Major Trees Ltd

*Arboricultural Consultancy*

# Arboricultural Method Statement

# for Clifton Hill

**Prepared for Exeter City Living**

**By Simon Major MSc (Arb)**

**Major Trees Ltd.**

**03/08/20**

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# Table of Contents

# 1 INTRODUCTION

## 1.1 Instructions

Tomas Gaertner of SE3 Design has instructed me to produce an Arboricultural Method Statement report and a Tree Protection Plan drawing for the Clifton Hill development site, according to BS5837 2012 'Trees in relation to design, demolition and construction – Recommendations'.

## 1.2 Relevant background information

This report is subsequent to my Arboricultural Impact Assessment dated 19/07/20.

## 1.3 Purpose of this report

- To inform the Exeter City Council (ECC) Tree Officer and Planning Officer and other interested parties of the developer's intentions to remove, retain, prune, protect and manage trees on the site
- To inform contractors about any work required to trees or near to trees on the site, and how to protect the retained trees.

## 1.4 Scope of the report

- This is not a tree risk assessment – I have delivered a brief risk assessment in my AIA report indicating all trees are within the acceptable region of risk
- This report does not consider the possible effects of tree roots and shrinkable soils on the subsidence or heave of building foundations. However the bedrocks are Sandstone and Breccia and so shrinkable clays are very unlikely
- This survey only covers the area of land with trees plotted and numbered on my drawing titled 'Clifton Hill Tree Protection Plan' dated 03/08/20. It does not include the trees further to the east and northeast on the wider property.

## 1.5 Documents supplied

Daniel Hutchings of Clifton Emmery Design supplied me with a digital topographical survey and the digital proposed site layout and levels.

## 1.6 Terminology / abbreviations

| | |
|---|---|
| AMS | Arboricultural Method Statement |
| CEZ | Construction Exclusion Zone |
| Dbh | Diameter at breast height (1.5m), measured with a girthing tape. |
| ECC | Exeter City Council |
| Pollard | Trees that have been cut when young at some point above ground level and then repeatedly pruned back to the same or similar points when stems are still small. (This is not to be confused with 'topping' the poor practice of cutting through main stems). |
| Raise | prune lower branches to increase the clearance from the ground or from objects below the tree. |
| Reduce | Shorten branches back to strong side branches, making target pruning cuts, maintaining the form and shape characteristic of the species. |
| RPA | Root protection area |
| N E S W | North East South West. |
| TPP | Tree Protection Plan (drawing) |

## 1.7 Keys

<u>Categories</u>

U Unlikely to make a contribution to the existing land use for more than 10 years.
A High quality and value, able to make a substantial contribution for more than 40 years
B Moderate quality and value, able to make a significant contribution for more than 20 years
C Low quality and value, able to make an adequate contribution for more than 10 years, or young trees with a stem diameter below 150mm

Subcategories

1 Mainly arboricultural values
2 Mainly landscape values
3 Mainly cultural values including conservation

## 2 SITE VISIT

### 2.1 Site visit

I made an unaccompanied site visit for the tree survey on 29/01/20. I returned on 12/06/20 to measure the levels either side of the wall at T1 Yew, and to identify other tree species in leaf. The weather was fine and the visibility was good on both visits.

### 2.2 Site description

The site is the grounds of a former sports hall, set within residential buildings and parkland.

## 3 SITE PLAN

### 3.1 Drawings

See my tree protection plan drawing, scale 1:1000 on A3, dated 03/08/20 and my drawing titled 'Tree 1 – car park – Cellweb and Silva Cells', scale 1:50 on A3, dated 03/08/20.

### 3.2 Mapped Construction Exclusion Zones (CEZs)

I have plotted the CEZs on the plan based initially on the Root Protections Areas (RPAs) and crown spreads of retained trees. I have adjusted the CEZs to enable development where it encroaches on the RPAs or crown spreads. I have described these adjustments in detail in 8 below.

I have drawn 2 types of CEZ:

- Yellow CEZs for no access without further consultation.
- Orange CEZs for specified access only.

The CEZs have been adjusted to allow the same total area but in differing shapes depending on existing hard surfaces and new hard surfaces.

