MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

Arboricultural Impact Assessment and Method Statement

24 Makepeace Avenue, N6 6EJ

Report by

Michal Mixa FdSc.

FdSc. Arboriculture

On the instructions of Pardon Chamber Architects

25th February 2021

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

1 Report summary

1.1.1 This report has been prepared to accompany the planning application for the refurbishment at 24 Makepeace Avenue, N6 6EJ.

1.1.2 T7 Apple will require removal in order to accommodate the development.

1.1.3 The tree fencing will be required around all retained trees (Refer Appendix 3).

1.1.4 Provided precautions to protect the identified trees are specified and implemented through the measures included in this report; the development proposal will have little or negligible impact on the retained trees or their wider contribution to an area amenity and character if the methods detailed in this report will be followed.

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

2 Introduction and report background

2.1 Instruction

2.1.1 I have been instructed by Pardon Chamber Architects to carry out tree survey and produce the arboricultural report in support of a planning application at 24 Makepeace Avenue, N6 6EJ.

2.1.2 The purpose of the survey is to cover trees within the site boundary and its immediate curtilage to assess the impact of the development on trees and the impact of retained trees on the development. The Section 5 Arboricultural Method Statement (Section 5 of this report) specifies the principles, which need to be adopted during the demolition and construction of the development. Although any specific activities proposed in RPAs may require agreement by LPA if requested in reserved matters stage. The report produced on the survey data allows the Local Planning Authority (LPA) to assess information about trees as part of the planning submission following principles of British Standard BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

2.2 Methodology

2.2.1 The methodology of Visual Tree Assessment (VTA), described by Mattheck (2007), was followed. The survey covers trees with a trunk diameter of 75mm or above and any significant vegetation on the development site.

2.2.2 The best intentions were made to produce accurate measurements; however, some dimensions were estimated due to the limitation of the access, dense undergrowth e.g.

2.2.3 Data collected for each tree includes the following information:

- Sequential reference number, i.e. T1, T2, T3 etc.
- Species (Botanical Name in Latin)
- Height (in meters).
- Stem diameter recorded in mm
- Branch Spread, recorded in meters at the extents of the 4 Cardinal Points, i.e. North, East, South & West.
- Ground clearance, representing level of first significant branching or canopy

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

- Life stage: Y – Young, SM – Semi Mature, M – Mature
- Condition comment: structural and/or physiological condition.
- Overall condition: Good, Moderate, Poor, In decline
- Estimated remaining contribution: >10 years, 10 + years, 20 + years, 30+ years, 40 + years.
- BS 5837:2012 Category ‘U’ or ‘A’ to ‘C’ grading with the subcategory 1, 2 or 3
- Tree Work recommendations in the context of the site current use, during the development and after the development.

2.2.4 Trees were categorized into ‘A’, ‘B’, ‘C’ and ‘U’ category graded in the guidance of BS5837: 2012.

- Category **A** – trees of high quality and value, with an estimated life expectancy of at least 40 years.
- Category **B** – trees of moderate quality and value. An estimated life expectancy of at least 20 years.
- Category **C** – trees of lower quality and value. An estimated life expectancy of at least 10 years, and with a stem diameter of up to 150mm measured at 1.5m from ground level.
- Category **U** – dead, dying or unsuitable for retention. Life expectancy of less than 10 years

2.3 Limitation

2.3.1 The survey was undertaken from the ground level using basic tools without detailed investigations. The data collected can be found in the tree schedule in Appendix 2.

2.3.2 The tree condition can rapidly change due to unpredictable factors, such as climatic and manmade events. The risk assessment is based on the factors apparent at the time of the site visit. The re-inspection of trees for health and safety condition should be made on an annual basis.

2.3.3 The soil assessment has not been conducted and detailed soil analysis should be undertaken, or data about the soil assessment should be provided.

