



**PRE-DEVELOPMENT
ARBORICULTURAL SURVEY,
IMPACT ASSESSMENT AND METHOD STATEMENT**

At:

**7 BROCKHAMPTON ROAD,
HAVANT**

For

MR AND MRS REED

This report was compiled by
Marco Bartolini TechArborA (TE02501), FdScWM, Dip Mgmt



This report is the responsibility of Arbor-Eco Consultancy
It should be noted that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment.

Report Number: MB210114-01

January 2021

GLOBAL PANDEMIC

COVID-19 Government Rules on social distancing, cleanliness, lockdown measures and such like has meant that the handling of personal equipment belonging to others is no longer permitted. Touching door handles for example comes with risk. Inviting others into private property is no longer acceptable.

The headings for reports under 'normal' circumstances would be deemed necessary for the competition and acknowledgement that a report was concise. This may no longer be possible. Providing welfare facilities by the client in their own property is not deemed safe at the time of the pandemic and writing of this report.

The rules and regulations will add pressure to the industry and this should be taken into account by the Local Authority reading this report.

For the latest guidance please see the NHS or Government websites.

CONTENTS

GLOBAL PANDEMIC.....	1
1. INTRODUCTION	3
1.1 Project Brief	3
1.2 Site Description	3
2. METHODOLOGY	4
2.1 Desk Study	4
2.2 Condition Status	4
2.3 Root Protection Area (RPA).....	4
3. RESULTS.....	5
3.1 Desk Study	5
3.2 Weather Conditions and Personnel.....	5
3.3 Species Recorded	5
3.4 Root Protection Area (RPA).....	9
4. IMPACT ASSESSMENT	10
4.1 Development Proposals.....	10
4.2 Documentation Provided.....	10
4.3 Tree Retention / Removal.....	10
4.4 Tree Works.....	10
4.5 Impact of Enabling Works.....	10
4.6 Impact of Construction Works	11
4.7 Post Construction Conflicts.....	11
5. METHOD STATEMENT	13
5.1 Construction Exclusion Zone	13
5.2 Protective Barriers.....	13
5.3 On site Monitoring Regime & Contact details.....	14
5.4 Use of Subcontractors	14
5.5 Responsibilities.....	14
5.6 General Precautions	15
6. DRAWINGS	16
REFERENCES AND BIBLIOGRAPHY	18
APPENDICES.....	19
Appendix 1	20
Appendix 2	23

1. INTRODUCTION

1.1 Project Brief

In January 2021, Arbor-Eco Consultancy was commissioned by Mr and Mrs Reed to produce an Arboricultural Method Statement and Tree Protection Plan following a tree survey and compiling a Pre-development Arboricultural Survey Report to include design guidance for the proposed construction of a new access and driveway to include parking bays at 7 Brockhampton Road, Havant, Hampshire within the administrative boundary of Havant Borough Council.

The purpose of this report is to support Planning Application number APP/20/00956 for the proposed development and to provide information to the Havant Borough Council Arboricultural Manager (Jamie Gargett) to show that the adjacent trees will be protected throughout the development.

Furthermore, this report is compiled to meet with the comments made by Havant Borough Council Arboricultural Manager (Jamie Gargett) on 13th January 2021, which stated:

..... "to ensure the successful retention of the tree we would require a method statement and tree protection plan that ensures that the tree is not compromised during development".

1.2 Site Description

The site is located towards the western fringes of the town of Havant and accessed directly off Brockhampton Road.

The site was bound to the north, east and south by commercial development and demarcated by a mix of boundary features. The western boundary is delineated by a brick wall, beyond which is the footway and highway of Brockhampton Road.

The tree surveyed was growing towards the north-western boundary of the site. The site is centred at Ordnance Survey Grid Reference SU 71005 06274.

The location of the tree that has potential to conflict with the proposed development is shown on Tree Protection Plan, Drawing Number MB210114-01-01, Section 6 and forms the Arboricultural Method Statement.

2. METHODOLOGY

2.1 Desk Study

A desk study was undertaken to identify if any of the trees present within or in close proximity to the site are covered by Tree Preservation Orders (TPOs) or if the site is situated within a Conservation Area. This involved consultation with the Local Planning Authority.