## 4 TREES SELECTED FOR RETENTION

Trees 1, 2, and 7 to 17 will be retained.

## 5 TREES TO BE REMOVED

Trees 3, 4, 5, 6, and 18 to 30 will be removed to enable the development.

## 6 TREES TO BE PRUNED

Trees 1, 7, 10, 11, 12, and 13 will be pruned.

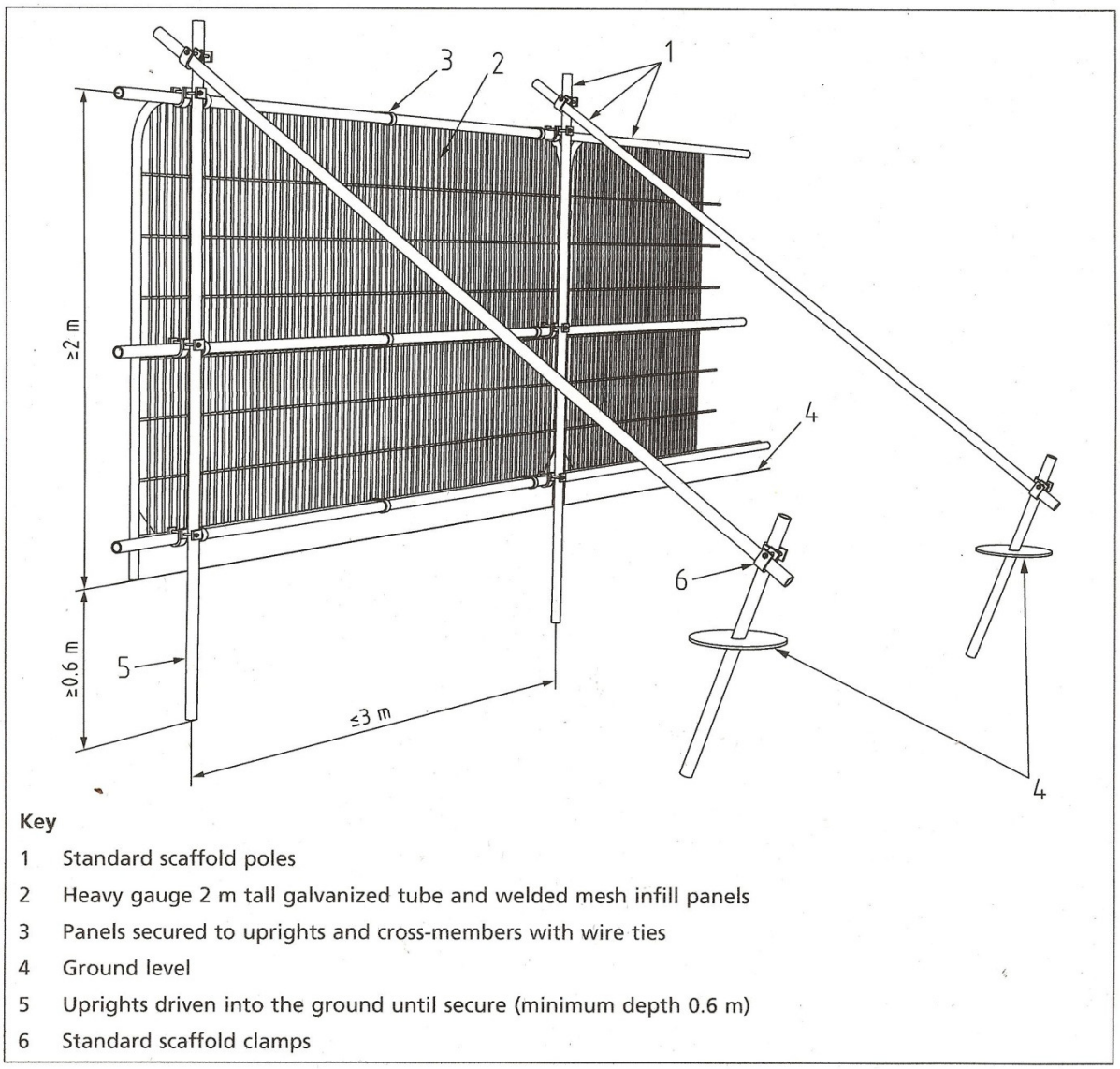
## 7 METHODS FOR TREES TO BE REMOVED AND PRUNED

- I will clearly mark the trees listed in 5 and 6 above, for removal and pruning prior to construction work commencing
- An Arboricultural Association Approved Contractor, or a contractor working to similar standards and current best practice appropriate to this site, will carry out tree removal (to ground level) and pruning
- Tree removal and pruning will be carried out before the protective barriers are constructed
- Small diameter branch wood should be chipped and stored outside the RPAs to compost for use in the final landscaping or could be spread fresh under retained trees to a depth of no more than 5cm and away from the tree stems
- Larger branch wood could be retained as habitat features within the crown spread of retained trees
- Stumps and roots will be removed by the groundworks contractor with a digger
- Tree 1 - Yew - will be raised to 5.5m above the current access road (to allow for the proposed road to be 150mm higher and to allow for 5 years' growth)
- Tree 7 – Cherry Plum – will be reduced to the southwest by 1.5m in spread to provide a 1.5m clearance from the proposed garage, leaving a crown spread of 3.5m to the south, and raised to 2.5m to the southwest to provide a clearance above the proposed drive
- Trees 10, 11 – Silver Maples - (pollarded in the 1980s? now with multiple stems) – will be reduced on the northwest side by reducing the heights only, of the co-dominant stems growing towards the proposed buildings, by 4m in height back to 17 and 18m respectively, to sub-dominate those stems to the eastern stems
- Tree 12 – Silver Maple – (pollarded in the 1980s like trees 10 and 11) – will be reduced on the northwest side by reducing the heights only, of only the co-dominant stems growing towards the proposed buildings, by 3m in height back to 15m height, to sub-dominate those stems to the eastern stems that will remain untouched
- Tree 14 – Goat Willow – will be reduced to the northwest by 2.8m in spread to provide a 1.5m clearance from the proposed house, leaving a crown spread of 3m to the northwest.

## 8 CONSTRUCTION EXCLUSION ZONES (CEZS) ON SITE

- The CEZs will be plotted on site as illustrated in my tree protection plan drawing dated 03/08/20
- Protective barriers will be constructed around the CEZs as shown in Figure 1
- Where I have marked CEZs at the rear of trees, where there will be less development pressure, the protective barriers may be constructed with Heras-type fencing clamped to scaffold tubes driven 0.5m into the ground
- The barriers will be in place before any demolition or construction machinery or materials are brought onto the site
- Signs will be attached to the barriers at 6m intervals stating "Construction Exclusion Zone for Tree Protection – Keep Out. Contact Simon Major 07785 391791, or Tomas Gaertner for access"
- The barriers will then not be moved and no activity will go on inside or behind the barriers without prior consultation with Tomas Gaertner or me
- Barriers will only be moved from the orange CEZ lines to enable the works labelled in my tree protection plan drawing and as described in 9, 10, 11, 12 and 15 below.

Figure 1. Specification for protective barriers




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

## 9 DEMOLITION WITHIN ORANGE CEZS

- Sections of protective barriers in front of Tree 1 – Yew - will only be removed to allow sufficient access for the first 10m of the wall to be demolished down to the level of the garden behind
- The wall may be partly demolished by machine (parked on the access road) with a banksman ensuring not contact is made with the Yew tree
- The lower section of wall will need to be demolished by hand to ensure that below the garden level the wall remains intact and to avoid exposing or damaging tree roots behind the wall
- Once a section of the wall has been demolished to the garden level the protective barrier will be replaced
- The next 13m of wall, for the car parking, will be demolished entirely
- This 13m section can be pulled into the site mechanically but see 11 below for root pruning at the Yew tree end of this section
- The footings of this 13m section will be broken up with a demolition breaker and pulled out mechanically.