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

3 The site visit and observations

3.1 The site

3.1.1 A site visit was conducted on 20th February 2021 to carry out the survey.

3.2 Tree population summary

3.2.1 The tree survey identified total of 8 individual trees, 1 tree group and 1 Hedge from which:

Retention Category	No. trees
B	2
C	12
Total	14

3.2.2 All trees were graded in accordance with BS5837:2012 and data are summarized in Appendix 2 and the Tree Protection Plan indicating trees location in Appendix 3.

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

4 Arboricultural impact statement

4.1 The proposal

4.1.1 The latest proposal seeks replacement and enlargement of side extension and replacement of decking. (Figure 1)

Figure 1 Proposed landscape scheme

4.2 Trees required for removal and tree works

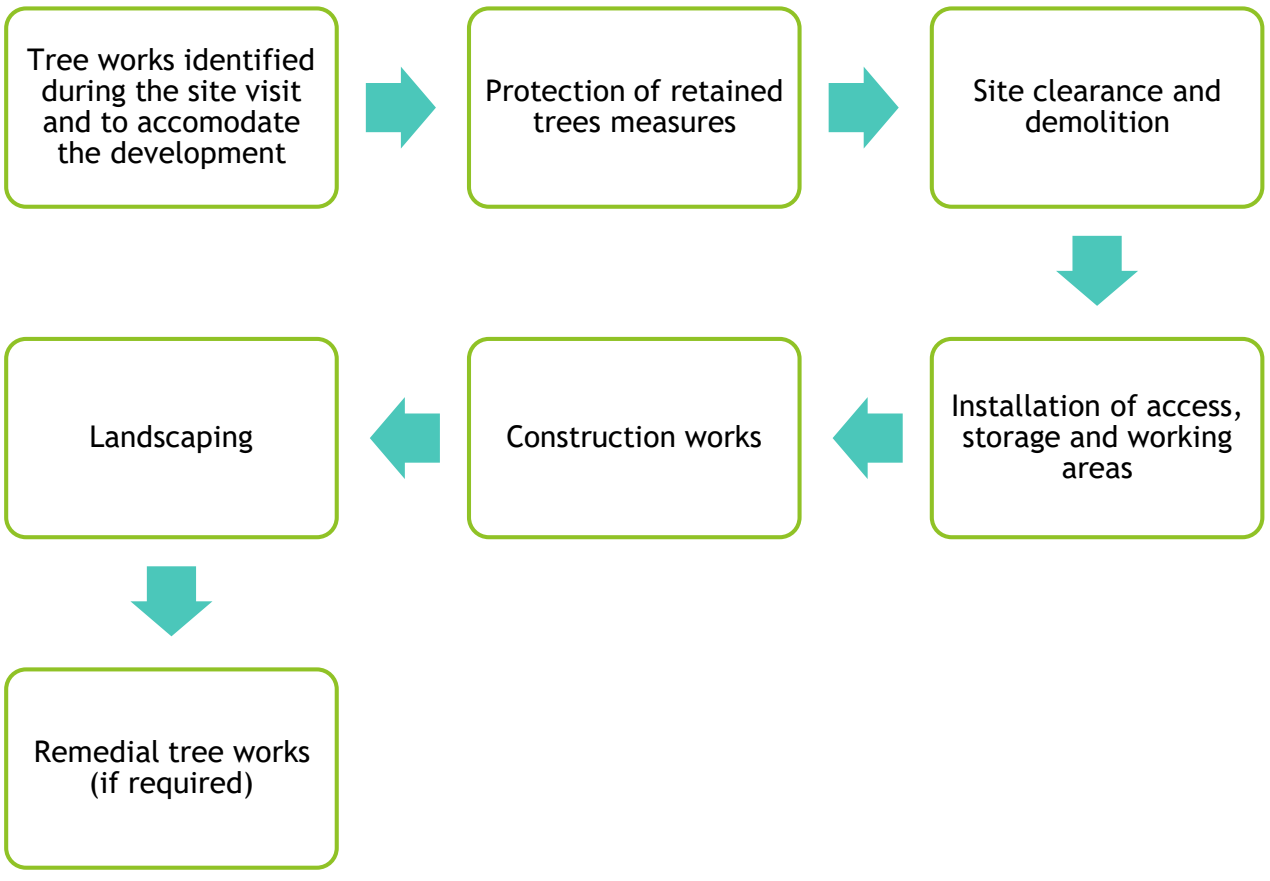
4.2.1 T7 Apple pose a constraint to proposed development.

