATA TABLES

a

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T1	Goat Willow (Salix caprea)	7	190, 110,170, 50, 190, 70	3.5	6.5	4	6.5	4	N/A		0	S M	P	P	Mulitistem tree. Splits and bark damage in stem cluster. Northern stem snapped halfway up leaning on the ground. Southern cracked stem leaning on site building	<10	U
T2	Sycamore (Acer pseudoplatanus)	9	110	1.32	3	2	1	2	6	340	4	Y	P	P	Sparse crown on south side. Leaning to the north. Numerous semi occluded mechanical wounds along the stem.	<10	U
T3	Sycamore (Acer pseudoplatanus)	8	130	1.56	2	1	2	2	3	280	4	Y	P	F	Growing from under the building, causing a crack in the brick work. Leaning towards the offsite buildings to the west. No eastern crown, as a result of adjacent Salix.	<10	U
T4	Ash (Fraxinus excelsior)	10	160, 130, 250	3.2	1	4	4.5	5.5	1.5	260	3	S M	P	P	Damage to exposed large root. Numerous dead wood in crown. Mechanical damage on stem.	>10	C1

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

b

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T5	Ash (Fraxinus excelsior)	10	170, 130, 150, 130	26.8	4	5	3.5	5.5	1.5	100	3	S M	P	P	Multi-stem tree. Minor dead throughout. Included bark V-union at base. Snapped branch damage throughout crown.	>10	C1
T6	Ash (Fraxinus excelsior)	9	140, 180	2.3	3	3.5	4	2	2	100	3	S M	P	P	Exposed and damaged roots. Included bark in twin stem V-union and in first union of second twin stem. Minor dead in crown.	>10	C1
T7	Ash (Fraxinus excelsior)	7	110, 140	1.8	1	2	3	4.5	N/A		3	S M	P	P	Exposed and damaged roots. Included bark from base twin stem. Crown pushed out to the west by other trees in group.	<10	U
T8	Ash (Fraxinus excelsior)	9	160	1.92	1.5	2.5	1.5	4	2.5	240	3	S M	P	F	Exposed and damaged roots. Included bark at 1.5 m twin stem. Minor dead wood in crown.	>10	C1
T9	Ash (Fraxinus excelsior)	5	60	0.72	1	0	1	3	N/A		2	S M	P	P	Small tree with significant lean to west, pushed out by others in group. Semi occluded mechanical damage at base.	<10	U

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

c

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T10	Ash (Fraxinus excelsior)	9	190	2.28	4	4	2	4.5	1.5	40	2	Y	P	F	Exposed and damaged roots. Mechanical semi occluded bark damage at base. Crown growth pushed to the north by other ash trees in group.	>10	C1
T11	Ash (Fraxinus excelsior)	11	240, 200, 200, 250, 120, 150	4.9	5	4.5	6.5	7	N/A		2	SM	P	P	Lapsed coppice. Exposed and damaged roots. Four included bark V-unions at multi-stem point. Several welding/self-branching points. Wounding in upper stem from bark rubbing. No main leader in crown. Minor dead in crown. Mechanical damage at base.	>10	C1
T12	Sycamore (Acer pseudoplatanus)	7	110, 80, 40, 3, 50, 50, 80	1.8	3	2	1	2	N/A		1	y	D	D	Regrowth of felled tree. Dying crown due to competition from T9 Ash. Main central stem lost some time ago. Stump now decayed.	<10	U
T13	Goat Willow (Salix caprea)	4	60	0.72	1.5	1	1	1.5	N/A		1	Y	P	P	Major bark wound and decay on stem.	<10	U

