'No Dig' Surfacing

Trees can be affect by construction within the RPAs either through the direct damage caused by the removal of roots, compaction of the rooting environment or secondary damage such as poisoning through leaks and spills (oils, fuels, etc.) or through de-icing (road salt, etc.).

Proposed hard surfacing within the RPAs of retained trees is to be designed so that it can be situated above the existing soil level and to minimise any adverse impact upon the tree RPAs, as the use of traditional foundations can result in excessive root loss through direct removal of roots during excavation and by compaction of the soil beneath the excavation, as such this 'traditional' type of foundation should be avoided.
When designing hard surfacing that is to be situated within RPAs, the design team need to pay particular attention to the proposed usage (pedestrian, domestic traffic, delivery vans, Emergency vehicles, HGVs etc.), the existing and proposed levels of hard surfacing and finished floor levels, edging types and details, proximity to tree trunks and surface rooting, contamination capture, SUDs, etc.

Possible sub-bases (foundations systems) for hard surfacing situated within the RPAs of retained trees could include:

- A proprietary system such as a multi-dimensional confinement system (Cellweb TRP or similar);
- Engineered solution such as a road deck, bridge, etc.

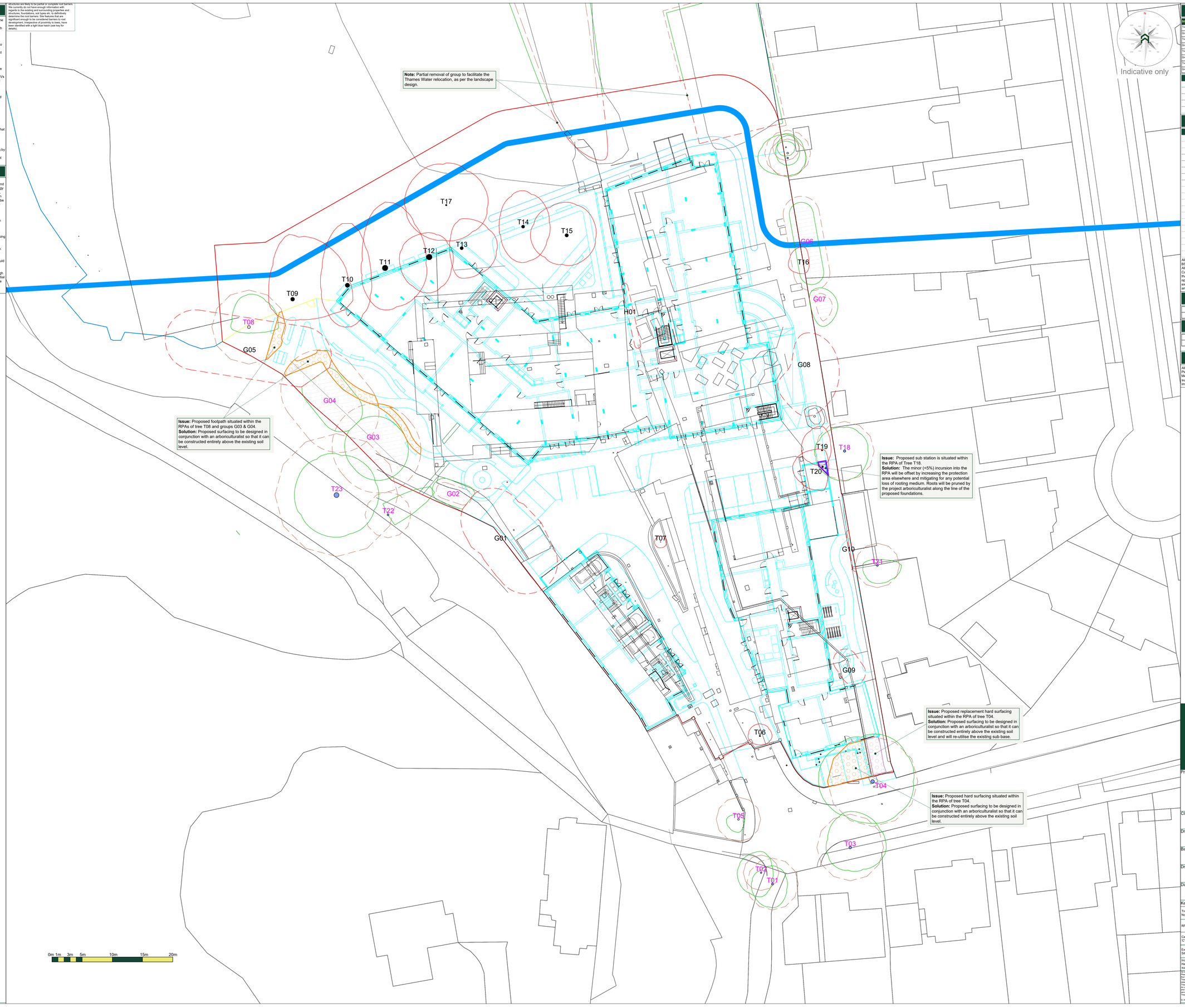
An engineered solution is likely require a level of excavation for site specific investigations to locate roots to aid in foundation design so that a suitable foundation can be designed to avoid roots and for the installation the structure.