4.3 Tree protection measures

4.3.1 All retained trees require the installation of protective barrier fencing as per the specification of BS5837:2012, barrier type default specification is detailed in section 6.2.

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

5 Sequence of works



MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

6 Arboricultural method statement

6.1 Tree Protection Plan

6.1.1 The attached plan (at Appendix 4) is based on the provided information and reflects the measurements and site boundaries. The plan is only relevant for dealing with tree issues. Trees to be retained have coloured centres and outlines, whilst trees removed have dashed hatching.

- The protection barriers placement is shown by dashed line.
- The purple hatching indicates areas of ground protection within RPA.
- The orange hatching indicates areas of specialist construction methods within RPA such as pile and beam foundation, micro drilling, changes of levels e.g. (as per related sections of the report and annotation on the TPP)
- The yellow hatching indicates areas of Construction Exclusion Zone (CEZ), and such any construction activity must be avoided within the zone.

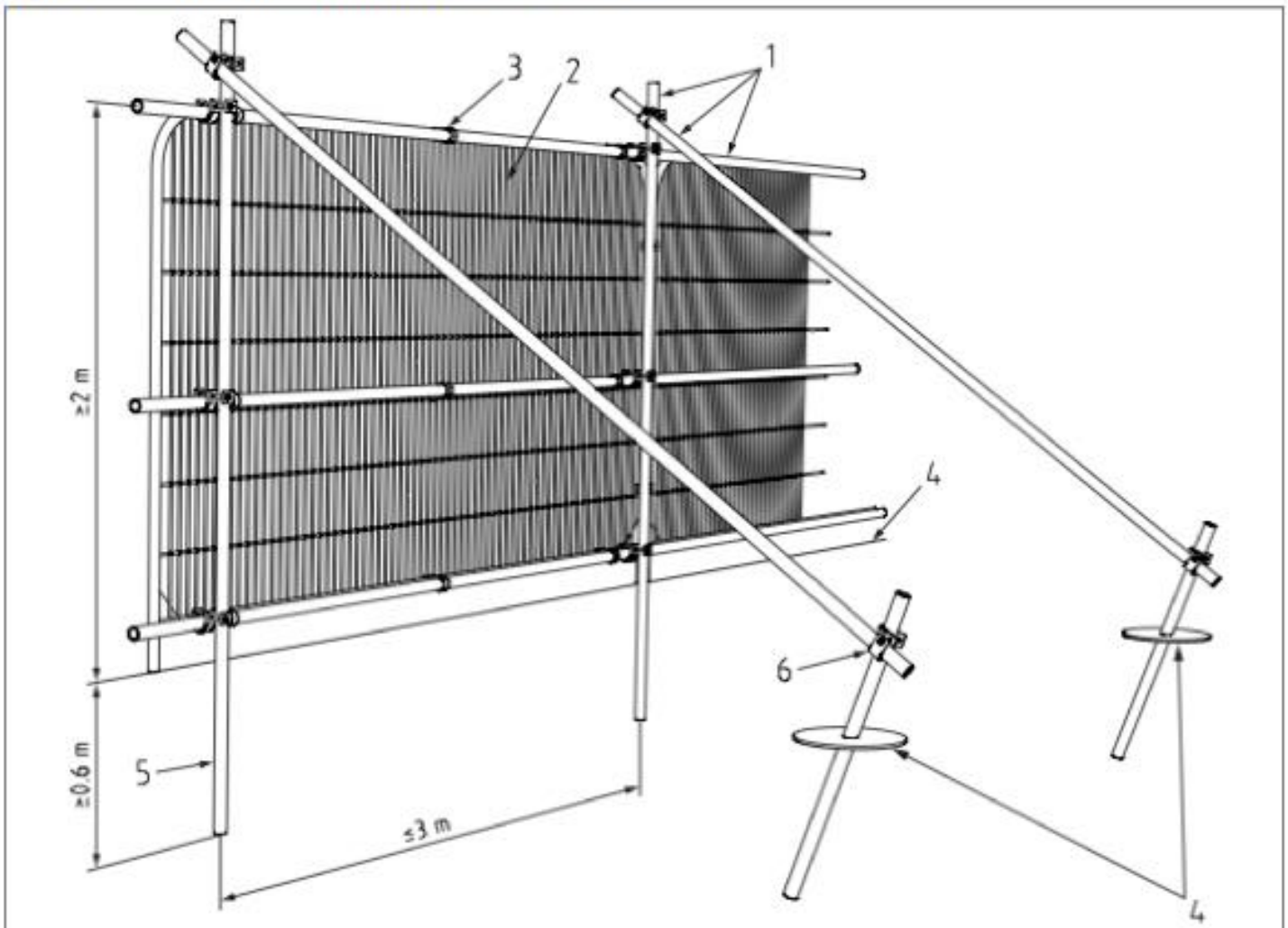
MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

6.2 Tree protection barriers

6.2.1 Tree protection barriers location is indicated in the Tree Protection Plan (TPP). The barriers must be clearly marked by all-weather signs “Keep Out (Figure 2 BS5837: 2012 default specification for barriers type).

6.2.2 The barriers shall be minimum of 2m high with vertical and horizontal scaffold frameworks. The vertical tubes should be spaced at least 3 m interval and driven securely into the ground. The welded mesh should be securely fixed on the framework.

Figure 2 **Default specification for protective barrier**



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Figure 2 BS5837: 2012 default specification for barriers type

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

Figure 3 All weather protective sign example

6.5 Tree works

6.5.1 T7 Apple will require removal in order to facilitate the development.

6.3 Site set-up, storage and material mixing

6.3.1 Space must be allowed outside of RPAs for site machinery and material storage.

6.3.2 The material must be stored outside the RPAs, which also applies to cement mixing and washing points. The runoff the potential of the contaminants must be considered to avoid incursion to the RPA of retained trees, refer to TPP for the

6.4 Site monitoring and supervision

6.4.1 The Project Arboricultural Consultant (PAC) shall attend site prior to the commencement of the development to ensure a satisfactory level of protective fencing and ground protection; ground level alternations; construction of walls, installation of new surfaces within RPAs of retained trees and at least every month during the development works. Where agreed with the L.A. it may be acceptable to supply photographs of the fencing to avoid the necessity for a site visit.

Site visit	Attendees	Timing	Reason
Pre-Commencement Meeting	Site manager, Project Arborist and LPA Arboricultural officer	After completion of the tree works and installation of the tree protective measures. Prior any further	Check if a tree protection measures satisfy methodology detailed in AMS and LPA expectations. Additional action required for the protection of the trees

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

		actions are not permitted, such as demolition or soil excavation unless agreed in written with LPA.	and comments to the development
Regular site monitoring and reporting	Project Arborist and Site manager	Regular site monitoring of the tree protection measures and in event of unexpected issues during the development. The pictures of the site will be provided every two weeks[1]	To mitigate any potential issues raised during the development, control of protective measures maintenance and monitor site activity which could cause a damage to the retained trees
Post Construction Meeting	Site manager, Project Arborist and LPA Arboricultural officer	After construction completion. Prior to the dismantle of tree protection measures and landscape work.	Check the condition of the retained trees and explain further restrictions if applicable.

6.4.2 All Site monitoring or supervision shall be followed by a report submission with an annotated photographic record and textual commentary on all matters of tree protection to the Local Authority, which by act or omission are in breach of the Arboricultural Method Statement. The initial site visit confirming placement of satisfactory tree protection shall be notified to LA within 5 working days prior to the commencement of the development.

[1] LPA may specify different frequency and report requirements. Pictures of the protective measures and site set up provided by a site manager may be acceptable by LPA to lower unnecessary site visits.

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

7 Conclusion and recommendations

7.1.1 T7 Apple will require removal in order to accommodate the development.

7.1.2 The tree fencing will be required around all retained trees (Refer Appendix 3).

7.1.3 Provided precautions to protect the identified trees are specified and implemented through the measures included in this report; the development proposal will have little or negligible impact on the retained trees or their wider contribution to an area amenity and character if the methods detailed in this report will be followed.

7.1.4 The impact on retained trees will be negligible, and the scheme should be achievable in arboricultural terms if the methods outlined in this report are followed.

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

Appendix 1 – References and Copyright

1. British Geological Survey (2014). http://mapapps.bgs.ac.uk/geologyofbritain/home.html. BGS, Keyworth, Nottingham.

2. G. Mercer, A. Reeves & D. O'Callaghan. 'The Relationship between Trees, Distance to Buildings and Subsidence Events on Shrinkable Clay Soil' AB Academic Publishers 2011. Arboricultural Journal, 33, 229-245.

3. BSI (2010) BS 3998:2010 'Tree Work – Recommendations'. British Standards Institute

4. BSI (2014) BS8545: Trees from nursery to independence in the landscape: Recommendations. British Standards Institute

5. BSI (2012) BS5837: Trees in Relation to Design, Development and Construction: Recommendations. British Standards Institute
6. BSI (2014) BS8545: Trees from nursery to independence in the landscape: Recommendations. British Standards Institute
7. National joint utilities group (2007) NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees
8. The National Archives (2017) Town and Country planning act, 1990, http://www.legislation.gov.uk/ukpga/1990/8/contents; Accessed 20.02.2017
9. Trees and design action group (2014) Trees in a hard landscape: Guide for delivery

10. Department for Communities and Local Government (2014) Tree Preservation Orders and trees in conservation areas.

Copyright

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

Appendix 2: Tree Schedule

Date: 20/02/2021

Ref	Species	Measurements	General Observations	Retention Category	RPA	Measurements2
H001	Laurel Cherry (Prunus laurocerasus) Privet (Ligustrum vulgare) Elder (Sambucus nigra)	Height (m): 3 3 stems, avg.(mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Lowest Branch (m): 0 Rem. Contrib.: 20+ Years	Ornamental shrubbery	C2,3	Area: 31.54 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T001	Crack Willow (Salix fragilis)	Height (m): 11 Stem Diam (mm): 830 Spread (m): 6.5N, 4.5E, 7S, 7W Crown Clearance (m): 2 Lowest Branch (m): 2(SW) Life Stage: Mature Rem. Contrib.: 30+ Years	Lapsed pollard, weak new growth, regrown pollard, crossing branches, ivy on the stem	B1,3	Radius: 10.0m. Area: 314 sq m.	Other Reference: Distance1: 20 Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T002	Horse Chestnut (Aesculus hippocastanum)	Height (m): 7 Spread (m): 4.5N, 3.5E, 2S, 3W Crown Clearance (m): 1.5 Lowest Branch (m): 1(N) Life Stage: Early Mature Rem. Contrib.: 30+ Years	coppiced tree, dense undergrowth, data estimated	C3	Radius: 2.4m. Area: 18 sq m.	Other Reference: Distance1: 18 Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T003	Crack Willow (Salix fragilis)	Height (m): 11 Stem Diam (mm): 900 Spread (m): 5N, 5E, 5S, 5W Crown Clearance (m): 2 Lowest Branch (m): 2(SW) Life Stage: Mature Rem. Contrib.: 30+ Years	Lapsed pollard, weak new growth, regrown pollard, crossing branches, access restricted tree on the neighbouring property	B1,3	Radius: 10.8m. Area: 366 sq m.	Other Reference: Distance1: 17 Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