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

d

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T14	Goat Willow (Salix caprea)	5	120	1.44	1.5	1.5	1	1.5	0.5	160	1	Y	F	P	Major basal wound with active decay. Twin stem at approx. 0.5m	<10	U
T15	Sycamore (Acer pseudoplatanus)	10	170	2.04	3	3.5	2.5	1	1.5	200	2	SM	P	P	Major exposed root damage. No west crown due to T9 Ash.	<10	U
T16	Norway Maple (Acer platanoides)	9	120	1.44	1	2.5	1	1	5	50	6	Y	P	P	Damaged and exposed roots. Minor semi occluded stem wound. Smothered by surrounding tree group.	>10	C2
T17	English Oak (Quercus robur)	10	130, 130, 180, 60	2.6	3	1.5	4	4.5	2.5	50	8	SM	P	P	Multi-stem regrowth of previously felled tree. Fastigiated form.	>10	C2
T18	Norway Maple (Acer platanoides)	90	90, 70, 130	1.7	1	2	4.5	1.5	2.5	120	3	Y	P	F	Exposed and damaged roots. Leaning and pushed south by T15 Oak.	<10	U

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

e

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T19	Norway Maple (Acer platanoides)	90	90	1.08	3	0	0	4	2.5	160	2	Y	D	D	Tree dying and in decline. Heavily pushed west by adjacent conifer.	<10	U
T20	Norway Maple (Acer platanoides)	90	170, 70, 120	1.44	3	0	3.5	5	N/A		2	S M	P	P	Semi occluded wound in lower stem. Damaged and exposed roots. Included bark V-union on lower stem. Crown pushed west by adjacent conifer. Old central stem now decaying.	<10	U
T21	Leyland cypress, (Cupressus × leylandii)	110	#250	3	5	#3	2	2	1 (onsite)	N/A	1	S M	G	G	Fence overlap of 2m.	>10	C
T22	Norway Maple (Acer platanoides)	90	#100	1.2	4	#2	4	4	2 (onsite)	N/A	2	S M	P	P	Smothered by two adjacent conifers. Fence overlap of 4m.	<10	U

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

f

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T23	Leyland cypress, (Cupressus × leylandii)	110	#250	3	1	#3	5	5	3 (onsite)	N/A	3	S M	G	G	Fence overlap of 3m.	>10	C
T24 (off-site)	Cherry (prunus)	60	#100	1.2	2	#1	3	5	2 (onsite)	N/A	3	S M	P	P	Fence overlap of 4m.	<10	U
T25 (off-site)	White Beam (Sorbus)	90	#100	1.2	3.5	#3	1	3.5	3 (onsite)	N/A	3	Y	P	P	Prolific ivy cover. Pushed to the north west by T25 Norway Maple. Significant lean into site.	<10	U
T26 (off-site)	Norway Maple (Acer platanoides)	100	#250	3	4	#4	3	3	4 (onsite)	N/A	4	S M	G	G	Tree in good condition, with balanced crown.	>20	B
T27 (off-site)	Leyland cypress, (Cupressus × leylandii)	110	#250	3	2	#3	3	2	5 (onsite)	N/A	5	S M	P	F	Smothered to the north by T26 Norway maple. Has had crown raise to 5m.	>10	C

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

g

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
T28 (off-site)	Fig	50	#100	1.2	2	#2	4	2	2 (onsite)	N/A	2	S M	F	F	Visually difficult to inspect. Seems in fair condition.	>10	C
T29 (off-site)	Leyland cypress, (Cupressus × leylandii)	110	#250	3	5	#5	5	5	3 (onsite)	N/A	3	S M	F	P	Has had crown raise to 4m. Previous pollard to 4m, crown is regrowth.	>10	C
T30 (off-site)	Malus	70	#200	2.4	3	#4	4	4	3 (onsite)	N/A	3	S M	P	P	Smothered to the north by conifer.	>10	C
T31 (off-site)	Oak	180	#1000	12	#8	#8	#8	#8	Not over site boundary	N/A		M	F	P	Possible edge of RPA encroaching on to site. Should be explored through air spade investigation. Previous arboricultural reduction work on some limbs. Large exposed lower limb (north facing), not over site. Site within falling distance of tree. No direct site overhang. Advise closer inspection	>10	C