## 10 EXCAVATIONS WITHIN ORANGE CEZS

- Carparking will be dug into the orange CEZ of tree 1 – Yew (see 11 and 12 below and my drawing 'Tree 1 car park')
- A clearance and batter of 1.2m width may be dug into the orange CEZ of tree 14 – Willow – once the floor levels have been confirmed.

## 11 ROOT PRUNING WITHIN RPAS

- Excavations by trees 1 and 14 will stop 500mm short of their final line to locate Yew or Red Cedar roots of greater than 25mm diameter emerging into the excavated area. These roots will be traced back by hand-digging to the line of the final excavation and pruned with a sharp saw.

## 12 TREE 1 – YEW – CAR PARK CONSTRUCTION

- Excavation, allowing for root pruning (see 11 above) will be to the minimum depths to enable the Silva Cell and Cellweb installation with the minimum digging into the root protection area (see my drawing 'Tree 1 car park')
- This will result in a 1:12 slope up the parking spaces
- The underground electric cable outside the wall will be located and if within the Silva Cell depth then the Silva Cells can be assembled around it so it passes through the cells
- An 80mm or 100mm perforated drain pipe will be laid along the front, lower edge, the full length of the first row of Silva Cells
- The drain pipe will be bedded in with pea gravel and fall to a connection with the combined sewer or another surface water drain
- The Silva Cells will be assembled as in my drawing 'Tree 1 car park' and following the instructions at https://www.deeproot.com/products/silva-cell/resources/SC2-Contractor-Install-Guidelines-web.html
- Levels will then be made up with washed angular stone and the need for a sub-base for the Cellweb beyond the Silva Cells will be assessed after initial excavation
- 75mm Cellweb will be installed following the instructions at http://www.geosyn.co.uk/wp-content/uploads/2016/05/Installation-Guide-Cellweb-Installation-Guide-81.pdf
- The wear-course layer will be porous brick paver – in my drawing I have allowed for 20mm sand and 50mm brick paver – this will be confirmed by the project engineer
- The space between bricks must remain porous to air and water
- A 100mm or 150mm Aco drain will be installed between the brick pavers above the middle of the two rows of Silva Cells, the full length of the parking area
- The Aco drain will have one outlet (for irrigation and aeration) into the middle of each of the first three parking spaces, and two outlets into the last parking space

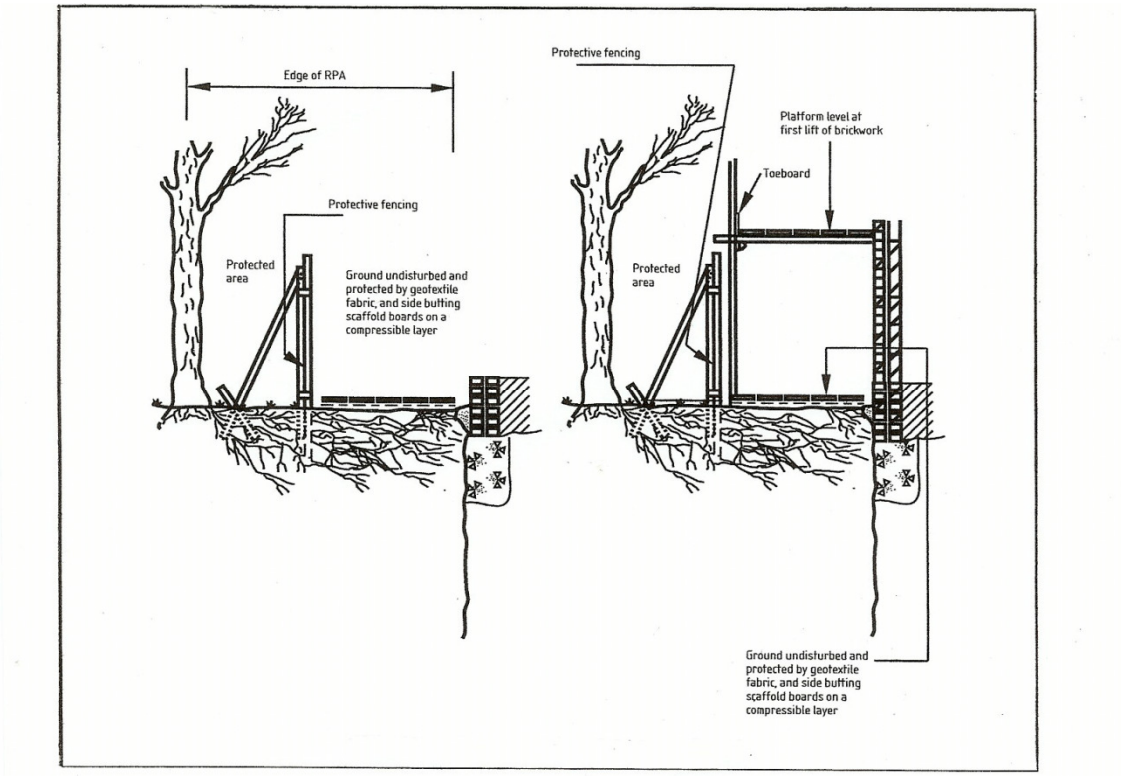
## 13 CHANGES TO GROUND LEVELS CLOSE TO TREES

