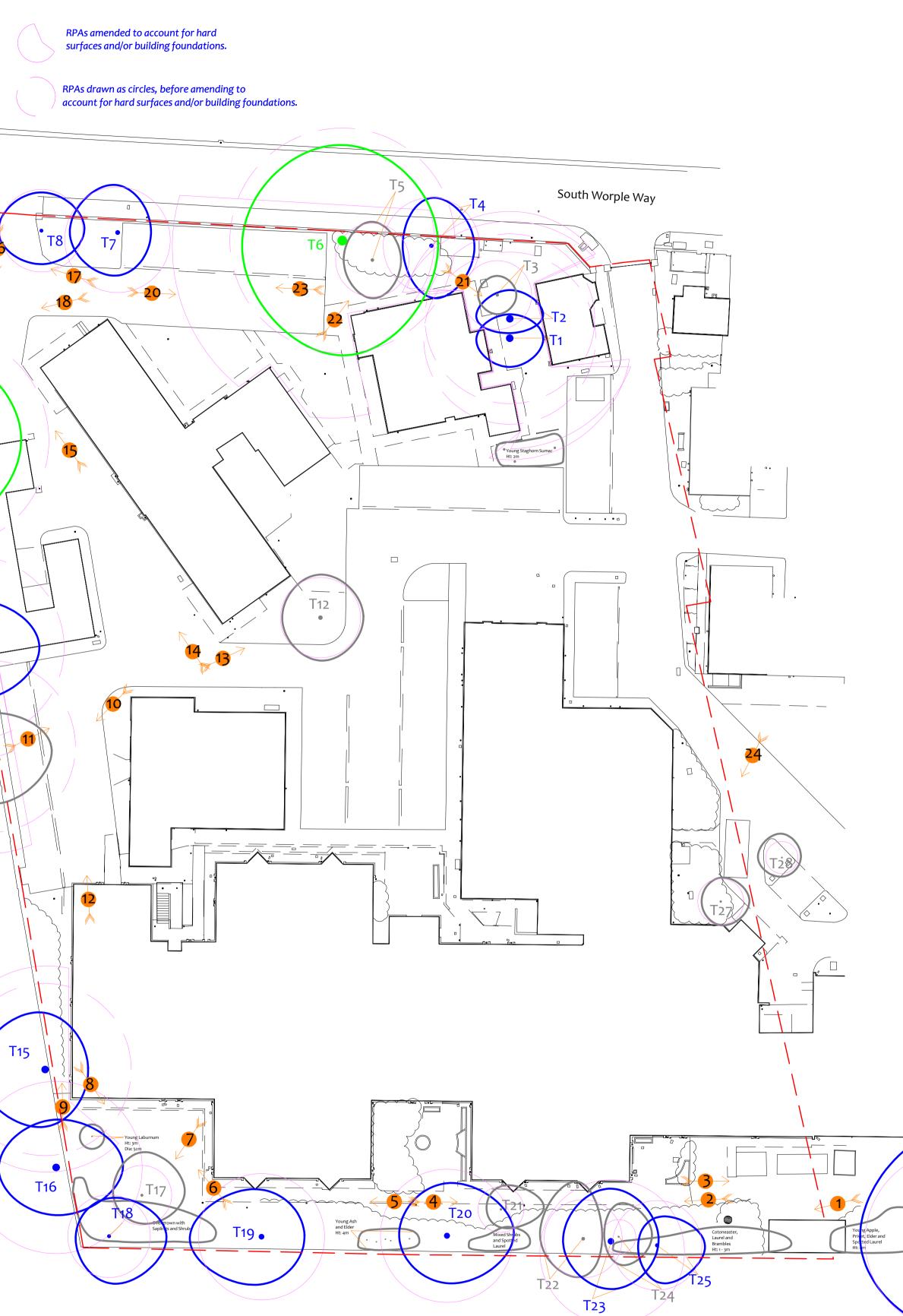
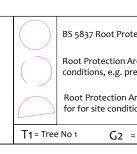
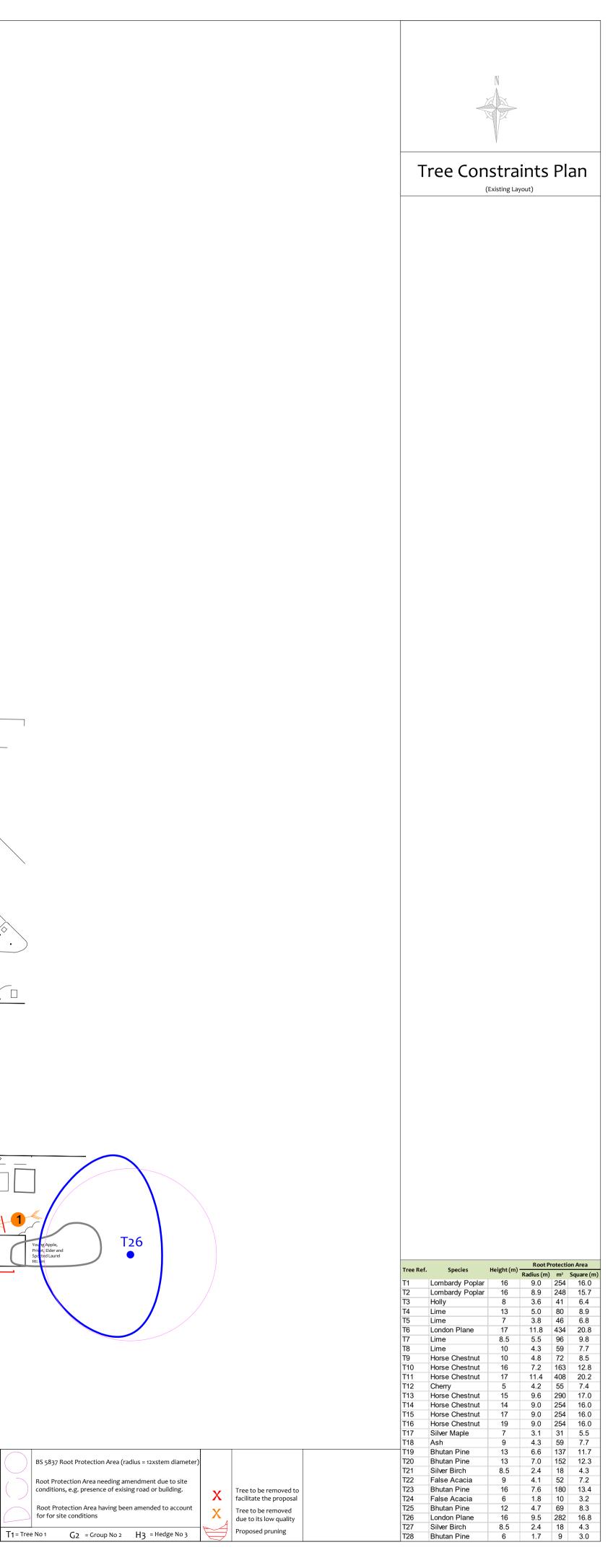
	CL 10770 / TCP Rev: 2 Tree Constraints Plan (Existing Layout) Barnes Hospital SW14 8SU 	CROWN Arboricultural Consultants 01422 316660	e Retention Categories Stems & canopies shown Category A tree Category B tree Category C tree Category U tree	00	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable. Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration. Trees unsuitable for retention due to their very poor condition.	







							Such a small portion of the RPA of T7 shal by excavation for proposed building foun that the impact shall be minor and within
							Canopy of T7 will require some light pruning to p suitable clearance from the proposed building. Canopy to be pruned back to its previous reduct points where possible.
					The canop Some ligh the vehicu clearance Such prur tree so lo	oy of this tree currently begins at 3m above ground leve at crown lifting is required to T8 where it overhangs ular entrance to a height of 5m to ensure suitable for construction vehicles. ning shall not significantly harm or disfigure the ng as works are undertaken sympathetically.	
							T9 •
						So long as excavation does not exceed the of existing surface and its sub-base when instochard surface, there shall be no impact on transformed by the statement of the statemen	depth of the illing a new ees. T10
						A boundary wall separates T9, T10 and T11 fr The foundations of this wall are likely to infl activity such that no significant roots are lik at shallow depths within the site. So long as for new surfaces within existing areas of sof undertaken carefully, impact should be mini	t ground is
							T13
							• T14
							So long as caution is excercised when demolishing buildings — near tree canopies, there shall be no impact upon trees.
							Low impact pedest over RPAs. So long of 150mm and perm trees shall be minin
Drawing No:	CCL 10770 / IAP Rev: 1	A	Tree	Retention Categories Stems & canopies shown		Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with	
Title: Site:	Impact Assessment Plan (Existing Layout with Proposals Overlaid) Barnes Hospital SW14 8SU	CROWN	OOO	Stems & canopies shown Category A tree Category B tree Category C tree	• • • •	Usually large trees with significant presence of smaller trees with excellent form. Retention of these trees is highly desirable. Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.	

Trees unsuitable for retention due to their very poor condition.

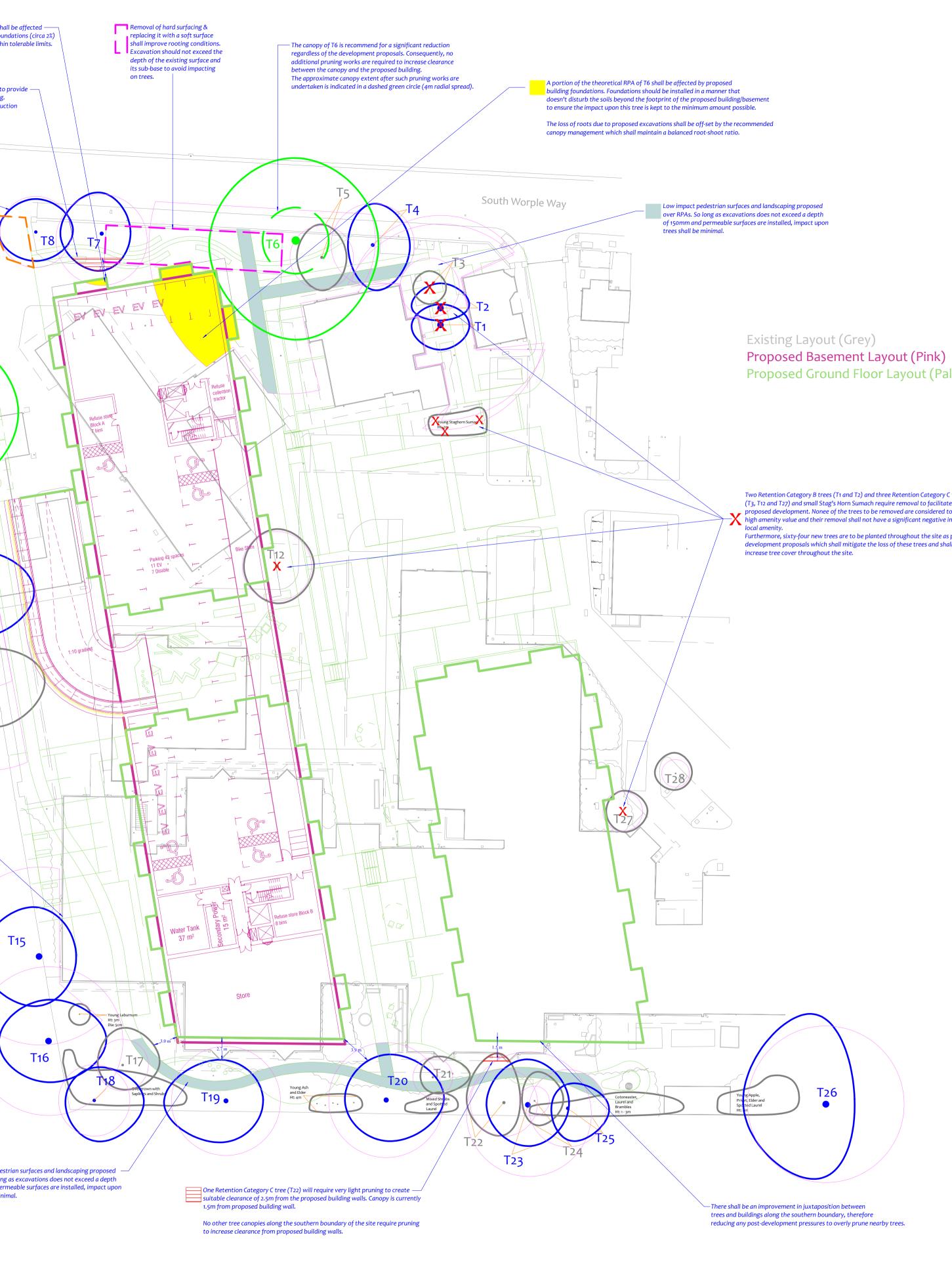
Arboricultural Consultants 01422 316660 Category U tree

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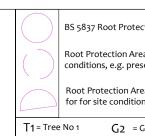
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15m

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Impact Assessment Plan

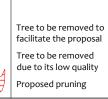


Proposed Ground Floor Layout (Pale Green)

Two Retention Category B trees (T1 and T2) and three Retention Category C trees (T3, T12 and T27) and small Stag's Horn Sumach require removal to facilitate the proposed development. Nonee of the trees to be removed are considered to have a high amenity value and their removal shall not have a significant negative impact upon

Furthermore, sixty-four new trees are to be planted throughout the site as part of the development proposals which shall mitigate the loss of these trees and shall significantly increase tree cover throughout the site.

ection Area (radius = 12xstem diameter)	
rea needing amendment due to site esence of exising road or building.	x
Area having been amended to account ions	X
= Group No 2 H3 = Hedge No 3	



Tree Ref.	Species	Height (m)	Root Protection Area			
free kei.	species	neight (III)	Radius (m)	m²	Square (m)	
T1	Lombardy Poplar	16	9.0	254	16.0	
T2	Lombardy Poplar	16	8.9	248	15.7	
Т3	Holly	8	3.6	41	6.4	
T4	Lime	13	5.0	80	8.9	
T5	Lime	7	3.8	46	6.8	
T6	London Plane	17	11.8	434	20.8	
T7	Lime	8.5	5.5	96	9.8	
Т8	Lime	10	4.3	59	7.7	
Т9	Horse Chestnut	10	4.8	72	8.5	
T10	Horse Chestnut	16	7.2	163	12.8	
T11	Horse Chestnut	17	11.4	408	20.2	
T12	Cherry	5	4.2	55	7.4	
T13	Horse Chestnut	15	9.6	290	17.0	
T14	Horse Chestnut	14	9.0	254	16.0	
T15	Horse Chestnut	17	9.0	254	16.0	
T16	Horse Chestnut	19	9.0	254	16.0	
T17	Silver Maple	7	3.1	31	5.5	
T18	Ash	9	4.3	59	7.7	
T19	Bhutan Pine	13	6.6	137	11.7	
T20	Bhutan Pine	13	7.0	152	12.3	
T21	Silver Birch	8.5	2.4	18	4.3	
T22	False Acacia	9	4.1	52	7.2	
T23	Bhutan Pine	16	7.6	180	13.4	
T24	False Acacia	6	1.8	10	3.2	
T25	Bhutan Pine	12	4.7	69	8.3	
T26	London Plane	16	9.5	282	16.8	
T27	Silver Birch	8.5	2.4	18	4.3	
T28	Bhutan Pine	6	1.7	9	3.0	



Impact Assessment Plan (Existing Layout with Proposals Overlaid)



Arboricultural Method Statement

Site: Barnes Hospital, South Worple Way, SW14 8SU

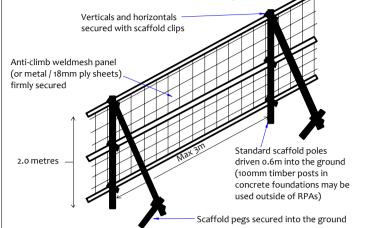
Date: 18/11/2021 | Revision: 1 | CCL ref No: 10770

Tree Protection Barriers

The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They should be appropriate to the nature and proximity of activity within the site. The barriers should be erected prior to the commencement of all activity including demolition, soil stripping and delivery of materials and demolition (except where existing Ground Protection Measures structures require demolition to enable the barriers to be installed). Barrier systems are specified below and should be installed according to the legend on the Tree Protection Plan.

The In-Ground System This system may be installed where indicated by a solid purple line on the Tree Protection Plan. It shall remain in place throughout the entire construction phase. Vertical scaffold poles are driven into the ground, onto which are affixed horizontal scaffold poles Unless specified otherwise, ground protection shall consist of 24mm OSB boards laid at double

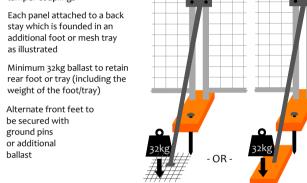




The Back-Stay System —— ____ This system may be installed where indicated by a solid or dashed purple line on the Tree Protection Plan. It is more practical over existing hard surfaces or where the fencing needs to be moved to enable permitted activities within a Restricted Activity Zone. This system should be able to withstand occasional knocks by machinery and should not be relocated except with the consent of the site manager and the approval of the local authority.

Within this system, weldmesh fencing panels (minimum height 2m) are affixed into rubber or concrete feet and clipped together with anti-tamper couplers. Two couplers should be used, spaced at least 1m apart. Alternate panels should be attached to a diagonal back stay connected to an additional foot or baseplate secured with ground pins or additional ballast. Where ground pins are not used, the total weight of the foot/plate plus ballast should total not less than 32kg. Where it is not possible to install diagonal struts (such as very close to a hedge) then the front feet

shall be secured using ground pins or ballast. The 'Back Stay System 2m X 3.5m weldmesh (or sheet metal) panels linked with antitamper couplings



Notices

Suitable weather-proof notices should be displayed to identify tree protection zones. They should state the purpose of the fencing and that it should not be moved, or traversed, other than by authorised personnel.

Restrictions in Specific Zones

Restricted Activity Zone A construction. The following restrictions shall apply:

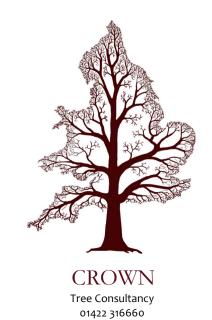
- No vehicles or plant machinery shall park or operate unless a suitable load spreading **Fires** permanent hard surfacing is installed. Any pedestrian activity other than very occasional shall also require a suitable load spreading surface. • Removal of existing structures such as, walls, steps and hard surfaces (where
- No excavation shall occur beneath any existing hard surfacing and its sub-base or
 If materials require installation or delivery beneath tree canopies, this shall be done without the beneath the foundations of any structure such as wall, steps or paying. Tio, a permeable surface and sub-base shall be utilised to enable passage of oxygen and water to the soils beneath and a 3-dimensional cellular confinement system shall
- be incorporated into the sub-base to improve its load bearing capacity • Excavation for new pedestrian surfaces shall not exceed a depth of 150mm and shall Storage of Spoil and Materials be undertaken using hand tools.
- and obtaining approval from the local authority. Existing ground levels shall be retained undisturbed or raised by no more than
 materials (including non-essential cement products) shall be forbidden. 150mm. Ground levels may only be raised using granular topsoil (not rich in clay) or where new surfacing is proposed.
- No new permanent or temporary structures shall be erected other than those shown
 Any mixing of cement based on the planning application documents unless approved by the local authority. Underground services shall not be installed in this area without prior consultation
 materials shall take place
 with the project activities Underground services shall not be installed in this area without prior consultation with the project arborist and a methodology agreed and approved by the local authority authority.
- If roots are encountered in excess of 25mm diameter, they shall be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots in excess of 10mm that need to be severed shall be pruned with reactions of the severed shall be pruned with secateurs.
- Storage of materials and spoil shall be avoided unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous materials (including non-essential cement products) shall be forbidden.

Restricted Activity Zone B

No fires shall be permitted.

shall be installed along the edge of the basement, or an alternative method shall be adopted which containers as specified by current COSHH Regulations, and kept away from Root Protection Areas. does not disturb soils beyond the footprint of the basement (e.g. pinning). A typical method of pinning would be to excavate to a specified depth (e.g. 1m), install shuttering and then cast the concrete basement walls. Then to excavate short sections beneath this wall and cast deeper concrete. Then to excavate in between these deeper sections and infill with concrete. In this manner excavation may continue to any constitute to any const may continue to any specified depth without disturbing soils beyond the footprint of the build.

- The specific method adopted will vary between contractors. However, the following restrictions will Statement and approved by the local authority. apply and must be adhered to: • No excavation or ground disturbance shall occur beyond the footprint of the basement. • Where a small excavator is used, it shall operate from within the footprint of the shall apply:
 - basement. • The excavator or piling rig shall be marshalled to ensure no contact is made with any • Post holes shall not exceed 300mm x 300mm.
 - tree canopy. • The project arborist shall oversee the initial stages of excavation or piling.



Author: Emma Hoyle FDSc (Arboriculture), ED (Forestry & Arboriculture), M. Arbor. A

Client: Star Land Realty UK Ltd

Removal of Tree Protection Barriers Removal of protective fencing or ground protection measures shall be done after all major construction work is complete and their removal has been approved by the appointed arborist.

Within Restricted Activity Zones, soils containing roots may be subject to compaction due to general construction activity (including pedestrian activity and use of plant machinery). In order to minimise compaction, it is proposed to ensure that a suitable load-spreading surface is in place at all times. Any existing hard surfacing may be retained where engineers consider it adequate to spread the load should be robust enough to withstand occasional knocks by plant machinery and, once installed, of construction traffic. Otherwise it shall be reinforced or replaced with adequate ground protection

and diagonal bracing struts. Weldmesh panels (or similar – e.g. Heras type fencing panels, or 18mm+ thickness and screwed together to prevent slippage. The ground shall first be made even by raking, and diagonal bracing struts, weighten pares (or similar – e.g. heres operating parents or issues) or issues plywood boards) are secured to this scaffold framework using sturdy clips e.g. standard scaffold or by adding a few centimetres of sand or woodchip. Where only pedestrian traffic will occur boards or planks may be supported by a scaffold framework. The scaffold may be founded on poles driven into the ground and/or onto blocks (to raise the scaffold) with additional couplings to make the framework secure.

Where engineers consider OSB boards to be inadequate (e.g. for large plant machinery where the tracks may chew up the timber) sturdier ground protection measures will be installed such as road plates, or 100mm of 7–40mm angular gravel installed in 3D cellular confinement system (e.g. CellwebTM).

If a piling mat is required, engineer's specifications should be referred to. The ground protection measures shall be installed and approved before commencement of demolition and construction activity and before the arrival of plant machinery or materials. They shall remain in place until all heavy construction activity is complete or until they are due to be replaced with a new hard surface.

Construction Exclusion Zones

- Within Construction Exclusion Zones the following restrictions shall apply: • Tree Protection Barriers shall be erected and maintained throughout the entire project as indicated on the Tree Protection Plan and under the header -Tree Protection Barriers.
 - These shall remain in place at all times except when authorised pedestrian paying and landscaping works are being undertaken. At such times, adequate ground protection measures shall be installed, and excavation shall be limited to that required for installing the new surfaces. The project arborist shall be consulted prior to any works being undertaken in these zones. No other construction activity or excavation shall occur unless agreed otherwise by
 - the project arborist and local authority. No vehicles or plant machinery shall be driven or parked.
 - No tree works, other than those specified on this document shall be undertaken. • No alterations of ground levels or conditions shall occur.
 - No chemicals or cement washings permitted.
 - No temporary structures shall be installed. No spoil shall be stored.
 - No fires shall be permitted. All hazardous materials (including non-essential cement products) shall be forbidden • Removal of hard surfaces, structures or turf shall be done using hand operated tools only and supervised by the project arborist.

Tree Works Specification

The following table specifies the tree works which will be required prior to the commencement of

struction activit	y:	
Tree Reference	Action Required	Notes
1, T2, T3, T12, 12 and 2m tall Stag's horn Sumach	Remove.	Stumps of trees within the RPAs of retained trees shall be removed with a stump grinder NOT a mechanical excavator.
тв	Crown lift to a height of 5m to provide suitable construction vehicle access.	Branches to be pruned back to a secondary branch junction or the branch collar wherever possible. Pruning to be kept to a minimum to achieve the desired clearance of 5m.
T7 and T22	Prune back foliage growing towards the closest building to create a clearance of 2.5m.	Branches to be pruned back to a secondary branch junction or the branch collar wherever possible.

General Restrictions - Throughout the Site

Preparatory Works

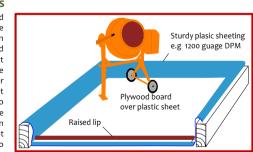
Within this zone trees roots are likely to be present where access will be required to facilitate No demolition, removal of surfaces, or soil stripping shall commence until the protective fencing and ground protection measures are installed to the satisfaction of the local authority.

surface is in place. The load spreading surface shall be installed and/or maintained as specified under the heading *Ground Protection Measures*. This shall remain in place throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entire demolition and construction phase or until any new throughout the entine demolities and the entire fires shall be permitted in the vicinity of any exposed tree roots.

- applicable) shall be undertaken using hand tools or a mechanical excavator operating In order to protect tree canopies the following restrictions shall apply throughout the site: from outside the Restricted Activity Zone and carefully marshalled by the project • No machinery in excess of 2m shall pass beneath the canopy of any tree without being carefully marshalled in order to ensure that no branches are damaged.
- use of overhead cranes. • Where a new hard surface is proposed over the Root Protection Areas of T8, T9 and • If materials are to be installed or delivered close to tree canopies (but not beneath them) and a crane is required, they shall be carefully marshalled in order to ensure that branches are not

Storage of materials and spoil shall be avoided in any Construction Exclusion Zones and Restricted No further excavation shall occur in this zone without consulting the project arborist
 Activity Zones unless it has been agreed with the project arborist that the ground protection
 Activity Zones unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous

> Activity Zones. Where cemen Protection Areas, then no further special measures are required. Otherwise, provisior shall be made to ensure that the mixing area is contained so that no water run-off enters



the Root Protection Area of any trees (see diagram for example). Mixers and barrows shall be Within this zone it is proposed to excavate for the basement. Either contiguous piling (or sheet piling) All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable

Exclusion Zones or Restricted Activity Zones unless done so in a manner detailed in a specific Method

Site Hoarding

If site hoarding shall be installed over the Root Protection Area of any tree, the following restrictions

Ground levels shall be maintained as existing.

- No post hole shall be excavated within 1.5m of any tree stem. • Post holes shall be excavated using hand tools or by a post-hole auger attached to plant
- machinery sited outside of Root Protection Areas. Roots in excess of 25mm shall be retained wherever possible.

approval of the local authority with regard to its location and specification.

• Roots in excess of 10mm shall be pruned with sharp secateurs. • Pruning shall be minimal and only undertaken where absolutely necessary to facilitate the site hoarding. It shall be undertaken by a reputable tree surgeon working to BS 3998 (2010). Site hoarding may be installed in place of the specified tree protection measures subject to the

Siting of Cabins

Cabins shall be located outside of Construction Exclusion Zones and Restricted Activity Zones unless agreed otherwise by the project arborist. Where this is being considered, the project arborist shall be onsulted and specific tree protection measures agreed. The following general restrictions will apply: All services to and from site cabins shall be installed above ground through any Root Protection

• No excavation shall occur within Root Protection Areas to enable cabins to be installed.

• The cabins shall be founded on a suitable load spreading surface.

Fence Posts or Decking Posts If permanent fencing or decking is to be installed within Root Protection Areas, the following restrictions shall apply:

- All post holes shall be excavated by hand and kept as narrow as possible (maximum diameter Exploratory post holes shall be dug before committing to post / panel positions. If any roots in excess of 25mm are encountered they are to remain intact and the post hole shall be relocated
- slightly. The fencing system must permit such flexibility (i.e. where fixed panel widths are used, all post holes must be excavated before committing to the final location). • Any roots in excess of 10mm which are severed shall be neatly pruned back with secateurs. This will encourage healing and reduce the likelihood of infection.

Walls shall be avoided over Root Protection Areas unless their foundations may be spanned over roots using a beam system. Hedges may be planted within Root Protection Areas using hand tools to minimise excavation.



08000 14 13 30

Timing of Operations e site shall be phased according to the following chronology

Order	Phase	Activity
1st.		Planning conditions relating to trees to be ident
2nd.		All specified tree removal and pruning to be unc
3rd.	Pre- Construction Phase	Install the tree protection barriers (fencing and Protection Measures).
4th.		Pre-Commencement site meeting: Tree protect Variances to be agreed. Location of undergroun excavation to be agreed. Scaffold restrictions to
5th.		Arboricultural Method Statement to be revised
		Protection measures confirmed ac
6th.	Demolition and Construction Phase	Demolish existing structures and remove existing
7th.		Install new buildings, hard surfaces and services Method Statement.
8th.	Post-	Site meeting with project arborist. Landscaping mitigation agreed. Ground conditions to be asse
9th.		Remove protective barriers (fencing and ground
10th.	Construction Phase	Undertake restricted landscaping operations wi