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

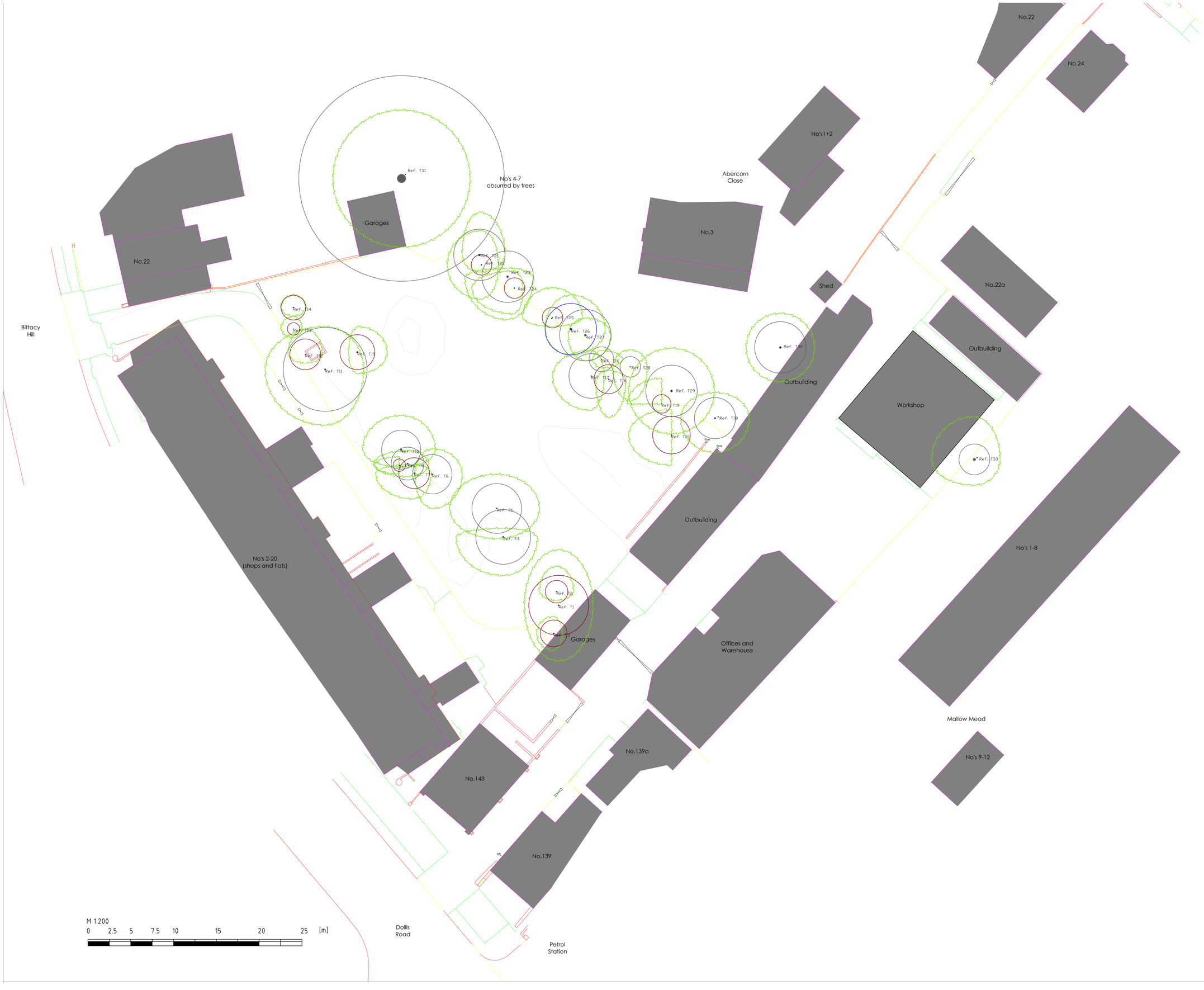
h

Tree No	Species	Height (m)	Stem Diameter (mm)	RPA radius (m)	Crown Spread				1st Significant Branch		Crown Clearance (m)	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
					N	E	S	W	Height (m)	Direction			P	S			
															for site Health and Safety and assessment of RPA.		
T32 (off-site)	Leyland cypress, (Cupressus × leylandii)	110	#250	3	4	4	4	4	5 (onsite)	N/A	5	SM	F	F	Overhang 5m. Lowest branch at 5m.	>10	C
T33 (off-site)	Norway Maple (Acer platanoides)	70	#150	1.8	5	#3	#3	5	3 (onsite)	N/A	3	SM	G	F	Site overhang 5m. lowest branch at 3m.	>10	C

G: Good
F: Fair
P: Poor
SM: Semi mature
Y: Young

APPENDIX 2.0: TREE CONSTRAINTS PLAN – EXISTING

Tree Constraints Plan showing existing layout against BS5837:2012 tree categories & Root Protection Areas



Example

-Canopy extent - patterned line
-BS5837:2012 calculated root protection area - line showing root incursion
-Category key - coloured stem and RPA
-Tree No. - tag

Category A

Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B

Trees of moderate quality with an estimated remaining expectancy of at least 20 years.

Category C

Trees of low quality with an estimated remaining life expectancy of at least 10 years, or a stem diameter below 150mm.

Category U

Trees 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.

Hedges and Groups with coloured hatch showing category. Those in red are to be removed to facilitate the development.