2.2 Condition Status

To determine the status of the trees within the site a full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

All trees have been assigned a unique reference number. Individual trees above 75 mm in diameter (at 1.5 m above ground level) have had their position plotted to a survey drawing. The trees were visually assessed and a schedule prepared listing: tree number, species, trunk diameter at 1.5 m above ground level (or in accordance with Annex C of BS5837:2012), tree height, crown spread (cardinal points), crown clearance (cardinal points), height of first branch and growth direction, age class and estimated remaining life expectancy in years. Measurements for tree height, first branch height, crown clearance and crown spread were taken to an accuracy of 0.5 m. Stem diameter measurements were recorded to the nearest 10 mm. Any specific observations or recommendations with regard to management were also noted. All these observations and measurements are summarised in Section 3.3.

Each tree was assessed and assigned to one of the following categories:

- Category A: Those trees of high quality and value with an estimated remaining life expectancy of at least 40 years.
- Category B: Those trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years.
- Category C: Those trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm.
- 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.

Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

- 1: Mainly arboricultural qualities.
- 2: Mainly landscape qualities.
- 3: Mainly cultural values, including conservation.

2.3 Root Protection Area (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the Category A, B and C trees. This is a minimum area around a tree which is deemed to contain sufficient roots and rooting volume to maintain the tree's viability. Protection of the roots and soil structure in this area should be treated as a priority.

These figures have been calculated utilising the formulas within Section 4.6 and Annex D of British Standard 5837:2012.

3. RESULTS

3.1 Desk Study

Examination of Havant Borough Council (2021) 'Where I live' pages <http://maps.havant.gov.uk/havant.aspx> accessed on 20th January 2021, confirmed that none of the trees surveyed are the subject of a Tree Preservation Order (TPO).

Further examination of Havant Borough Council (2021) 'Where I live' pages <http://maps.havant.gov.uk/havant.aspx> accessed on 20th January 2021, confirmed that the site is situated within a Conservation Area. The details of the Conservation Area can be requested from the Local Authority.

The existence of the Conservation Area confers a degree of statutory legal protection upon the trees, with a stem diameter of greater than 75mm (at 1.5m above ground level), growing within it. In particular, it should be noted that prior to undertaking any works to trees within a Conservation Area it is necessary to submit a Section 211 Notice to the Local Planning Authority giving six weeks' notice of the proposed works.

It is requested that this report is accepted as the Section 211 Notice to facilitate the proposed development.

3.2 Weather Conditions and Personnel

The survey was completed on 20th January 2021 by Marco Bartolini, Arboricultural Consultant. The weather conditions at the time of the survey are shown in Table 3.1.

Conditions	Result
Temperature (°C)	8
Cloud Cover (%)	100
Precipitation (%)	82
Wind Speed (Beaufort)	F3-4

Table 3.1: Weather Conditions at Time of Survey

3.3 Species Recorded

Tree species recorded during the survey are listed in Table 3.2.

Common Name	Scientific Name
Cotoneaster sp.	<i>Cotoneaster</i> sp.
Lawson Cypress	<i>Chamaecyparis lawsoniana</i>
Leyland Cypress	<i>x Cuprocyparis leylandii</i>
Tulip Tree	<i>Liriodendron tulipifera</i>

Table 3.2: Tree Species Recorded During Survey

The full results of the Arboricultural Assessment are detailed in Table 3.3.

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	H't 1st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
1	Tulip tree	1	690	14.0	2.0 W	3.0	4.0	3.5	4.0	2.5	2.5	2.0	3.0	EM	F	F	10+	C1	- Hard surfacing, boundary features and underground services within RPA. - Bifurcated at 1.50 m above ground level. - Major deadwood in crown. - Tight forks with included bark in crown. - Sphaeroblasts on stem. - Major old pruning wounds occluding.	Crown clean deadwood.
H1	Lawson Cypress, Cotton-easter.	1	50	2.0	0.0 S	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	Y EM M	F	F	10+	C2	Managed hedgerow.	-
H2	Leyland Cypress	1	50	2.0	0.0 S	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	Y EM M	F	F	10+	C2	Managed hedgerow.	-

