

Site: The Rose Of York, Richmond, TW10 6UY

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Date: 27/07/2021 **Revision:** 2 **CCL ref No:** 10313

Client: Cunnane Town Planning

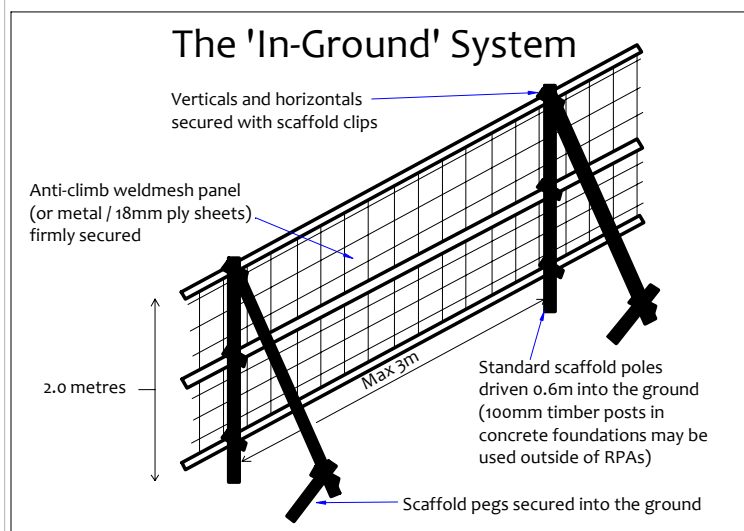
Tree Protection Barriers

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 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 should be robust enough to withstand occasional knocks by plant machinery and, once installed, shall remain in place throughout the entire construction phase.

Vertical scaffold poles are driven into the ground, onto which are affixed horizontal scaffold poles and diagonal bracing struts. Weldmesh panels (or similar – e.g. Heras type fencing panels, or 18mm+ plywood boards) are secured to this scaffold framework using sturdy clips e.g. standard scaffold clips. The system is illustrated in the diagram to the right and is based on BS 5837 guidelines.

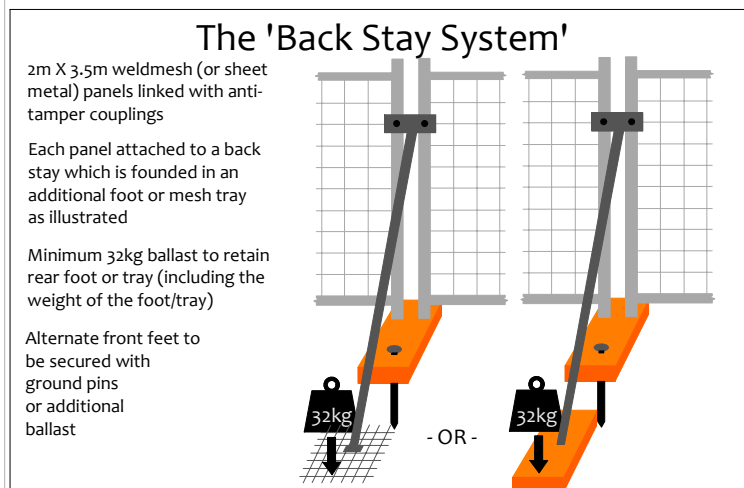


The Back-Stay System

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.



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.

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.

Ground Protection Measures

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 and reinforced (where applicable and adequate), otherwise suitable new ground protection measures shall be installed. The ground protection shall need to be able to adequately spread the load of construction traffic. Where existing hard surfacing is to be retained, it shall not be necessary to install additional ground protection measures. However, the hard surfacing must be firm enough to spread the load of any traffic passing overhead.

Where only pedestrian traffic will occur, the ground protection measures may be as simple as timber boards, or scaffold planks installed directly onto a geotextile fabric on the ground. The ground should first be made even by raking, or by adding a few centimetres of sand or woodchip. Alternatively the boards 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 only light vehicles are to operate (e.g. barrows, trolleys or occasional cars), thick wooden boards or scaffold planks installed directly onto a geotextile fabric on the ground. The ground will need to be installed first to help spread the load. Sturdier systems are specified below:

Where cars will regularly park or heavier vehicles/plant machinery will occasionally operate, sturdier ground protection measures will be required such as metal road plates, or purpose built synthetic road mats over a compression resistant layer such as 150mm of woodchip or 100mm of a 3D cellular confinement system in-filled with 7–40mm angular gravel (e.g. CellwebTM).