No.	Revision/Issue	Date
1	550838nfNov16_TCP_1.dwg	14/11/16

Greengage
64 Great Suffolk Street
SE1 0BL
Tel: 0203 544 4000

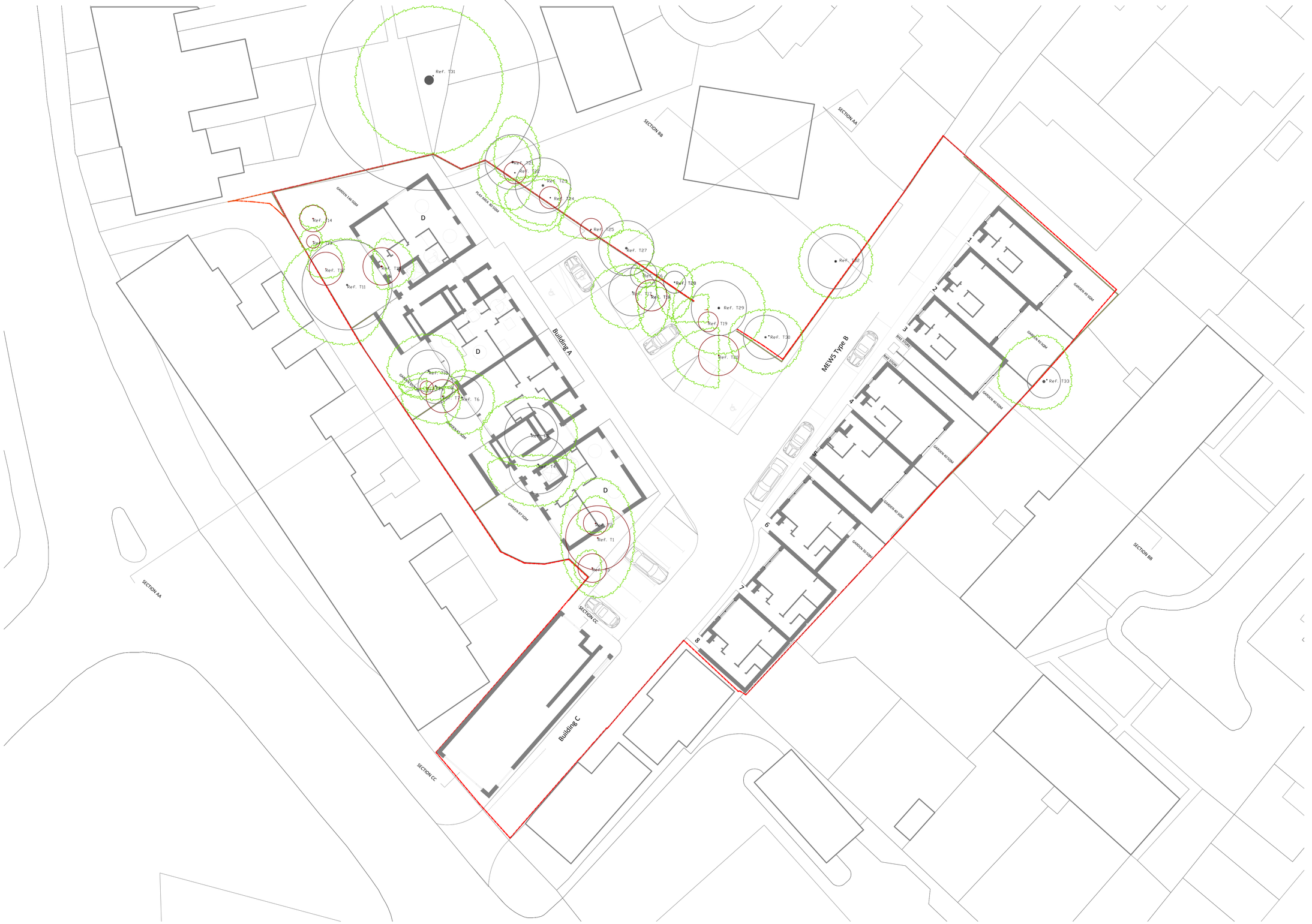
Project Name and Address

Dollis Road
Holder Hill Circus
Mill Hill
London
NW7 1LB

Project	Dollis Road
Date	14/11/2016
Scale	1 to 200 @ A1
Sheet	1 of 1

APPENDIX 2.1: TREE CONSTRAINTS PLAN – PROPOSED

Tree Constraints Plan with proposed layout against BS5837:2012 tree categories & Root Protection Areas showing arboricultural conflicts



Example

Ref. 1

-Canopy extent - patterned line
-BS5837:2012 calculated root protection area - line showing root incursion
-Category key - coloured stem and RPA
-Tree No. - tag

Category A

Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B

Trees of moderate quality with an estimated remaining expectancy of at least 20 years.

Category C

Trees of low quality with an estimated remaining life expectancy of at least 10 years, or a stem diameter below 150mm.

Category U

Trees 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.

Hedges and Groups with coloured hatch showing category. Those in red are to be removed to facilitate the development.

