Arboricultural Method Statement

CROWN Tree Consultancy 08000 14 13 30

Site: Status Park, Nobel Drive, Harlington, Hayes, UB3 5EY		Author: Joe Taylor FdSc (Arboriculture), M. Arbor A	
Date: 18 / 06 / 2024	Revision: 1	CCL ref No: 10074	Client: Savills

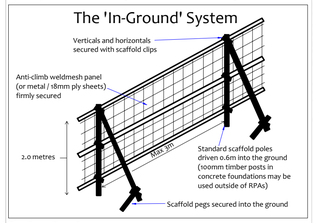
Tree Protection Barriers

The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They must be appropriate to the nature and proximity of activity within the site. The barriers must 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 are to be installed according to the legend on the Tree Protection Plan.

The In-Ground System

This system will be installed where indicated by a solid purple line on the Tree Protection Plan. It will be robust enough to withstand occasional knocks by plant machinery and, once installed, will 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 below and is based on BS 5837 guidelines.

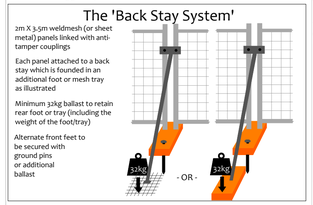


The Back-Stay System

This system will be installed where indicated by a 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 is able to withstand occasional knocks by machinery and must 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 will 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 must total no less than 32kg.

Where it is not possible to install diagonal struts (such as very close to a hedge) then the front feet will be secured using ground pins or ballast.



Notices

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

Removal of Tree Protection Barriers

Removal of protective fencing or ground protection measures will only 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 where engineers consider it adequate to spread the load of construction traffic. Otherwise, it will be reinforced or replaced with adequate ground protection measures.

Unless specified otherwise, ground protection will consist of 24mm OSB boards laid at double thickness and screwed together to prevent slippage. The ground will be made even by raking, and by adding a 100mm of sand or woodchip, wherever vehicular access is proposed. Where only pedestrian traffic will occur, boards or planks may be laid directly onto the ground or supported by a scaffold framework. The scaffold will 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. Cellweb TM).

If a piling mat is required, specifications will be agreed between engineers and the project arborist.

The ground protection measures will 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 apply:

- Tree Protection Barriers will be erected and maintained throughout the entire project as indicated on the Tree Protection Plan and under the header -*Tree Protection Barriers*.
- These will remain in place at all times except when authorised landscaping works are being undertaken. At such times, adequate ground protection measures will be installed, and excavation shall be limited to that required for new planting. Furthermore, the project arborist will be consulted prior to any works being undertaken in these zones.
- No construction activity or excavation will occur unless agreed otherwise by the project arborist and local authority.
- No vehicles or plant machinery will be driven or parked.
- No tree works, other than those specified on this document will be undertaken.
- No alterations of ground levels or conditions will occur.
- No chemicals or cement washings will be permitted.
- No temporary structures will be installed.
- No spoil will be stored.
- No fires will be permitted.
- All hazardous materials (including non-essential cement products) will be forbidden.
- Removal of hard surfaces, structures or turf will 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
T1 – T17, T30, T33 – T55, the 2m tall oak sapling, the 3m tall hornbeam and part of the mixed shrubs and small trees to the northeast.	Remove.	N/A

T5 — *Trees to be removed are indicated by a thin, dashed line.*

Restrictions in Specific Zones

Restricted Activity Zone A

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

- No vehicles or plant machinery will park or operate unless a suitable load spreading surface is in place. The load spreading surface will be installed and/or maintained as specified under the heading ***Ground Protection Measures***. This will remain in place throughout the entire demolition and construction phase or until any new permanent hard surfacing is installed. Any pedestrian activity (other than very occasional) will also require a suitable load spreading surface.
- Removal of existing structures such as walls, steps and hard surfaces (where applicable) will be undertaken using hand tools or a mechanical excavator operating from outside the Restricted Activity Zone and carefully marshalled by the project arborist.
- **When replacing any existing hard surface,** excavation will be limited to the existing surface and its sub-base.
- After removal of the hard surface and sub-base, no vehicles or driven machinery will be permitted to enter this zone unless adequate ground protection measures have been installed as specified under the heading ***Ground Protection Measures***. In the absence of such ground protection, the area will be adequately fenced off and treated as a Construction Exclusion Zone.
- No additional excavation will occur in this zone without consulting the project arborist and obtaining approval from the local authority.
- Existing ground levels will 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 raising of ground levels whatsoever will occur within 0.5m of any tree stem.
- No new permanent or temporary structures will be erected other than those shown on the planning application documents unless approved by the local authority.
- Underground services will 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 will 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 will be pruned with secateurs.
- Storage of materials and spoil will 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) will be forbidden.
- No fires will be permitted.

Restricted Activity Zone B

When installing the new vehicular surface over existing areas of soft landscaping (RPA of T32 – G37), the following restrictions will apply:

- No other building works will be permitted.
- Prior to the new surface being installed, no vehicles or plant machinery will drive, operate or park until unless ground protection measures are implemented as specified under the heading ***Ground Protection Measures.***
- No excavation will occur beyond the removal of turf (100mm maximum) surface vegetation and herbaceous roots, so long as no roots over 25mm are encountered.
- Only hand tools will be used to achieve this.

Restricted Activity Zone C

When installing the new pedestrian surface over existing areas of soft landscaping (RPA of G5), the following restrictions will apply:

- No other building works will be permitted.
- Prior to the new surface being installed, no vehicles or plant machinery will drive, operate or park until unless ground protection measures are implemented as specified under the heading ***Ground Protection Measures.***
- No excavation will occur beyond the removal of turf (100mm maximum) surface vegetation and herbaceous roots, so long as no roots over 25mm are encountered.
- Only hand tools will be used to achieve this.
- New surface to be highly porous.
- Sub-base to be porous (MOT type 3).
- 3D Cellular system to retain the sub-base.

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General Restrictions - Throughout the Site

Preparatory Works

No demolition, removal of surfaces, or soil stripping will commence until the protective fencing and ground protection measures are installed to the satisfaction of the local authority.

Fires

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

Canopy Protection

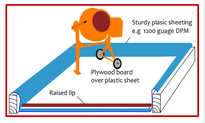
In order to protect tree canopies the following restrictions will apply throughout the site:

- No machinery in excess of 2m will 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 will 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 will be carefully marshalled in order to ensure that branches are not accidentally damaged.

Storage of Spoil and Materials

Storage of materials and spoil will 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) will be forbidden.

Hazardous Materials



Any mixing of cement based materials will 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 will 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 will be cleaned within this area.

All other chemicals hazardous to tree health, including petrol and diesel, will 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) will 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 will apply:

- Ground levels will be maintained as existing.
- Post holes will not exceed 300mm x 300mm.
- No post hole will be excavated within 1.5m of any tree stem.
- Post holes will 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 will be retained wherever possible.
- Roots in excess of 10mm will be pruned with sharp secateurs.
- Pruning will be minimal and only undertaken where absolutely necessary to facilitate the site hoarding. It will 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 will 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 will be consulted, and specific tree protection measures agreed. The following general restrictions will apply:

- All services to and from site cabins will be installed above ground through any Root Protection Areas.
- No excavation will occur within Root Protection Areas to enable cabins to be installed.
- The cabins will 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 will have tracks rather than wheels to help spread their load. They will be carefully marshalled when working close to tree canopies.

Scaffolding

If scaffolding is required in areas containing ground protection measures, the protective boards will 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 will be consulted to specify any pruning works that may be required.

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 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 (if necessary).
		Protection measures confirmed acceptable by the Local Authority
6th.	Demolition and 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.

Personnel and Accountability

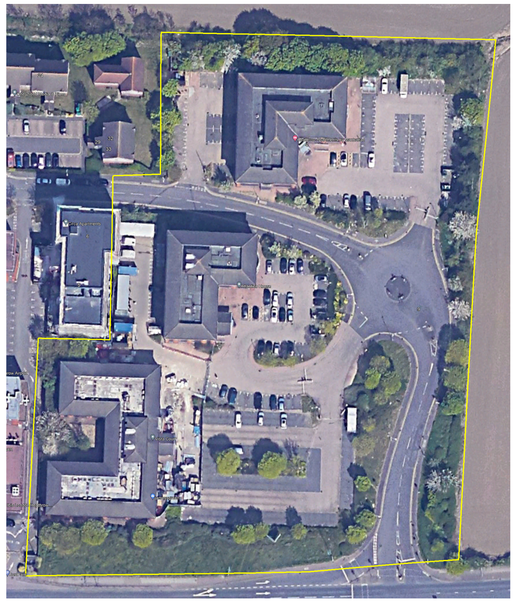
This table should be completed at the Pre-Start Meeting or earlier

Position	Name	Contact Phone & email	Roles
Project Manager	Insert Details	Insert Details	Liaising with site manager & project arborist regarding any potential issues relating to trees (including pre-start clarification of the Arboricultural Method Statement). Scheduling of meetings, excavations and inspections (including project arborist and local authority tree officer where applicable). 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. Reporting to the local authority following site inspections and any variation or incidents.
Site Manager	Insert Details	Insert Details	Day to day monitoring of tree protection measures. Induction of all contractors. Reporting to the Project Manager and 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 Info@crowntrees.co.uk	Liaising with LPA Tree Officer over technical arboricultural matters. Upon instruction the arborist shall inspect the tree protection barriers including ground protection measures and produce a short report for the project manager to submit. Upon instruction the arborist shall attend any specified site visits and inspections and produce a short report for the project manager to submit.
Local Authority	London Borough of Hillingdon	01895 250230 (Planning and building control)	Approval of the Arboricultural Method Statement and site monitoring reports. Liaising with the appointed arborist on all technical arboricultural matters. Liaising with the Project Manager to agree suitability of tree protection measures and any variations. Enforcement. Discharge of planning conditions relating to trees.
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 clarify all protection measures.
Pre-Start Meeting After tree works completed & tree protection barriers / ground protection measures installed and prior to any other activity, inc. demolition & soil stripping.	Project Manager, Site Manager, Project Arborist, relevant contractors. Tree Officer invited.	Tree protection fencing locations & specification checked. Ground protection measures checked. 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 provided by the arborist and sent to the local authority tree officer by the project manager.
Monthly Inspection and Reporting To occur once per calendar month throughout the entirety of the project until the local authority agree that tree protection measures may be removed.	Site Manager and Project Arborist.	Tree protection fencing locations & specification checked. Ground protection measures checked. Past month, present and future month – activities and adherence to Arboricultural Method Statement discussed and checked. Report on findings to be provided by the Project Arborist and sent to the local authority by the Project Manager.
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.