NB: The use of a multi-dimensional confinement systems and or an engineered solution will affect the finished level of the hard surfacing by raising the levels and needs to be taken into consideration when designing foundations and setting the finished floor levels of adjacent buildings.

Structures are likely to be partial or complete root barriers. Root barriers can be a significant structure with regards to the existing and surrounding properties and structures, foundations, soil types etc. to definitively determine the root barriers. Site features that are significant enough to be considered barriers to root development, irrespective of proximity to trees, have been identified with a light blue hatch (see key for details).

Utility apparatus

Underground utility apparatus
Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the root and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside of RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts, all inspection chambers should be sited outside of the RPAs.
Where underground apparatus is to pass within the RPAs, detailed plans showing the proposed route should be drawn up in conjunction with the project arboriculturist. In such cases trenchless insertion methods should be used with entry and retrieval pits being located outside of the RPAs. If this option is not feasible and providing roots can be retained and protected excavations should be undertaken using hand held tools (air-spade, forks, shovels) or a combination of trenchless and manual excavation (broken trench).
Any design and installation should be undertaken in accordance with the National Joint Utilities Guidelines (NJUG).
Above-ground utility apparatus
Above-ground apparatus(including CCTV cameras and lighting) should be sited to avoid the need for detrimental tree pruning, as such the current and future crown size of the tree should be assessed.
Tree branches can be pruned back with care to provide space, though it is not appropriate for repetitive and significant tree work to bean initial design solution unless this is a suitable management outcome for the tree. Any pruning should be undertaken in accordance with BS3998:2010



Arboricultural Impacts

Impacts	Nos. of trees
Trees to be removed	13
Groups / Hedges to be removed	6
Trees with proposed incursions into RPAs	2
Groups / Hedges with proposed incursions into RPAs	0
Trees that will require pruning	0
Groups / Hedges that will require pruning	0
Trees to be transplanted	0
Groups / Hedges to be transplanted	0

No.	Species	Proposed structure	Incursion
T04	Deodar Cedar	Driveway & Footpath	RPA
T08	Gum	Footpath	RPA
T18	Silver Birch	Substation	RPA
G03	Leyland Cypress	Footpath	RPA
G04	A Group	Footpath	RPA

Tree Work Schedule

No.	Species	Works	Category
T06	Portuguese laurel	Fell tree and remove stump	C2
T07	Bay	Fell tree and remove stump	C2
T09	Gum	Fell tree and remove stump	B12
T10	Gum	Fell tree and remove stump	U12
T11	Gum	Fell tree and remove stump	B12
T12	Leyland Cypress	Fell tree and remove stump	B12
T13	Sweet Chestnut	Fell tree and remove stump	B12
T14	Sweet Chestnut	Fell tree and remove stump	B12
T15	Wild Cherry	Fell tree and remove stump	U12
T16	Butterfly Bush	Fell tree and remove stump	C1
T17	Sycamore	Fell tree and remove stump	B12
T19	Mountain Ash	Fell tree and remove stump	C1
T20	Red Snakebark Maple	Fell tree and remove stump	B1
G01	Sycamore	Fell trees and remove stumps	C12
G05	A Group	Fell trees and remove stumps	B12
G08	A Group	Fell trees and remove stumps	B12
G09	Common Ash	Fell trees and remove stumps	C2
G10	A Group	Fell trees and remove stumps	C2
H01	Common Box	Fell trees and remove stumps	C1

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 Tree work - Recommendations.
All arising's are to be removed and the site is to be left as found.
Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

No. of individual trees to be removed

U	A	B	C
2	0	7	4

No. of groups / hedges to be removed

U	A	B	C
0	0	2	4

Arboricultural Method Statement

All tree work is to be undertaken in accordance with British Standard Please refer to Arbtech Consulting Ltd. Tree Schedule, Arboricultural Method Statement and Tree Protection Plan, for full details of all surveyed trees and how all aspects of the development maybe implemented without detriment to retained trees.

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Project:
Orchard Lane,
East Molesey,
Surrey,
KT8 0BN

Client:
Lifestyle Residences

Drawing:
Arboricultural Impact Assessment

Based on:
A3711-ASA-ZZ-00-DR-A-0210-DWG

Drawing No:		Rev:
Arbtech AIA 01		
Date: Oct 2022	Scale: 1:200 @ A0	Drawn: AJN

Key:

Tree Nos.:	1	Tree Canopies:		Trunks:	
RPAs:		Category 'B' trees:		Category 'B' groups:	
Category 'C' trees:		Category 'C' groups:		Trees to be removed:	T6
Existing Site:		Proposed Site:		Incursion - Structures:	
Incursion - Hard surfacing:					

All dimensions should be checked on site.
Figured dimensions to buildings are based Arbtech Consulting Ltd. cannot be held responsible for inaccuracies in the base drawing in which this plan is based.
This drawing is designed to reflect the principles of the layout or design only, and relates only to the protection of retained trees.
This drawing is not to be read as a definitive part of the engineering or construction designs or method statement. An architect or structural engineer should be contacted over any matters of construction, detailing or specification and any standards or regulatory requirements relating to proposed structures, hard surfacing or underground services.
This drawing was produced in colour - a monochrome copy should not be relied upon.

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