No.	Revision/Issue	Date
1	550838nfNov16_TCP_prop_1.dwg	14/11/16

Greengage
64 Great Suffolk Street
SE1 0BL
Tel: 0203 544 4000

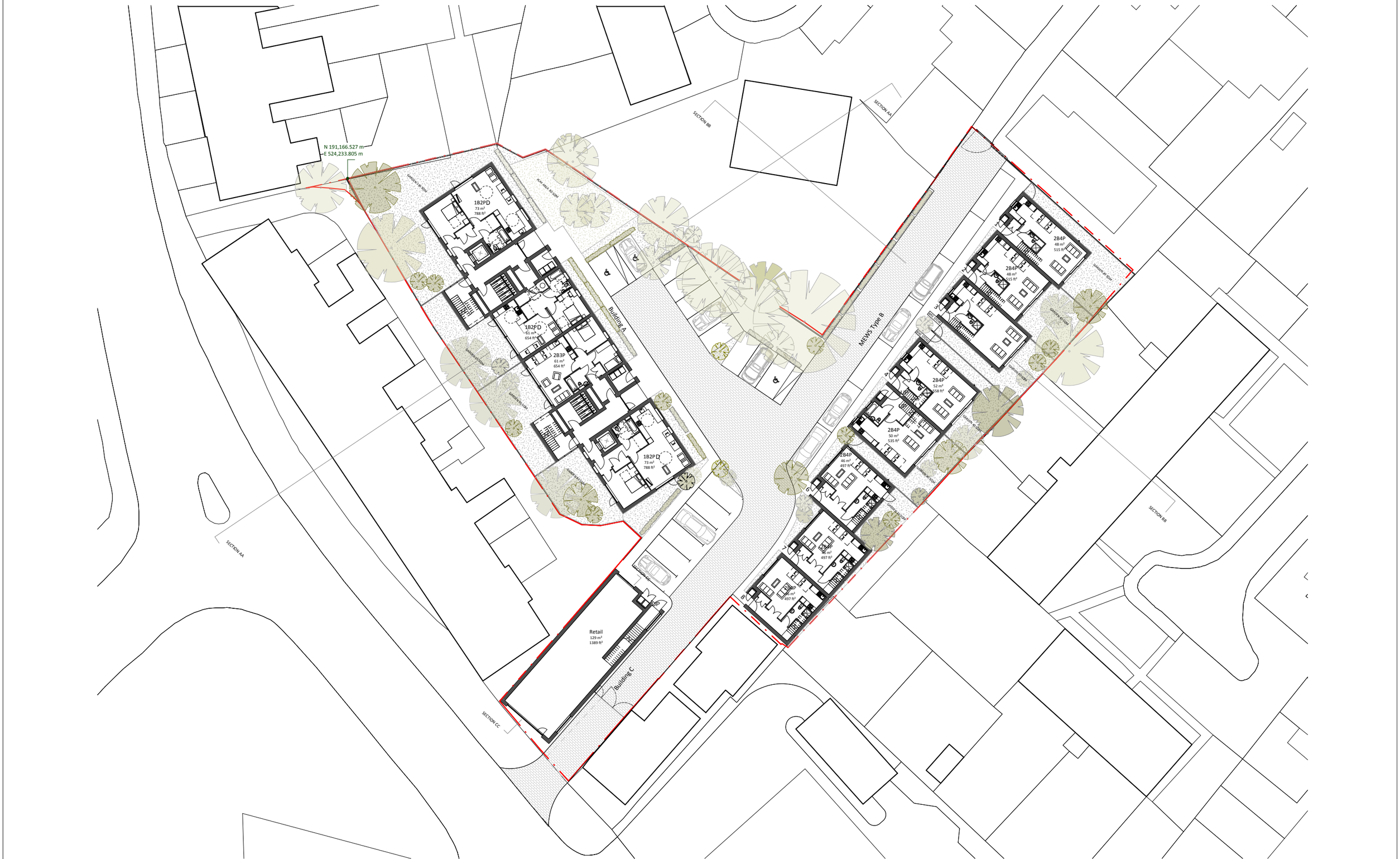
Project Name and Address

Dollis Road
Holder Hill Circus
Mill Hill
London
NW7 1LB

Project	Dollis Road
Date	14/11/2016
Scale	1 to 200 @ A1
Sheet	1 of 1

N

APPENDIX 3.0: PROPOSED GROUND FLOOR LAYOUT



VISUAL SCALE 1:200 @ A1

NOTES

CONSULTANTS
- Refer to highways consultant's drawings for details
- Refer to landscape consultant's drawings for details
- Landscaping layout is indicative only

AREAS
- Refer to area schedule

N

Rev	Notes	Date	By	Auth
P A	Planning Submission	16.07.15	MD	RC

ColladoCollins Architects

17-19 Foley Street
London W1W 6DW
T 020 7580 3490
F 020 7580 2917
info@colladocollins.com
www.colladocollins.com

Date: 07/2016
Drawn By: MD
Checked by: FvB
Scale @ A1: 1 : 200
Scale @ A3: 1:400
CAD File No:

Dollis Mews, Mill Hill East
ZM Development Managment Ltd
PROPOSED Ground Floor Layout

PLANNING
15041 P1 100

PA
Revision

REFERENCES

[1] BSI (2012) BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations