BS 5837:2012

Arboricultural Method Statement

2nd September 2024

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Project: Hollin Royd Farm
Authored by: Matthew Lally

Lally TREE MANAGEMENT

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ARBORICULTURAL METHOD STATEMENT

PROJECT

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1. INTRODUCTION

1.1. Author Information & Report Purpose

1.1.1. My name is Matthew Lally (FdSc) and I have created this Arboricultural Method Statement to outline the required steps which must be implemented to successfully retain the trees we wish to retain without adversely affecting their safe useful life expectancy. The steps in this Method Statement must be followed and if there is any misunderstanding or difficulty with these steps then I must be contacted immediately to clarify any issues.

1.1.2. Failure to adhere to the recommendations outlined in this document could result in tree decline or tree death which will mean a breach of planning consent. The trees outlined for retention in this document are protected by planning law and any tree loss and damage could result in prosecution.

2. GENERAL INFORMATION

2.1. Understanding Tree Roots and Damaging Factors

2.1.1. It is important to understand that the majority of the root system is within the top 600mm of the soil extending radially for distances in excess of the Root Protection Area (the Root protection Area is simply the minimal amount of untouched root system deemed to be required for this tree to be successfully retained). Beyond the main structural roots (close to the base of the trunk), the root system rapidly sub-divides into smaller diameter roots: off this main system, a mass of fine roots develops which are incredibly important for the tree to be able to take up water and essential nutrients.

2.1.2. These very fine roots are easily damaged by a number of factors such as: -

a) Compaction of the ground, which reduces the space between soil particles. This is particularly important on clay soils. A single passage by heavy equipment on clay soils or storage of heavy materials can cause significant damage.
b) Changing soil levels, even for a few weeks.
c) Covering the root area with impervious surfaces.
d) A rise in the level of the water table. Roots can tolerate submersion for short periods. But a permanent rise will deplete the soil of oxygen.

e) Stripping the topsoil, such works must be avoided until protective fencing has been erected.
f) Pollution, such as cement washings & oils.
g) Excavations in the root protection area. Even shallow excavations can cause damage and therefore must be avoided unless otherwise stated in this document.

3. METHOD STATEMENT

3.1. Sequence of Events

3.1.1. I have compiled the sequence of events below that must be undertaken in the order stated. Each step listed below is then expanded upon in section 3.2 onwards to ensure the requirements for each step are understood. This sequence should be read in conjunction with the Tree Removal Plan & the Tree Protection Plan in appendix I.

1) Pre-commencement site meeting (See 3.2)
2) Tree pruning & tree removal (See 3.3)
3) Site briefing for personnel (See 3.4)
4) Installation of protective fencing & ground protection (See 3.5 & 3.6)
5) Installation of cellular confinement system (3.10)
6) Implementation of development (See 3.7, 3.8, 3.9, 3.11)
7) Completion of development works
8) Removal of protective fencing and ground protection
9) Completion signed off

3.2. Pre-commencement Site Meeting

3.2.1. Prior to commencement of any site works or tree works, a meeting must take place including the Site Manager and an Arboricultural Consultant. This meeting can be onsite, over the phone or virtual and will allow further discussion of the programme of works, tree protective measures, locations of areas for storage/site organisation and the agreement of any changes to the Arboricultural Method Statement that may be required which will be formally updated and approved as required.

3.3. Tree Works

3.3.1. Once the pre-commencement site meeting has taken place then the following tree works must be undertaken by a qualified and insured tree surgery company.

Table 1. Table of tree works

Tree No.	Species	Proposed Works to Facilitate Development	Reason for Works
T1#	*English Oak*	*No Action*	-
T2#	**Wild Cherry**	**Reduce crown on northern side by 2.5m as shown in the Tree Removal Plan**	**To give adequate space to construct the new building**
T3#	**Wild Cherry**	**Remove**	**To give adequate space to construct the new building**
T4#	**Lawson's Cypress**	**Remove**	**To give adequate space to construct the new building**
T5#	**English Oak**	**Crown lift to 5m on southern side of crown**	**To give adequate clearance for high sided vehicles.**
T6#	*Silver Birch*	*No Action*	-
T7#	*Sycamore*	*No Action*	-
T8#	*Laburnum*	*No Action*	-
T9#	*English Oak*	*No Action*	-
T10#	*English Oak*	*No Action*	-
T11#	*Horse Chestnut*	*No Action*	-
T12#	*Norway Maple*	*No Action*	-
G13#	*Western Red Cedar, English Oak, Hazel, Wild Cherry, Horse Chestnut and Holly*	*No Action*	-
G14#	*Lawson's Cypress, Western Red Cedar, Oak, Magnolia, Cotoneaster tree*	*No Action*	-
G15#	*Ash, Wild Cherry Oak*	*No Action*	-

All tree works must be undertaken in line with BS3998:2010. Tree Work. Recommendations.

3.4. Site Briefing

3.4.1. Once the tree works have been completed to the recommended specifications and standards outlined in section 3.3, the Site Manager must ensure that all personnel who are to be working on this site are made fully aware of the constraints posed by the retained trees and that there are measures in place to protect these trees. I recommend making sure that all personnel have full access to the Arboricultural Method Statement and Tree Protection Plan (TPP), keeping a hard copy of this in the site office would also be advisable for reference.

3.5. Protective Fencing

3.5.1. Now that the site briefing has been completed, the protective fencing should be erected in the positions laid out in the Tree Protection Plan which I have made available in appendix I.

3.5.2. The tree protection fencing will be appropriate to the degree and proximity of likely construction works. It is my opinion that in this instance, the default BS 5837:2012 tree protection fencing is disproportionate. I recommend that (if acceptable by the LPA) an adequate level of protection for the trees could be provided by 'Heras' type fencing, of welded mesh panels on rubber or concrete feet. I have included an image of the compliant fencing available in figure 1.

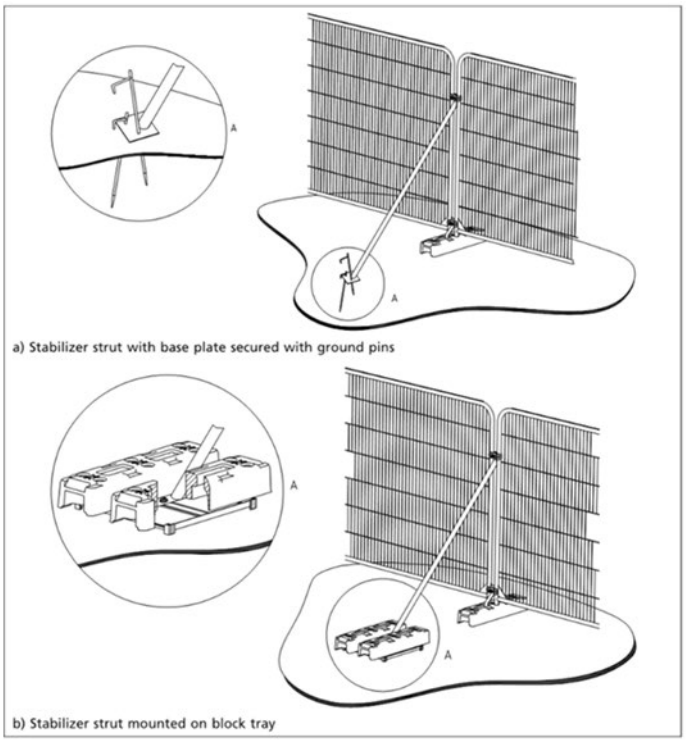


Figure 1. Tree protection fencing (Heras)

3.5.3. The fencing should be strong and suitable for local conditions. It should also take into account the degree of construction activity on the site.

3.5.4. Notices must also be erected on the fencing stating, 'Protected Area - No operations within fenced area'. I have made an example of a notice sign available in figure 2.

Figure 2. Tree protection notice to be fixed to protective fencing

3.5.5. Once the fence has been erected it should never be crossed and particular care should be taken not to store any materials or soil within the protected area.

3.6. Ground Protection (Special Measures)

3.6.1. The areas around T1# & T2# will need to be protected by ground protection measures. The dimensions of the ground protection are outlined in appendix I.

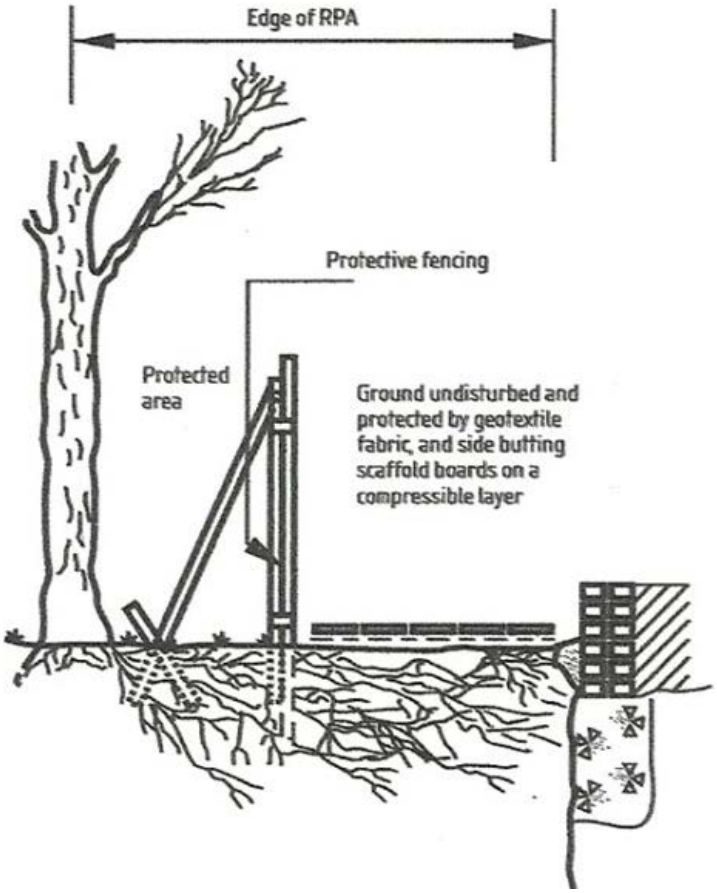


Figure 3. Ground protection with scaffolding boards within the RPA (taken from BS5837:2005)

3.6.2. For pedestrian access and for the use of pedestrian-operated plant up to a gross weight of 2 t, interlinked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane can be used as ground protection, I have made available an image from BS5837:2005 showing the above description. Heavier plant will require an engineered design solution based on arboriculturalist advice.

3.6.3. In this circumstance I would recommend interlinked plastic boards with a layer of wood chippings of at least 150mm deep. An example of this type of ground protection can be seen in figure 4, courtesy of Ground Guards (http://www.ground-guards.co.uk/solutions/tree-root-protection/).

Figure 4. Ground protection interlinked plastic boards with a layer of wood chippings at least 150mm deep.

3.7. Additional Precautions Outside Fenced Areas

3.7.1. Oil, bitumen, cement or other material likely to cause damage to the tree will not be stacked or discharged within 10m of the trees stem or within the protective area. Also, materials in general will not be stacked or discharged within the exclusion zone.

3.7.2. Concrete mixing and washing will not be carried out within 10m of any retained trees.

3.7.3. Fires will not be lit beneath the foliage or in a position where the flames could extend to within 5m of the foliage, branches or trunk. If the fire is large, then this may necessitate a distance of at least 20m.

3.7.4. Trees that are to be retained will not be used as anchorage for equipment.

3.7.5. Notice boards, telephone cables, or other services will not be attached to any part of the retained tree.

3.7.6. Care should be taken when using cranes or other equipment near the canopy of the retained trees. Also, any trees to be felled in proximity to the retained trees should be done so with particular care.

3.8. Supervised Root Pruning and Excavation

3.8.1. As part of the development will encroach into the RPA of T1#, supervised root pruning and excavation will be required to ensure the long-term retention of wellbeing of this tree is not adversely affected. The following points MUST be adhered to:

- Excavation must be carried out using hand tools to avoid direct damage to the bark of the roots. It may be possible in some instances to use specialised equipment such as high air pressure machinery to excavate the soil with minimal disturbance to roots.

- Exposed roots will be wrapped in moist, clean hessian to prevent the roots from drying out. In hot or dry weather, the hessian should be kept moist. The hessian must be removed before backfilling.

- Roots less than 25mm diameter may be pruned back, preferably to a growing point. A sharp cutting tool such as bypass secateurs or a handsaw should be used to leave the smallest wound possible. Roots greater than 25mm in diameter should be retained wherever possible.

- Root pruning should be carried out under the supervision of the Arboricultural Consultant.

- Backfilling of any excavation must be carried out by hand to avoid direct root damage or compaction, where possible. Builder sand must not be used in the backfill material.

3.9. Demolition of garage adjacent to Trees & RPAs

3.9.1. During demolition, the following restrictions will apply:

- Where direct damage by falling masonry is likely, the tree should be protected by exterior grade plywood sheets constructed around the main stem.

- The main body of any mechanical excavator will operate outside the RPA.

- Masonry will be pulled away from trees.

- When breaking masonry, a fine water spray will be used to minimise dust particles if it is likely to cover leaves.

- Excessive dust particles on trees will be removed each day by spraying with water.

- Hard surfaces should be kept in place for as long as possible during construction works in order to prevent soil compaction in the RPA.

3.10. Installation of Cellular Confinement System

3.10.1. The use of a cellular confinement system will be utilised to create the hardstanding area that encroaches into the RPA of T5# without having adverse effects.

3.10.2. A cellular confinement system provides a load transfer mattress which prevents direct loads on tree roots and reduces the bearing pressure on subsoil's by stabilising aggregate surfaces against rutting under wheel loads. Figure 5 shows a side view of the cellular confinement system.

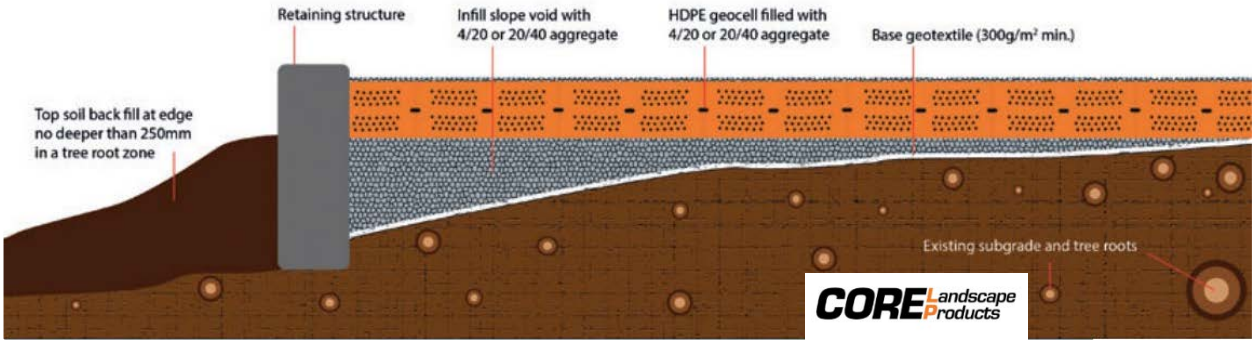


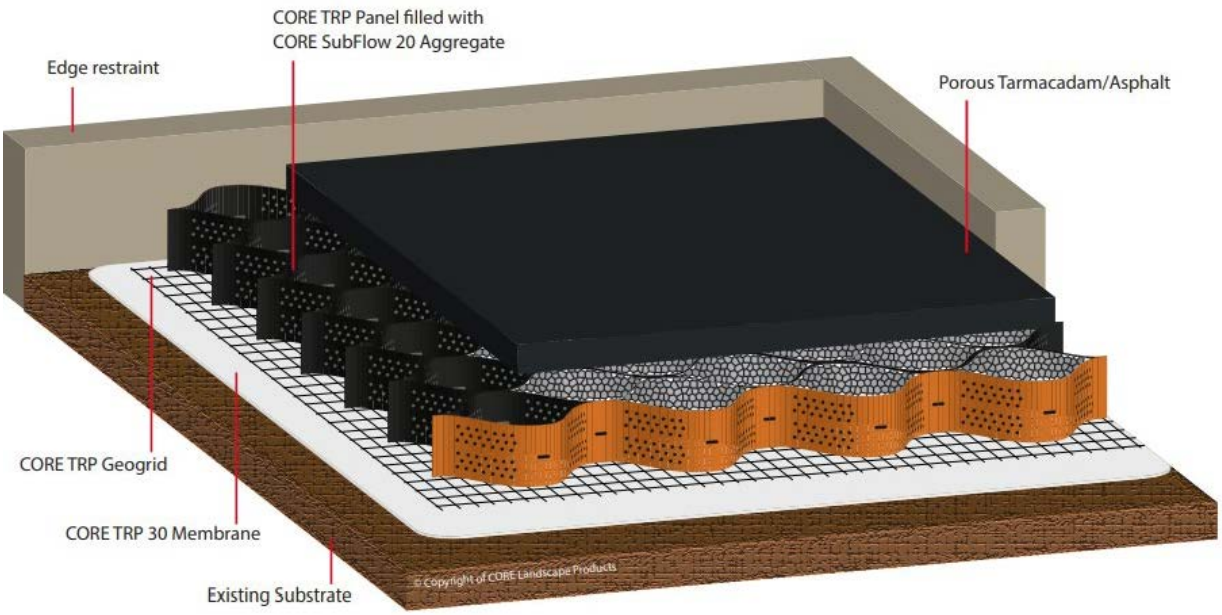
Figure 5. A side view of a cellular confinement system courtesy Core LP (for more details visit https://www.corelp.co.uk/core-tree-root-protection/)

3.10.3. Edging is not required for the stability of the cellular confinement system, but it is necessary to retain the wearing course and the filling of incomplete cells at the edge of a surface. Kerb stones set in concrete haunching's dug into the ground are typical edging for standard surfaces but this method of installation is not suitable in this instance. An appropriate edging will be selected such as peg and board edging.

3.10.4. I have created the following methodology which lists the sequence of operations in order, necessary to complete the hardstanding with the minimum damage to the trees proposed for retention:

- Surface layer such as grass or gravel to be scraped off for levelling purposes. This can be done either by hand or by very small machinery to a maximum depth of 50mm.
- Spread a thin layer of 4/20 or 20/40 aggregate material over the length of the proposed hardstanding area to fill any small rut and to level area.
- Lay base geotextile material with at least 30cm overlaps. It is recommended that the base geotextile is made of polypropylene or polyester (min. 300g/m2) with a CBR puncture resistance of 4000N.
- Extend the cellular confinement systems over the area of the proposed hardstanding.

- Fill the voids within the Geoweb with a 4/20 or 20/40 aggregate material working into the voids. Help settlement of the stone by a minimum of four passes of a smooth roller (max. weight of 1000kg/m width without vibration), or alternatively by several passes with a tracked excavator
- Install peg and board edge supports of other approved edging.
- Lay an upper layer of geotextile over the Cellular Confinement System (not for tarmac surfaces). The upper geotextile is required for protecting the infill matrix; this can be of the same thickness as the base layer or slightly thinner (100–300g/m2)
- Construct finished permeable surface as required in line with guidance illustrations below



3.11. Site Monitoring

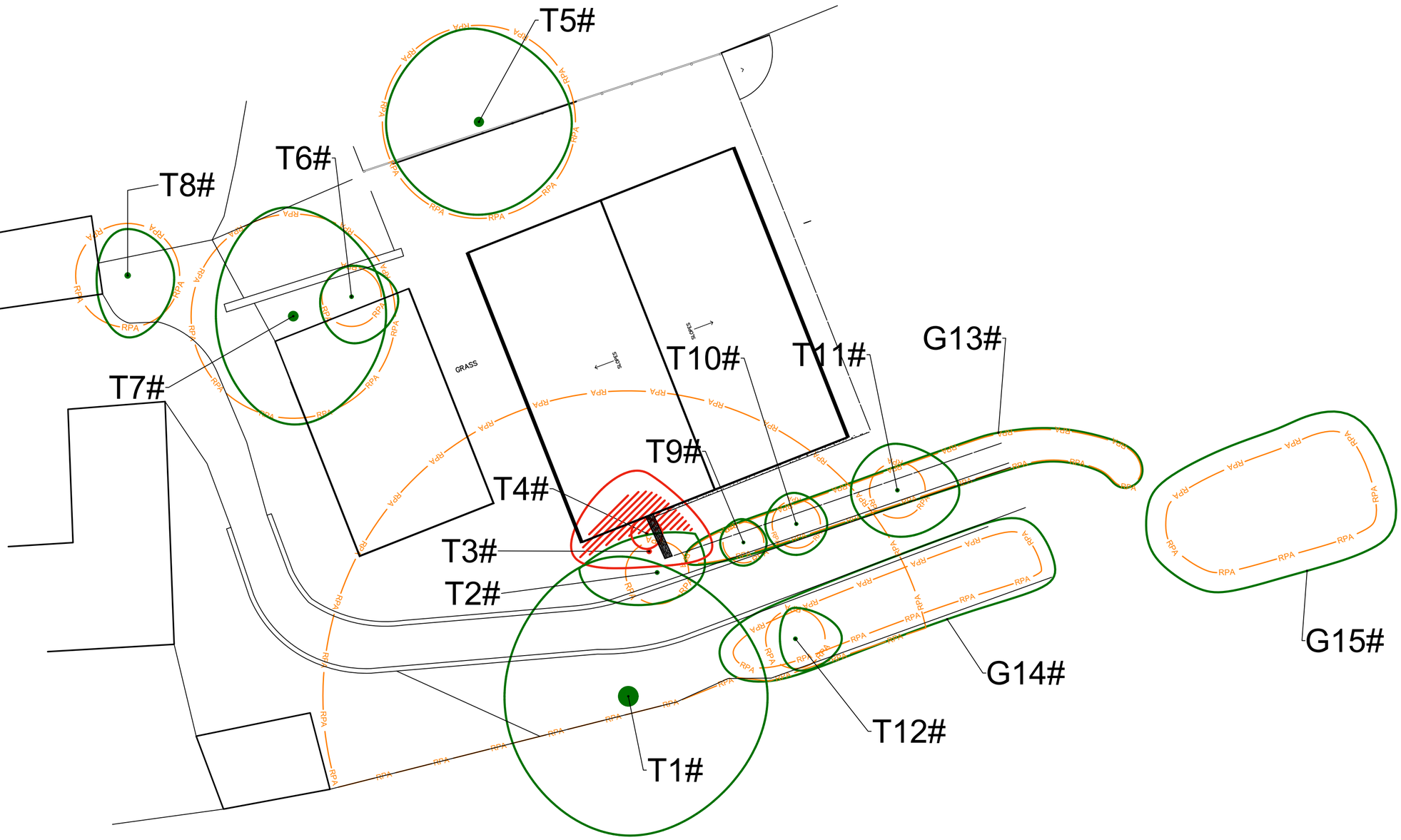
3.11.1. An auditable system of site monitoring shall be established to guide contractors on site, ensure that tree protection measures are implemented and adhered to, and also to demonstrate to the LPA that any planning conditions have been met.

3.11.2. This includes site visits by an Arboricultural Consultant (as appointed by the developer) to confirm the correct installation of the protective fencing, to oversee sensitive elements of works within the RPA of retained trees and sign off the site when the works are complete before fencing can be removed.

3.11.3. A schedule of site monitoring has been made available in appendix II.

Appendix I

Tree Removal Plan & Tree Protection Plan



Do not scale this drawing (printed or electronic version).

Contractors must check all dimensions from site

This drawing is for use on this site only and should be used in conjunction with all relevant consultants drawings..

LEGEND

N

Retained Trees

Removed Trees

Section of Crown Removed

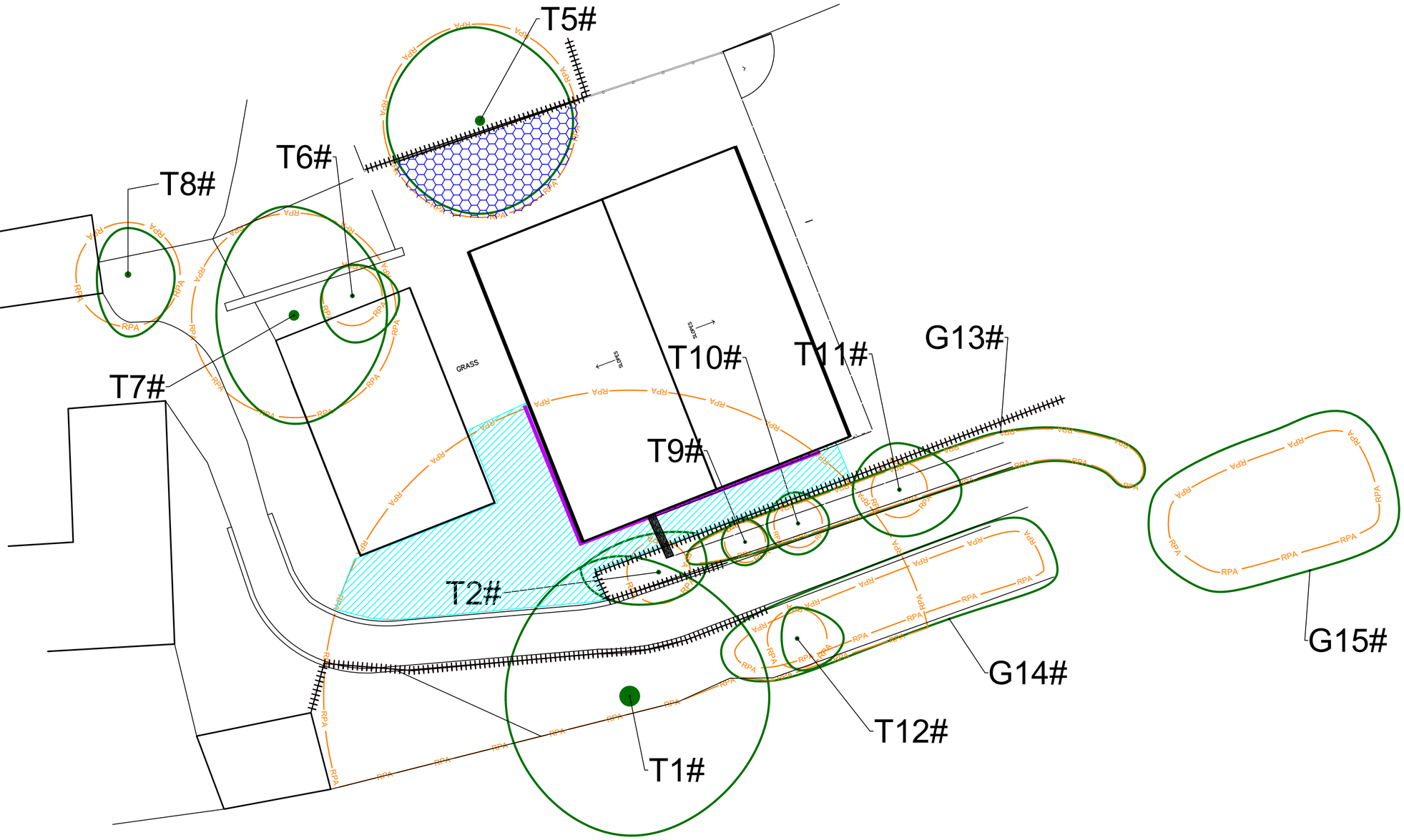
Root Protection Areas

\# Position estimated on site

Lally TREE MANAGEMENT

Scale: 1:200 @ A2	Date: 01/09/2024
Job: LTM1259.AIA.01	
Address: Hollin Royd Farm, Lane Head Road, Barnsley, S75 4AJ	
Client: Five Seventy Three Ltd	
Drawing Number: LTM1259.TRP.02	
Drawn by: Matthew Lally	

TREE REMOVAL PLAN



Do not scale this drawing (printed or electronic version).

Contractors must check all dimensions from site

This drawing is for use on this site only and should be used in conjunction with all relevant consultants drawings..

LEGEND

N

- Retained Trees
- Root Protection Areas
- Supervised Root Pruning and Excavation
- Protective Fencing (Metal)
- Ground Protection
- Cellular Confinement System
- # Position estimated on site

Lally TREE MANAGEMENT

Scale: 1:200 @ A2	Date: 01/09/2024
Job: LTM1259.AIA.01	
Address: Hollin Royd Farm, Lane Head Road, Barnsley, S75 4AJ	
Client: Five Seventy Three Ltd	
Drawing Number: LTM1259.TPP.02	
Drawn by: Matthew Lally	

TREE PROTECTION PLAN

Appendix II

Auditable Site Monitoring

Tree Number	Task	Date Completed	Signed (Project Arboriculturalist)	Signed (Site Manager)
Site	Pre-commencement site meeting			
Site	Tree pruning & tree removal sign off			
Site	Installation of protective fencing & ground protection			
T1#	Supervised excavation & root pruning			
T5#	Installation of Cellular Confinement System			
Site	Completion of construction			
Site	Removal of protective fencing and ground protection			
Site	Sign off from Project Arboriculturalist			