- Ground levels will not be raised within the CEZs of any other trees (other than trees 1 and 14) either during construction or final landscaping.

## 14 SCAFFOLDING WITHIN THE CEZS

- I have drawn orange CEZs allowing 1.2m working space around the backs of proposed buildings close to trees 7, 10 and 14
- For pedestrian access only, ground protection and scaffolding will be placed within the orange CEZs according to the BS5837 2005 specification in figure 2

Figure 2 - Scaffolding within the CEZ




## 15 NEW HARD SURFACES CLOSE TO TREES

- I have described the car parking within the RPA of tree 1 – Yew – in12 above
- Part of a driveway will be constructed within part of the orange CEZ for tree 7 – Cherry Plum, occupying 8% of the RPA
- There will be no new hard surfaces within any yellow CEZs or the within the other orange CEZs.

## 16 FENCES WITHIN ORANGE CEZS

- A new boundary fence will be constructed along the northeastern boundary within the RPA of trees 1 and 2
- Fence posts will be dug manually making the smallest possible diameter holes for posts at the widest possible spacing
- If roots of greater than 2.5cm diameter are encountered then the post hole will be moved up or down the fence line to avoid the root
- If posts are to be concreted in, the concrete will be contained within a heavy-duty plastic sack to avoid changes to soil pH and to avoid scorching of tree roots
- Tree 2 – Red Cedar – is on the new boundary line – the last post will be dug in 1m or more from the tree and wooden rails will extend from the last post to 100mm from the tree to enable sawing off as the tree grows.

## 17 ADDITIONAL PRECAUTIONS OUTSIDE THE CEZS

- Plant with booms, jibs or counterweights or carrying tall or wide loads will be operated with a banksman to ensure that adequate clearance from the trees is maintained at all times
- Material that will contaminate the soil, e.g. concrete mixings and diesel, will not be discharged within the CEZs or RPAs, or where the slope could cause run off into the RPAs
- Fires will not be lit where their flames can extend within 5m of foliage, branches or trunks.

## 18 SUPERVISION AND MONITORING

- An appointed site foreman or manager will monitor, on a daily basis, the maintenance of the protective fencing and other work listed in 9 to 17 above
- I will visit the site to inspect the following points at least once:
    - Tree removal and pruning
    - Construction of protective barriers
    - Excavation for car parking
    - Installation of Silva Cells
    - Installation of Cellweb
- I will make further unannounced visits fortnightly during ground works
- I will make further unannounced visits monthly during above ground works
- I will keep a site monitoring log of my visits and observations
- Where breaches of the tree protection measures occur, I will record these within my site monitoring log detailing any damage to retained trees and appropriate remedial work undertaken
- I will submit a copy of my site monitoring log to the Tree Officer at Exeter City Council.

## 19 FURTHER WORK

I will await further instructions from Tomas Gaertner, or Exeter City Living.

Signed

MSc in Arboriculture and Community Forest Management
BSc. (Hons) in Agriculture
Advanced Diploma in Arboriculture and Community Forest Management
Arboricultural Association's Technicians Certificate in Arboriculture