Key

Age Class
Y: Young = tree within first third of average life expectancy
EM: Early mature = tree within second third of average life expectancy
M: Mature = tree within final third of average life expectancy
OM: Over mature = tree beyond average life expectancy

Physiological Condition
G: Good = no health problems
F: Fair = symptoms of ill health that may be remedied
P: Poor = poor health

Structural Condition
G: Good = no structural defects
F: Fair = remedial structural defects
P: Poor = significant structural defects

000: Estimated measurement due to access restrictions
RPA: Root Protection Area

Major deadwood: branches in excess of 50 mm diameter
Minor deadwood: branches/twigs less than 50 mm diameter

Table 3.3: Results of Arboricultural Survey

3.4 Root Protection Area (RPA)

Table 3.4 provides details of the Root Protection Area (RPA) of all trees surveyed which were classified as Category A, B or C specimens. This table also gives an approximate root protection radius for these trees.

Tree No.	Species	Diameter (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m ²)
1	Tulip tree	690	8.4	222
2	Lawson Cypress, Cotoneaster	50	0.9	3
3	Leyland Cypress	50	0.9	3

Table 3.4: RPA and Approximate Root Protection Radius of Category A, B and C Trees Surveyed

4. IMPACT ASSESSMENT

4.1 Development Proposals

The proposed development includes the construction of a dropped kerb, removal of part of existing brick wall to create new opening of 3 metres to allow driveway access and laying hard surfacing to boundary from dropped kerb. Existing driveway to be bricked up and new 2m brick wall erected with gate access.

4.2 Documentation Provided

This assessment is based upon the information provided by the client in addition to information collected by Arbor-Eco Consultancy during the site survey. The documents and drawings considered are detailed within Table 4.1.

Author	Document	Reference	Date
Ordnance Survey	Location Plan	1434841	Jan 2021
Unknown	Proposed Site Plan	-	Jan 2021
Unknown	Visibility Splay (sketch Plan)	-	Jan 2021

Table 4.1: Documentation Provided

4.3 Tree Retention / Removal

None of the trees surveyed are to be removed to achieve the proposed development. Consequently, it is not considered that the proposed development will have an impact upon the visual amenity offered by the vegetation present.

A small section of H1 may be required to be removed to facilitate the development. However, until such time as the proposed entrance has been marked out on the ground the final decision shall be made at Project Start Date.

H2 will be the subject of annual maintenance and shaping in order to facilitate the development.

4.4 Tree Works

To permit the successful construction of the parking bays it will be necessary to carry out selective branch-tip pruning to H2. The hedgerow trees are of a suitable age whereby this work will not have an impact upon its amenity value and it is not considered that the works will impact upon the long-term health or condition of the trees. The need for additional tree works to be undertaken across the site is not anticipated.

It is recommended that the branches overhanging the new access and parking bays are crown lifted to 5 m above ground level. This can be achieved by branch tip pruning work in favour of branch to stem removal works.

4.5 Impact of Enabling Works

Demolition

The proposed demolition of the existing wall will not require major works to be undertaken within the RPAs of any retained tree. Retention of the existing wall foundations and the use of footpaths and previously compacted ground will prevent potential impact damage to the roots of the trees.

Removal of Hard Surfaces

It is understood that the proposed development will utilise the existing hard surfaces where possible and therefore no impact to the roots of the retained trees is anticipated.

4.6 Impact of Construction Works

Works in RPAs

Construction work carried out within the RPAs of the retained trees will cause the greatest damage. Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth. The risk of soil compaction is greatest in soils with a significant clay content and in wet conditions. It can result from temporary or short-term loadings, such as the passage of a single vehicle, or from longer-term construction activities, including materials storage.

Works to provide suitable foundations have the potential to harm the roots of these trees. The habit of this species of tree is such that they grow roots shallow to the surface and therefore compaction and root severance has the potential to seriously harm the trees should conventional construction techniques be adopted.

The proposed development will require major works to be undertaken within the RPA of retained tree number 1. The foundations for the entranceway shall be retained and this should prevent any damage to the roots of the tree or disturbing unmade ground.

Works in Proximity to Tree Canopies

The only works that will be undertaken in close proximity to the canopy of the retained tree is the construction of the wall pillars. However, this work is not likely to require significant pruning of the trees' canopy.

Site Access

The potential access point for construction work has the potential to cause conflict with tree number 1 where the trees roots are very likely to have formed within the open garden beyond the proposed gate access where construction activity would take place. So long as the tree is protected by tree protection fencing and ground protection prior to the commencement of works then the proposed development will not affect any of the retained trees.

Site Compound, Contractors Parking and Materials Storage

An existing area of hard standing internally to the south of the site has been identified, which can be accessed from Brockhampton Road, and can be used for the establishment of a site compound and provision of materials storage. Some limited contractors parking may also be accommodated in this location. Where the demand for parking exceeds the area available additional parking will need to be provided outside of the site.

None of the activities related to the establishment of a site compound, storage of materials or car parking will occur within the RPA of any retained trees and therefore no impact to the trees is envisaged.

4.7 Post Construction Conflicts

Ultimate Branch Spread

The canopy of the existing trees is not likely to increase in spread to such an extent that conflict with the completed development will occur. However, should this be the case then this can be managed through selective cyclical pruning and therefore the long-term health of the tree will not be adversely affected.

Shading

The existing trees will not cause any concerning shading of the development as this is non-living space.

Leaf Litter, Sap Exudate

Consideration should be given to the significant conflict due to leaf litter or sap exudate which is anticipated within the new parking bays. As this mature tree shed its' leaves annually, along with the fruit and fruit cases further maintenance regimes should be discussed prior to construction.

5. METHOD STATEMENT

The following sections of this report detail the specific measures to be adopted to ensure the protection of retained trees during the proposed development.

The Site Manager and contractors must ensure that they read and understand all of the following sections prior to commencement of any onsite works and is responsible for informing all site staff and subcontractors of the significance of the tree protection measures to be incorporated. All trees are location within a Conservation Area and are afforded an element of statutory protection (See Section 3 for more details).

5.1 Construction Exclusion Zone

The construction exclusion zone is the area considered necessary to ensure that the tree roots and canopy are protected from damage during the construction processes. The extent of the exclusion zone is based upon guidance within BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' in particular the diameter of the stem of each tree (when measured at a height of 1.5m from ground level) in combination with the canopy spread of the tree is considered.

The exclusion zones are to be defined by the use of protective barriers. The location of the tree protection barriers is marked on the Tree Protection Plan, Drawing Number MB210114-01-01 within Section 6 of this report.

The Construction Exclusion Zones are to be afforded protection at all times. No works that cause compaction of the soil or severance of tree roots, except where undertaken in accordance with the guidance provided within this document, will be undertaken within any exclusion zone.

5.2 Protective Barriers

The protective barriers will be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site or the stripping of soil commences. Signs will be installed on the protective barriers to inform site staff of responsibilities and these will include the headings listed in Appendix 1.

The locations of the protective barriers to be installed are shown on the Tree Protection Plan Drawing Number MB210114-01-01, Section 6.

The Construction Contractor will inform the Project Arboriculturist when the protective barriers have been installed and the Project Arboriculturist will attend site to confirm that they have been installed in accordance with the Tree Protection Plan. The Local Planning Authority will be notified in writing once this inspection has been undertaken.

The protective barriers are to be constructed in accordance with the specification detailed the Tree Protection Plan Drawing Number MB210114-01-01, Section 6. Any variation will be agreed with the Local Planning Authority Arboricultural Officer or Project Arboriculturist (See Section 5.3 for contact details). The Local Planning Authority will be notified in writing once the barriers are in place.

The barriers for each phase will remain in place until completion of that part of the development and they will only be removed from site upon completion of the construction phase.

Other than works detailed within this method statement or approved in writing by the Local Planning Authority no works, including storage or dumping of materials, shall take place within the Construction Exclusion Zone as defined by the protective barrier.

5.3 On site Monitoring Regime & Contact details

All operations will be monitored by the main contractor. The main contractor will ensure that all works within this document are followed (this will be built into the contract specification) and important information relayed to the site staff and sub-contractors employed on site.

If any issues arise in relation to the retained trees the Project Arboriculturist will be contacted for advice. The Project Arboriculturist for the development is:

Name: Marco Bartolini
Position: Arboricultural Consultant
Company: Arbor-Eco Consultancy
Mobile: 07542093882

The Arboricultural Officer for the Local Planning Authority is:

Name: Jamie Gargett
Position: Arboricultural Manager (Planning Compliance)
Company: Havant Borough Council
Telephone: 023 9244 6019

Induction and Personnel Awareness

Details of tree protection and methods of working around trees will be included within site inductions to new members of site staff.

A copy of this document and the related Tree Protection Plan Drawing Number MB210114-01-01 (within Section 6) will be kept on site and made accessible to staff.

Monitoring/Audits

A pre-commencement site meeting will be arranged between the contractor, Project Arboriculturist and any other interested party. During this meeting, all outstanding items will be finalised and these will be communicated to the Local Planning Authority.

Arboricultural audits will be completed at regular intervals by the Project Arboriculturist. It is recommended that audit of tree protection measures is carried out at regular intervals during the project. The scheme of audits will be finalised during discussion at the pre-commencement meeting and confirmed with the Local Planning Authority Arboricultural Officer.

Areas requiring Arboricultural Supervision

The follow works will occur under arboricultural supervision:

- All construction works in proximity to the retained trees.

Following each audit of tree protection and periods of supervision a written inspection report with photographs will be provided to the Local Planning Authority Arboricultural Officer.

5.4 Use of Subcontractors

The main contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

5.5 Responsibilities

It will be the responsibility of the main contractor to ensure that planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime, supervision and audits in regards

to tree protection and ground protection is adopted on site. The main contractor will be responsible for contacting the Local Planning Authority should any issues are raised related to the trees on site.

If additional pruning works are required at any time then permission must be sought from the Local Planning Authority first and then works are to be carried out in accordance with BS3998:2010 – ‘Tree works - Recommendations’.

The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective barriers will remain in position until completion of all construction works on the site. The Project Arboriculturist will re-inspect the trees and sign off the site with the Local Planning Authority Arboricultural Officer.

The main contractor will ensure that the barriers and signs (clear to read) are maintained in position at all times and checked on a regular basis by a designated person on site.

5.6 General Precautions

No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 m of the stem of any tree that is to be retained. No fires will be lit within 20 m of the stem of any tree that is to be retained.

Safety from COVID-19 of all site staff is to be included within the site briefing and monitored accordingly and in keeping with current laws for England. Contractors from different disciplines should ideally be segregated. The client must also consider the safety of the family as a priority over the development.

6. DRAWINGS

Drawing MB210114-01-01 – Tree Protection Plan

7 BROCKHAMPTON ROAD
ARBORICULTURAL METHOD STATEMENT MB210114-01

To ensure the protection of tree roots the new hard surfaces areas will be constructed in accordance with the no-dig methodology set out below and works will be completed under supervision of the Project Arboriculturist.

Installation of access and driveway off Brockhampton Road
Tree number 1 is to be located at the proposed new entrance to the site off Brockhampton Road. The tree is also positioned to the edge of the driveway and parking bays.

There is a proposal to introduce a drop kerb to permit a new access to be formed. The access will then continue across a grass verge within the RPA of T1. The construction of the access driveway will be carried out adopting the following methodology:

- Prior to commencement of the works Tree Protection Barriers will be installed in the positions shown on the Tree Protection Plan Drawing Number MB210114-01-01. The tree protection barrier will be positioned at a distance no closer than 1.8 m from the base of the stem of the tree.
- The existing turf within the RPA of tree number 1 will be removed using hand tools and/or tracked excavator of gross weight no greater than 1.5 tonne.
 - This is because the ground pressure is calculated at that less than a human BUT only when travelling in a straight line. Traversing shall be completed upon a ground plate.
- The turf layer will be removed no further that to the existing topsoil horizon or organic layer (approximately 75 - 100 mm) to avoid excavation in to the upper or surface soil horizons and the potential for harm to the tree's roots.
- A permeable geotextile permeable membrane will be laid over the ground and backfilled with washed sand (not builder's sand as this contains salt).
- The ground will be augmented using washed builders' sand and or pea shingle only. The ground can be tamped with a wacker-plate as it has been compacted by footfall and light machinery in the past, but not by driven machine.
- The kerb edges around tree number 1 will need to be constructed using bridged kerbstones to avoid impact with the tree roots or wooden edges pinned to the ground to prevent excavation within the RPA.
- The cellular confinement material shall be laid over the surface and retained in position using the ground pins supplied. The infill of the cells shall be of 40-60 washed fines by hand only and tamped using a wacker-plate. The cellular confinement material can be trimmed to shape in order to meet with the opposing levels of the site and that of the highway verge to maintain a level approach.

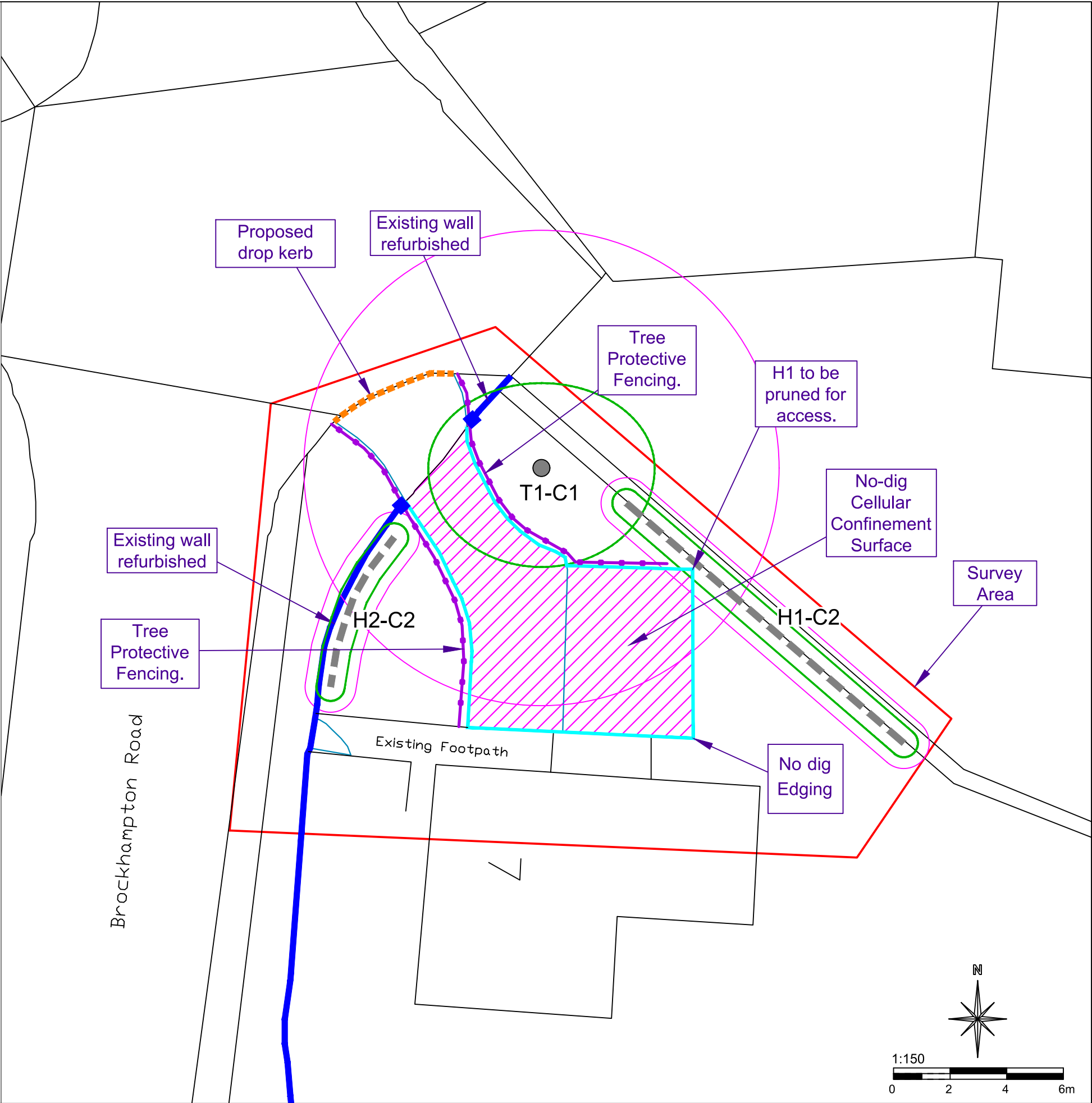
Access Gateway
The existing wall shall be deconstructed by hand to allow for the new access and for the two wall pillars to be constructed that will frame the new threshold to the site. In order to the RPA of tree number 1, it will be necessary to adopt the following methodology:

- The existing retaining wall foundations shall be left intact and all structures to gain the levels required will be constructed around the retaining wall height.
- The pillars to form the new gateway shall be constructed upon the existing foundations to negate the requirement for further excavations within the RPA of the retained trees.

All of the above works have the potential to cause harm to the retained tree however, it is considered that should good working practice be adopted with periods of arboricultural supervision in conjunction with the tree protection measures described then the potential for conflict will be significantly controlled.

Tree works
The canopy of T1 should be crown lifted to 5.0 m above ground level to the west and south cardinal points to permit access in to the proposed new driveway without conflict with the retained tree. This AMS will form the Section 211 Notice to instruct these tree works.

Hedgerows H1 and H2 will be pruned (part of annual management) in part to facilitate the proposed development as shown on Tree Protection Plan Drawing Number MB210114-01-01. Further facilitation pruning will only be permitted by the retained Arboricultural Consultant.



Tree Protection Plan
Showing Proposed
Scheme and Arboricultural
Controls

Key

Tree
Showing Canopy extents, category
colour, tag number (with category)
and RPA circle.

Tree Protective Fencing
Location of tree protective fencing.
Fencing to be BS5837:2012 default
specification.

Pinned Wooden Edging

Existing Wall Refurbished

Proposed Drop Kerb

Survey Area

No-dig Cellular Confinement Surface

Tree Numbering: T1, H1-H2.

Arbor-Eco Consultancy

2 Daisy Lane, Locks Heath,
Hants. SO31 6RA.
Email: arborecoconsultancy@gmail.com
Telephone: 07542 093882

Arboricultural Consultant
Marco Bartolini

Client
Mr and Mrs Reed

Project
7 Brockhampton Road,
Havant, Hampshire, PO91NU.

Drawing Title
Tree Protection Plan

Scale
1:150@A3

Date
Jan 2021

DB
CS

CB
MB

Drawing Number
MB210114-01-01

Rev
A

REFERENCES AND BIBLIOGRAPHY

Arboricultural Advisory Information Services. (2007). 'Practice Note 12. Through Trees to Development'.

British Standards Institution. (2012). *British Standard 5837:2012, Trees in relation to design, demolition and construction – recommendations*. British Standards Institution, London.

British Standards Institution. (2010). *British Standard 3998:2010, Trees work– recommendations*. British Standards Institution, London.

Havant Borough Council (2021) 'Where I live' pages, accessed on 20/01/21.

Johnson, O. and More, D. (2004). *Tree Guide*. Collins, London.

Lonsdale, D. (1999). *Principles of Tree Hazard Assessment and Management*. DETR, London.

National House Building Council. (2014). NHBC Standards 2014: Chapter 4.2 - Building Near Trees. NHBC, Milton Keynes.

National Joint Utilities Group. (2007). *Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*. NJUG, London.

Planning Practice Guidance. (2021). Tree Preservation Orders and trees in Conservation Areas.
<http://planningguidance.planningportal.gov.uk>. Accessed 21/01/21.

Roberts *et al.* (2013) *Tree Roots in the Built Environment. Research for Amenity Trees No.8*. Arboricultural Association, Stonehouse.

APPENDICES

APPENDIX 1: Headings for Protective Barrier Notices and Example Protection Sign

APPENDIX 2: Details of Protective Barrier

Appendix 1

Headings for Protective Barrier Notices

Root Protection Area (RPA) Model Notice

DON'T excavate within this area

DON'T use any form of mechanical plant with this area

DON'T store materials, plant or equipment within this area

DON'T move plant or vehicles within this area

DO contact the Local Authority Arboricultural Officer or owner of the tree if excavation within this area is unavoidable

DO protect any exposed roots uncovered within this area with dry sacking

DO backfill with a suitable inert granular and top soil material mix as soon as possible on completion of work

ANY WORK in this area requires a permit from the Local Authority Arboricultural Officer



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**

Appendix 2

Details of Protective Barrier

Figure 2 Default specification for protective barrier

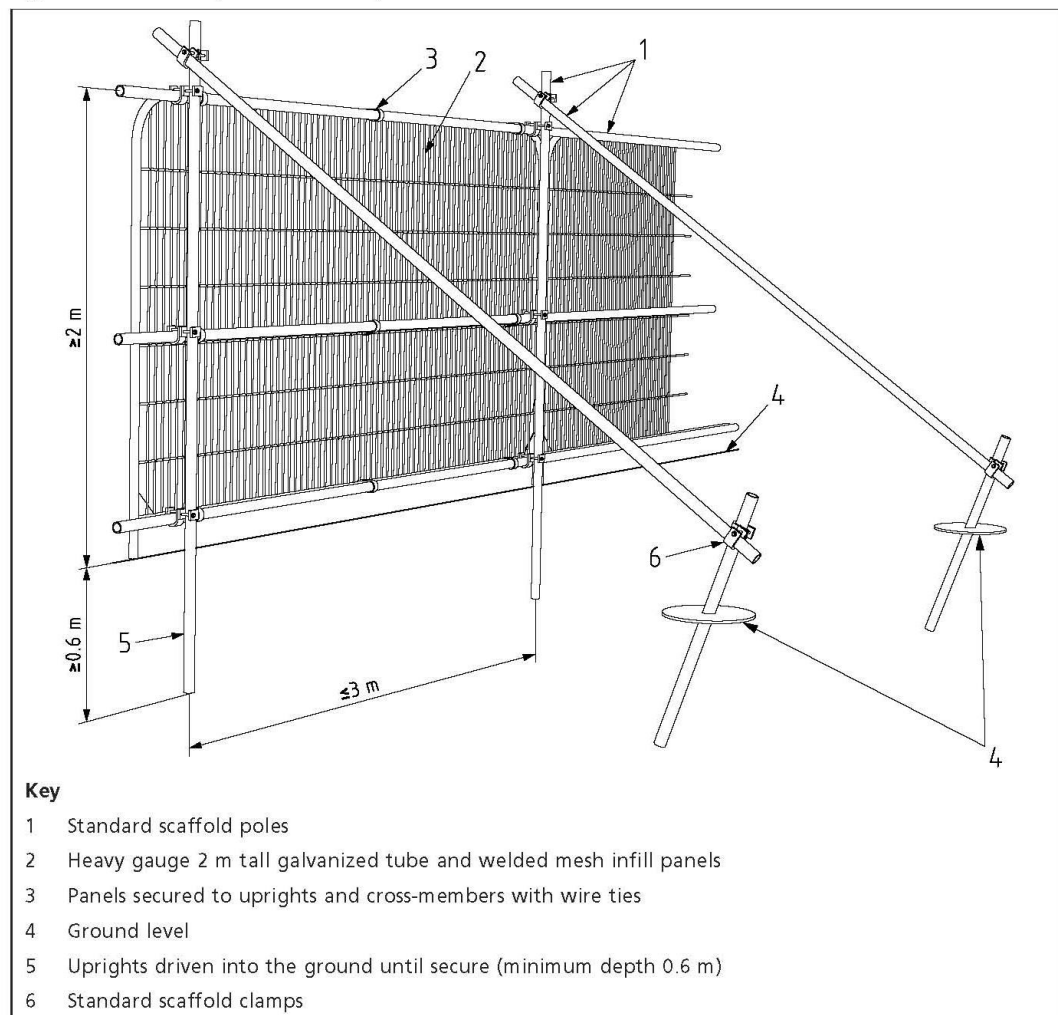


Figure 3 Examples of above-ground stabilizing systems