Survey Extent Overview



Tree Protection Plan

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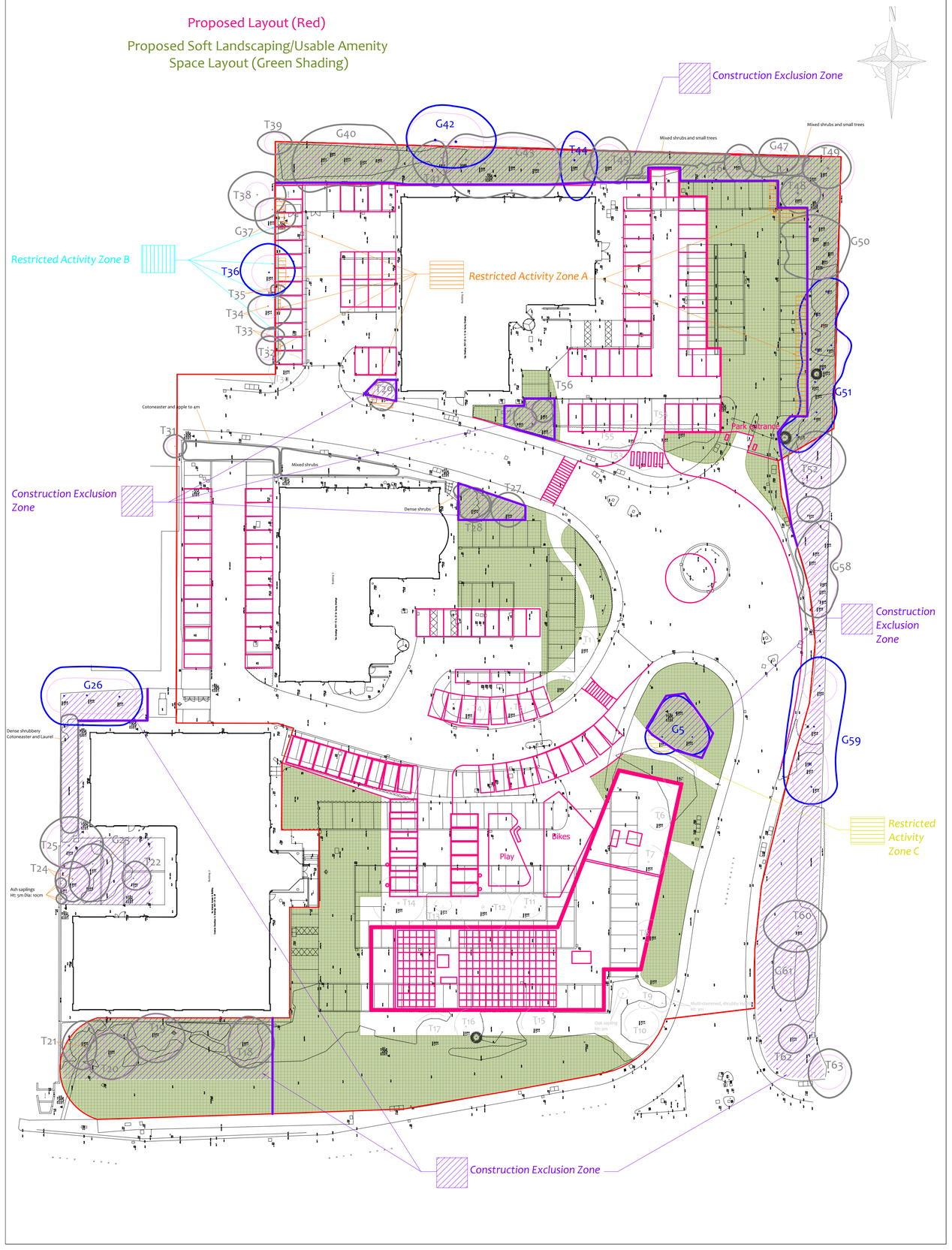
BS 5837 Root Protection Area (radius = 12xstem diameter)

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

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

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.
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.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Drawing No:	CCL 10074 / TPP Rev: 1
Title:	Tree Protection Plan (Existing Layout with Proposals Overlaid)
Site:	Status Park, Nobel Drive UB3 5EY
Scale: 1:200	Paper Size: A1