A temporary concrete slab may also be considered as a suitable load spreading platform. Where a pile driver needs to operate, a concrete slab may be the preferred option.

Where existing structures need to be removed, this shall be done with temporary ground protection measures in place to enable this to be achieved without compacting soils.

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 landscaping works are being undertaken. At such times, all restrictions that apply to the Restricted Activity Zone shall apply. Furthermore, the project arborist shall be informed prior to any works being undertaken in these zones.
- No 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 in this report 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 construction activity:

Tree Reference	Action Required	Notes
T12, T13 and T14	Remove.	N/A
T18, T20 and G21 (2 trees)	Prune canopy to create a clearance distance of 2.5m from the proposal.	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 2m.

Restrictions in Specific Zones

Restricted Activity Zone A

Within this zone trees roots are likely to be present where access will be required to facilitate construction. The following restrictions shall apply:



- No vehicles or plant machinery shall park or operate unless a suitable load spreading 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 construction phase or until any new 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 applicable) shall be undertaken using hand tools or a mechanical excavator operating from outside the Restricted Activity Zone and carefully marshalled by the project arborist.
- No excavation shall occur beneath any existing hard surfacing and its sub-base or beneath the foundations of any structure such as wall, steps or patio.
- No further excavation shall occur in this zone without consulting the project arborist and obtaining approval from the local authority.
- Existing ground levels shall be retained undisturbed or raised by no more than 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 on the planning application documents unless approved by the local authority.
- 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.
- 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 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.
- No fires shall be permitted.

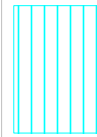
Restricted Activity Zone B



In these zones it is proposed to lower ground levels and rebuild the retaining wall. In order to minimise the impact on roots, excavation should be undertaken using hand tools only and in a manner that does not disturb any of the soils beyond the footprint of the new retaining wall. An example of this could be piling or pinning.

Restricted Activity Zone C

Within this zone it is proposed to install a new wall. In order to minimise the impact on adjacent trees, the following restrictions shall apply:



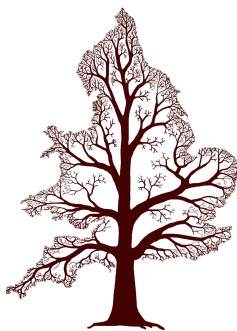
- Only hand tools shall be used during the excavation.
- If roots in excess of 50mm diameter are encountered, they shall be retained intact and the foundations designed accordingly. If roots in excess of 25mm are encountered, the majority shall be retained intact. A shallow beam shall be incorporated into the foundation design. This shall span over the larger roots, enabling them to be retained.

Restricted Activity Zone D

In this zone it is proposed to lower ground levels within an existing planting bed and install a slab foundation for the new bike store. In order to minimise the impact on roots it is proposed to utilise the **Hand-Dig Method**. The following restrictions shall apply:



- Excavation shall be overseen by the project arborist.
- Hand tools shall be used during the excavation.
- The excavation shall not extend any closer to T17 than is absolutely necessary.
- If roots in excess of 25mm diameter are encountered, they shall be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots that need to be severed shall be pruned with secateurs.
- If roots in excess of 50mm diameter are encountered they shall be retained intact and the bike store foundation designed to accommodate them. The exposed roots shall be adequately shuttered off using timber and a suitable protective packaging material such as damp cloth or polystyrene prior to any concrete being cast.



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General Restrictions - Throughout the Site

Preparatory Works

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.

Fires

No fires shall be permitted beneath any tree canopy or within 5m of any tree stem, branch or foliage. No fires shall be permitted within any Construction Exclusion Zone or Restricted Activity Zone. No fires shall be permitted in the vicinity of any exposed tree roots.

Canopy Protection

In order to protect tree canopies the following restrictions shall apply throughout the site:

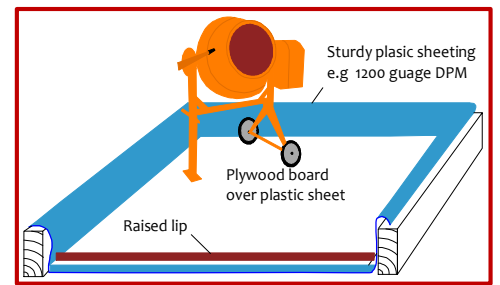
- No machinery in excess of 2m shall pass beneath the canopy of any tree without being carefully marshalled in order to ensure that no branches are damaged.
- If materials require installation or delivery beneath tree canopies, this shall be done without the use of overhead cranes.
- If materials are 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 accidentally damaged.

Storage of Spoil and Materials

Storage of materials and spoil shall be avoided in any Construction Exclusion Zones and Restricted 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 materials (including non-essential cement products) shall be forbidden.

Hazardous Materials

Any mixing of cement based materials shall take place outside the Construction Exclusion Zones and Restricted Activity Zones. Where cement is to be mixed at considerable distances from trees and water run-off cannot enter Root Protection Areas, then no further special measures are required. Otherwise, provision 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 cleaned within this area.



All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

Underground Services

No underground services (including soak-aways) shall be located in any part of the Construction Exclusion Zones or Restricted Activity Zones unless done so in a manner detailed in a specific Method Statement and approved by the local authority.

Site Hoarding

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

- Ground levels shall be maintained as existing.
- Post holes shall not exceed 300mm x 300mm.
- 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.
- 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 approval of the local authority with regard to its location and specification.

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 consulted 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 Areas.
- 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.

Use of Heavy Plant

All machinery operatives are to be made aware of any Construction Exclusion Zones and Restricted Activity Zones that apply to this site.

All machinery operatives are to respect these zones and ensure that no damage occurs to trees due to the careless use of machinery.

Mechanical excavators should have tracks rather than wheels to help spread their load. They should be carefully marshalled when working close to tree canopies.

Scaffolding

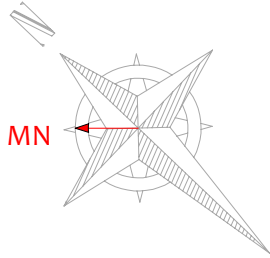
If scaffolding is required in areas containing ground protection measures, the protective boards shall need to remain in-situ and be strengthened and stabilised to bear the weight of scaffold poles.

Prior to the installation of any scaffolding within 0.5m of any tree branches, the project arborist shall be consulted to specify any pruning works that may be required.



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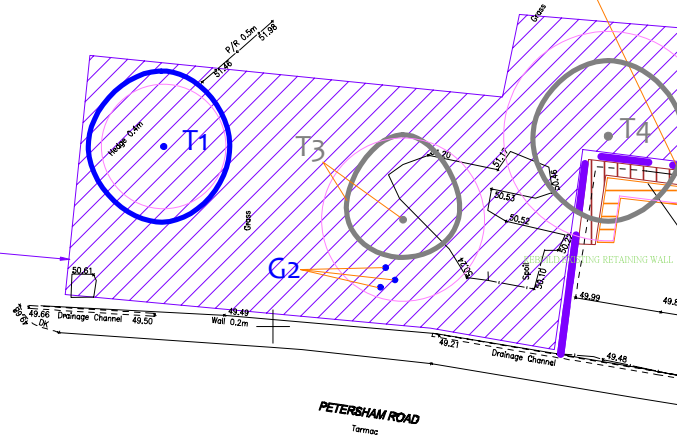
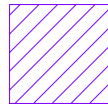
Tree Protection Plan



Construction Exc...

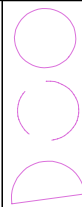
Restricted Activity Zone A

Construction Exclusion Zone



Tree Data Schedule

Reference C = Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W S E	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals)		Vigour Physiological Condition	Amenity Value	
								Priority	Inspect Freq (yrs)		Structural Condition	Life Expectancy (yrs) Retention Category
T1	Sycamore Acer pseudoplatanus.	9	3	33 @ Base	4 4 3.5		Form: Twin-stemmed at 1.5m with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	Moderate	Good	Moderate	40+
								n/a				
T2	Lime Tilia sp.	12	0.5	30	4 4 4		Form: 3 Close growing specimens. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	High	Good	Moderate	40+
								n/a				
T3	Sycamore Acer pseudoplatanus.	12	2.5	36	3 2 4.5 3		Form: Multi-stemmed at ground level with an unbalanced crown. History: No evidence of significant pruning. Defects: Significant bark wound to all three stems due to fire damage. Acceptable condition at present. Other: Recorded stem diameter is equivalent for 3 stems (28cm, 20cm, 12cm).	Monitor.	Moderate	Good	Fair	10-20
								Low				
T4	Sycamore Acer pseudoplatanus.	9	3	42	4.5 4 4		Form: Twin-stemmed at 3m with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects observed.	No action required.	Moderate	Good	Good	40+
								n/a				
T5	Norway Maple Acer platanoides.	8	2	32	4.5 4.5 3 4.5		Form: Single stemmed and vertical with a slightly unbalanced crown. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Epicormic shoots throughout.	No action required.	Moderate	Good	Good	20-40
								n/a				



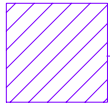
BS 5837 Root Protection Area (radius = 12x stem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of existing road or building

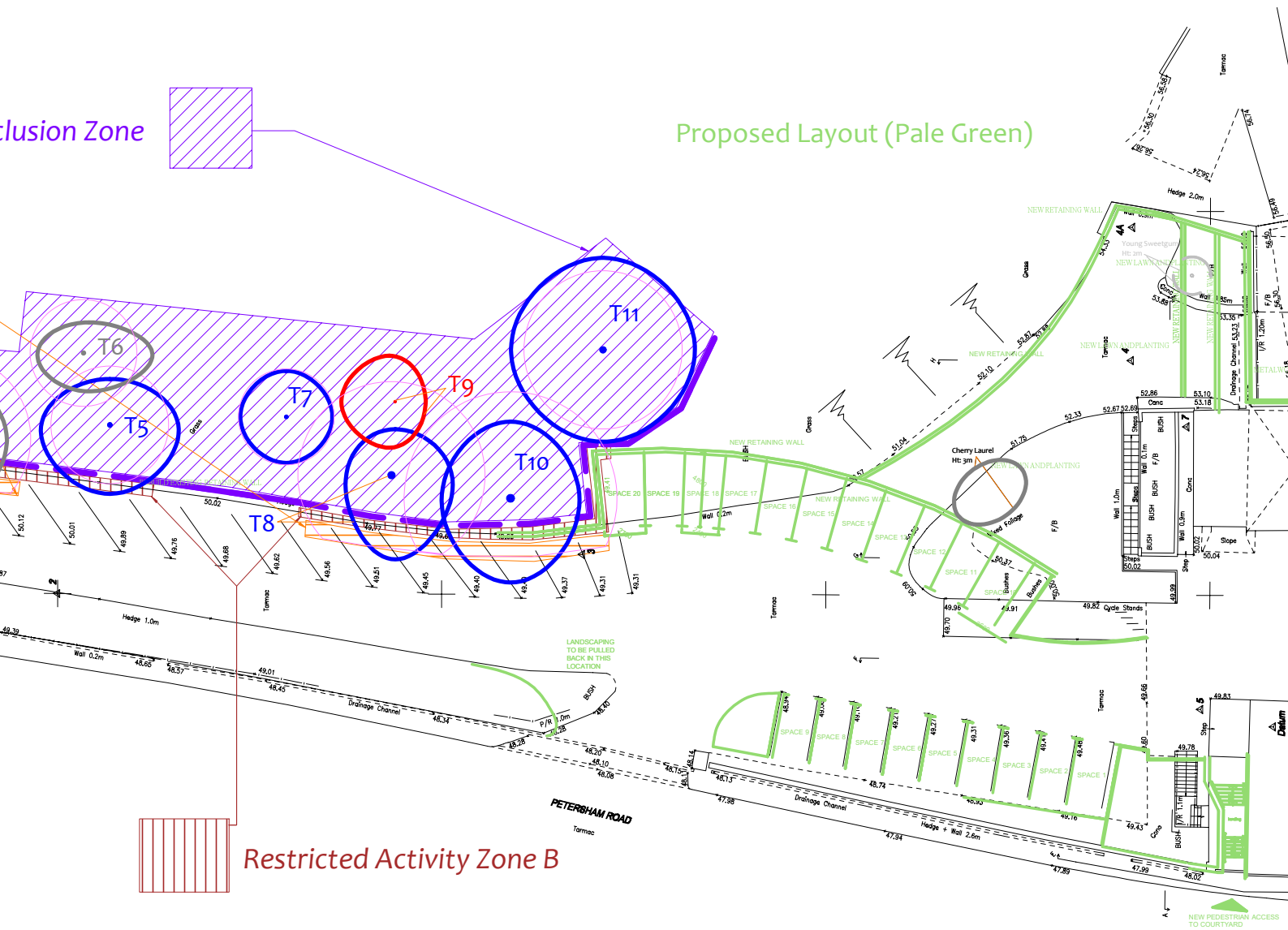
Root Protection Area having been amended to suit for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge

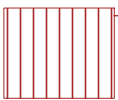
Exclusion Zone



Proposed Layout (Pale Green)



Restricted Activity Zone B



Restricted Activity Zone C

Restricted Activity Zone D

Timing of Operations









Activity within the site shall be phased according to the following chronology:

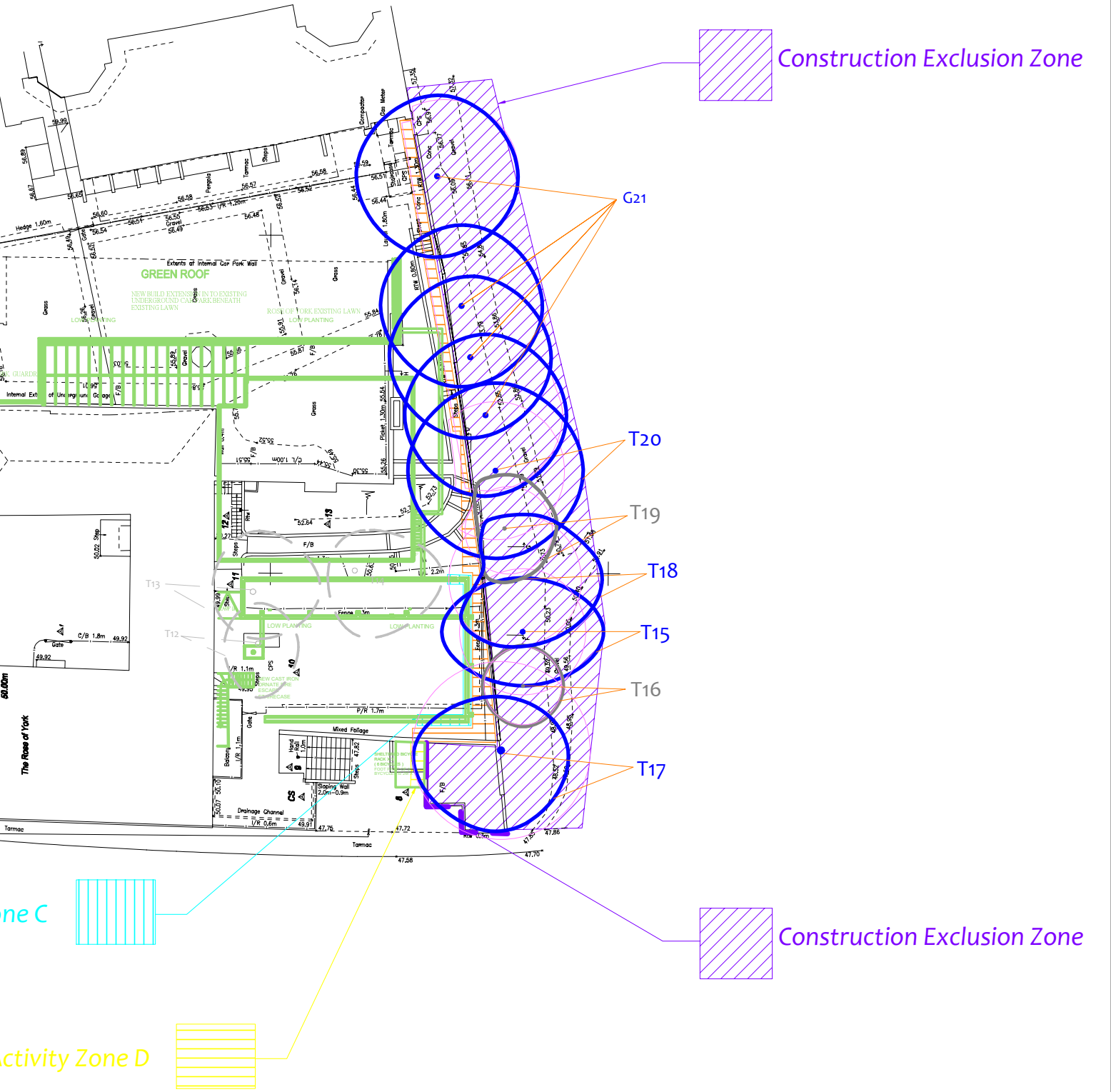
Order	Phase	Activity
1st.	Pre-Construction Phase	Planning conditions relating to trees to be identified and discussed with the Project arborist and site manager.
2nd.		All specified tree removal and pruning to be undertaken (see Header -Tree Works Schedule).
3rd.		Install the tree protection barriers (fencing and ground protection boards - see Headers -Tree Protection Barriers and Ground Protection Measures).
4th.		Pre-Commencement site meeting: Tree protection barriers inspected. Additional protection measures to be agreed. Variances to be agreed. Location of underground services to be agreed. Boundary treatments to be agreed. Extents of excavation to be agreed. Scaffold restrictions to be agreed. Scope of future inspections / monitoring to be agreed.
5th.		Arboricultural Method Statement to be revised and approved.
Protection measures confirmed acceptable by the local authority		
6th.	Construction Phase	Demolish existing structures and remove existing surfaces where applicable.
7th.		Install new buildings, hard surfaces and services taking into account restricted activities as specified in this Arboricultural Method Statement.
8th.	Post-Construction Phase	Site meeting with project arborist. Landscaping restrictions to be agreed. Condition of retained trees to be assessed and mitigation agreed. Ground conditions to be assessed and ground remediation to be agreed.
9th.		Remove protective barriers (fencing and ground protection measures as applicable).
10th.		Undertake restricted landscaping operations within Root Protection Areas, including (where applicable) boundary treatments, pedestrian surfaces, decking and any proposed tree planting.

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 After tree works completed & tree protection barriers / ground protection measures installed. Prior to any other activity, inc. demolition & soil stripping.	Site manager, project arborist. Tree Officer invited.	Tree protection fencing locations & specification checked. Additional ground protection measures checked. Further protection measures / restrictions agreed.
Excavation for the new bike store within Restricted Activity Zone D	Site manager, project arborist. Tree Officer invited.	Two week's notice to be given prior to excavation. Excavation to be as specified in this Method Statement. Excavations to be recorded and photographed. Mitigation measures to be employed specified by the project arborist.
Intermediate Inspection and Reporting Throughout the demolition and external construction phase.	Site manager and project arborist.*	Project manager, site manager and project arborist to liaise regarding any issues which may affect trees. To occur at least once per month.
Post-Construction Meeting Post external construction activity but prior to removal of fencing & landscaping operations.	Site manager, project arborist. Tree Officer invited.	Retained trees inspected. Ground conditions assessed and mitigation measures agreed where appropriate. Further landscaping operations and restrictions to be agreed.

* Where agreed with the L.A. it may be acceptable to supply photographs of the fencing to avoid the necessity for a site visit.

Tree Retention Categories Stems & canopies shown		Category A tree	 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.	Drawing No: CCL 10313 / TPP Rev: 2
		Category B tree		 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
		Category C tree	 Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.	Site: The Rose of York, TW10 6UY
		Category U tree	 Trees unsuitable for retention due to their very poor condition.	Scale: 1:400 Paper Size: A1



Site Monitoring Accountability

This table should be completed at the Pre-Start Meeting or earlier

Position	Name	Contact Phone & email	Roles
Project Manager	Insert Details	Insert Details	<p>Liaising with site manager & project arborist regarding any potential issues relating to trees.</p> <p>Oversight of this monitoring schedule.</p> <p>Instructing the project arborist and arranging access.</p> <p>Liaising with local authority regarding discharge of planning conditions and variances to the Arboricultural Method Statement.</p>
Site Manager	Insert Details	Insert Details	<p>Familiarity with Arboricultural Method Statement.</p> <p>Implementation of the tree protection measures.</p> <p>Day-to-day compliance with Tree Protection Measures.</p> <p>Informing the Project Manager of Tree Protection variances & issues affecting trees.</p>
Project Arborist	Crown Tree Consultancy	<p>08000 14 13 30</p> <p>0203 797 7449</p> <p>Info@crowntrees.co.uk</p>	<p>Inspect tree works and report to the project manager.</p> <p>Inspect tree protection measures and report to Project Manager.</p> <p>Oversee excavations in RPAs, provide mitigation advice, undertake root pruning.</p> <p>Monthly site monitoring and reporting to the Project Manager on tree protection and variances.</p>
Local Authority	London Borough of Richmond	<p>General Enquires</p> <p>020 8891 1411</p>	<p>Liaising with the project arborist and project manager regarding tree protection issues relating to planning conditions.</p> <p>Advice and assistance with the discharge of planning conditions relating to trees.</p>
Additional Contact	Insert Details	Insert Details	Insert Details
Additional Contact	Insert Details	Insert Details	Insert Details