Personnel and Accountability

is table should be completed at the Pre-Start Meeting or earlier					
Position	Name	Contact Phone & email	Roles		
Project Manager	TBC at detailed design stage through condition.	Insert Details	Liaising with site manager & project arborist regarding any potential issues relating to trees. Scheduling of meeting, excavations and inspections. Overseeing this monitoring schedule. Instructing the project arborist and arranging access. Liaising with local authority regarding discharge of planning conditions and variances to the Arboricultural Method Statement.		
Site Manager	TBC at detailed design stage through condition.	Insert Details	Day to day monitoring of tree protection measures. Fortnightly supply of site photographs showing all tree protection measures. Induction of all contractors. Reporting to the Appointed Arborist of any incidents or potential variations to the agreed tree protection measures.		
Project Arborist	Crown Tree Consultancy	08000 14 13 30 0203 797 7449 5 Info@crowntrees.co.uk	Liaising with LPA Tree Officer over all arboricultural matters. Initial inspection and signing off of tree protection barriers including ground protection measures. Monthly site visits and inspections. Oversight of excavation for basement down to 1.2m in Restricted Zones. Reporting to the local authority following site inspections and any variation or incidents.		
Local Authority	London Borough of Richmond upon Thames	Insert Details	Receipt of reports from the appointed arborist. Liaising with the appointed arborist to agree suitability of tree protection measures and any variations. Enforcement. Advice and assistance with the discharge of planning conditions relating to trees.		
Additional Contact	Insert Details	Insert Details	Insert Details		
Additional Contact	Insert Details	Insert Details	Insert Details		

Site Monitoring Schedule

Inspection	Site Attendees	Comments
Pre- Start Desk-top To occur prior to any works taking place on the site.	N/A.	Project Manager and Site manager to study this Method Statement & contact the Project Arborist to agree all protection measures.
Pre-Start Meeting	Site manager, project arborist.	Tree protection fencing locations & specification checked.
After tree works completed & tree protection barriers / ground protection	Tree Officer invited.	Ground protection measures checked.
measures installed. Prior to any other activity, inc. demolition & soil stripping.		Contractors to be inducted to all relevant aspects of the Arboricultural Method Statement. Responsibilities checked and acknowledged.
		Adherence to the Arboricultural Method Statement to be discussed and agreed.
		Report on findings to be sent to the local authority tree officer (see accompanying reporting template)
Monthly Inspection and Reporting	Site manager and project arborist*	Tree protection fencing locations & specification checked.
To occur once per calendar month throughout the entirety of the project until the		Ground protection measures checked.
al authority agree that tree protection measures may be removed		Past month, present and future month – activities and adherence to Arboricultural Method Statement discussed and checked.
		Report on findings to be sent to the local authority tree officer within 5 working days.
Oversee initial stages of installation of foundations in Restricted Activity Zone B.	Site manager and project arborist.	Two week's notice to be given prior to commencement.
		Excavation to be as specified in this Method Statement.
		Roots to be retained or pruned as specified in this Method Statement.
		Activities to be recorded and photographed.
		Mitigation measures to be employed specified by the project arborist.
Any other ground disturbance in Restricted Zones & Construction Exclusion Zones	Site manager, project arborist.	Two week's notice to be given prior to commencement.
Including demolition, soil stripping, removal of hard surfaces, excavation for new		Excavation to be as specified in this Method Statement.
surfacing, foundations, service trenches etc.		Excavations to be recorded and photographed.
		Mitigation measures to be employed specified by the project arborist.
Post-Construction Meeting	Site manager, project arborist.	Retained trees inspected. Ground conditions assessed and mitigation measures agreed when
Post external construction activity but prior to removal of fencing & landscaping operations.	Tree Officer invited.	appropriate. Further landscaping operations and restrictions to be agreed.

General Site Photographs





cleaned within this area.

accidentally damaged.

ntified and discussed with the Project arborist and site manager. ndertaken (see Header -Tree Works Schedule) ground protection boards - see Headers - Tree Protection Barriers and Ground tion barriers inspected. Additional protection measures to be agreed. und services to be agreed. Boundary treatments to be agreed. Extents of to be agreed. Scope of future inspections / monitoring to be agreed. and approved inecessary. cceptable by the local authority ing surfaces where applicable. es taking into account restricted activities as specified in this Arboricultural g restrictions to be agreed. Condition of retained trees to be assessed and sessed and ground remediation to be agreed. nd protection measures as applicable).

within Root Protection Areas, including (where applicable) boundary treatments, pedestrian surfaces, decking and any proposed tree planting.









for for site conditions