T004	Apple (Malus sp.)	Height (m): 6 Stem Diam (mm): 270 Spread (m): 4N, 2E, 1S, 2W Crown Clearance (m): 2 Lowest Branch (m): 2(N) Life Stage: Mature Rem. Contrib.: 20+ Years	Supressed crown, previous Arboricultural practice, epicormic growth on branches	C3	Radius: 3.2m. Area: 32 sq m.	Other Reference: Distance1: 18 Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T005	Cherry (Prunus sp. (Cherries))	Height (m): 5 Spread (m): 4.5N, 1E, 4S, 2W Crown Clearance (m): 0 Lowest Branch (m): 0 Life Stage: Early Mature Rem. Contrib.: 20+ Years	Access restricted, dense undergrowth, ivy on the stem, previous Arboricultural practice, data estimated	C1,3	Radius: 1.8m. Area: 10 sq m.	Other Reference: Distance1: 11.6 Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T006	Common Ash (Fraxinus excelsior)	Height (m): 6 Stem Diam (mm): 150 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 3 Lowest Branch (m): 3 Life Stage: Young Rem. Contrib.: 30+ Years	Self-set tree, data estimated access restricted	C1	Radius: 1.8m. Area: 10 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T007	Apple (Malus sp.)	Height (m): 5 Stem Diam (mm): 160 Spread (m): 3N, 1E, 3S, 2W Crown Clearance (m): 2 Lowest Branch (m): 2(W) Life Stage: Mature Rem. Contrib.: 10+ Years	Epicormic growth on base and branches, poor previous pruning, open cavity	C1,3	Radius: 1.9m. Area: 11 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T008	Buddleia (Buddleia sp.)	Height (m): 3 Spread (m): 3.5N, 3E, 1S, 2W Crown Clearance (m): 0.5 Lowest Branch (m): 0.5(N) Life Stage: Mature Rem. Contrib.: 30+ Years	Supressed crown, multistem, weak unions, previous Arboricultural practice, leaning stems	C3	Radius: 1.0m. Area: 3 sq m.	Other Reference: Distance1: 2.5 Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

G001	Buddleia (Buddleia sp.) Laurel Cherry (Prunus laurocerasus) Common Holly (Ilex aquifolium)	Height (m): 4 3 stems, avg.(mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Lowest Branch (m): 0 Life Stage: Early Mature Rem. Contrib.: 20+ Years	Ornamental shrubbery	C2,3	Area: 14.16 sq m.	Other Reference: Distance1: Distance2: Custom Number 3: Physiological Cond: Fair Structural Cond: Fair Bat Habitat:

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

Appendix 3: Tree protection plan

T009
T008
T007
T006
T005
H001
T002
T003
T004
T001

Site

24 Makepeace Avenue, N6 6EJ

Client

Pardon Chambers Architects

Drawing title

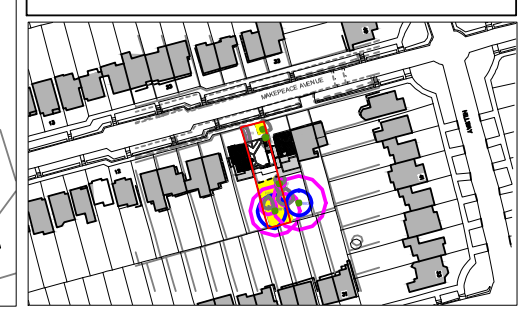
Tree Survey & Protection Plan

Drawing no.	Scale	Date
1 of 1	1:250@A3	23.02.2020

Key

- Category A – trees of high quality and value
- Category B – trees of moderate quality and value
- Category C – trees of low quality and value
- Category U – trees of unsuitable for retention
- Group of trees / hedgerows
- Root protection area
- Trees to be removed
- Tree protective barriers
- Ground Root Protection
- Specialists Construction Methods
- Construction Exclusion Zone

MMARBORICULTURE



MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

Appendix 4: Tree Work Schedule

All work must comply with current industry best practice under the guidance of British Standard BS3998:2010 Tree work – Recommendations

Ref	Species	Proposed Works	Reason
T004	Apple (Malus sp.)	Removal	In order to facilitate the development