Ground Protection beneath T1 (alternative to barriers if required)

Aco Raindrain domestic channel connected to soakway beneath parking area

Existing fence panels to be replaced with new close boarded fencing 1.8m ht. Permeable gravel boards

Resin bond driveway Dekorgrip Resin bond material in col. 'Amber flint' 2-4mm with double row of 200x100 tumbled block to edges.

Boundary wall to remain

Estimated area of existing concrete beneath RPA of Tulip tree. Use as in situ ground protection until removal. Cellweb/stabilised gravel to be laid over parking court. For removal of hard surface in RPA refer to para. 7.3.6 of BS5837:2012 (& see attached notes)

Root Protection Area (RPA) of Oak tree in neighbouring garden may extend beyond 2,5m ht. of brick boundary wall. Unobstructed, the RPA of the Oak tree could extend to the area expressed as blue dashed line. A hand dug trench adjacent to the wall expressed as red dashed line will establish the presence of roots and ground protection installed as shown. Rainwater run-off from houses should be directed into the RPA of the Oak tree to make up for loss of access to water.

Layer of mulch beneath tree, largely retained by upended 200x100x400mm ht. railway sleepers placed 250mm apart upended and fixed with 2 no. pins carefully driven between roots

T1 Tulip Tree Liriodendron tulipifera

Test dig areas adjacent to wall for presence of treeroots in top 600mm soil.

Blue dashed line indicates location of site compound

Facilitation pruning to be carried out on Tulip Tree in accordance with BS3398:2010 Weaker, lower branches of canopy to be removed, and thinning of crown

Surfacing of parking court to be 'Golpa' gravel retention system over Cellweb base see Dwg. 1022-5300

Adjust ground protection in line with extent of roots from Oak.T6 Extent of protection shown on plan shows unobstructed RPA according to BS5837:2012

T7 Pear Pyrus communis

T6 - English Oak Quercus robur

T2 Acer platanoides cannot be retained with this layout

T2

Pear too old to be moved, maintain against wall and espalier

T5 Apple Malus pumila

Apple tree against wall - old espalier maintain and retrain against wall as with Pear tree

Access path to both plots- with 1200mm ht.gate timber palisade gate

Relocate shrubs to garden boundaries

PLOT2

PLOT1

Paths and patio using Standard BS paving 400x400mm

Existing close boarded fence - retained

Relocate Apple tree T4 and replace in specially prepared tree pit to completely accommodate depth and spread of rooting area. Stake

T4 Apple-Malus pumila

Existing ornamental cherry to be retained within new shrub border.Carry out essential treework in accordance with BS3998:2010

T3

Excavate planting bed by hand around existing apple tree which can be espaliered against boundary wall Rear plant bed 11m2

T4 Relocated

Replant all shrubs saved from original garden along these borders, with lower plants around espaliers. Maintain existing conifer. Fill in gaps with shrubs from palette as required

Maintain existing shrubs along rear fence

Sheds with 300mm gravel surround and retaining timber board at GL150mm depth pegged at 1m centres

Existing ornamental conifer to be retained

Close boarded fence between gardens1500mm with 300mm trellis panel over ensure permeable gravel boards beneath

0 5m 10m

Scale 1:100 @ A1

N

Tree Protection during Demolition and Construction
Implementation Guidelines in accordance with BS5837:2012

Barriers and Tree Protection

All trees being retained on site should be protected by barriers and/or ground protection prior to any any materials or machinery being brought onto site and before any demolition, development, or stripping of soil commences.

Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. Where site constraints or construction activity cannot be fully or permanently excluded in this manner from all or part of the tree's RPA,, appropriate ground protection should be installed.

Areas of retained structural planting or areas designated for new planting should also be protected based on the proposed soft landscape proposals

Once installed, the barriers should not be removed or altered without prior recommendations by the project arboriculturist or approval by the LPA where necessary.

Where required, pre-development tree work may be undertaken before the installation of tree protection measures, with the agreement of the project arboriculturalist or LPA where appropriate.

Prior to commencement of any onsite operations, the extent of the barriers and/or ground protection should be checked for accuracy by the project arboriculturalist.

BARRIERS

Barriers should be fit for the purpose of excluding the construction activity and appropriate to the degree and proximity of the work taking place around the retained trees. Barriers should be maintained for the duration of the project to ensure they remain rigid and complete.

The protective barrier system for the site at 3 Southdown Road, to consist 2m welded mesh panels on rubber or concrete feet (see diagram) . This system should adequately protect the trees from cars, vans, pedestrians or manually operated plant. In this system the the fence panels should be joined together using a minimum of 2 anti-couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inside by stabliser struts, which are attached to a base plate secured with ground pins. Where fencing is to be erected on retained hard surfacing or it is not fesible to use ground pins, stbliser struts should be mounted on a block tray.

All-weather notices should be attached to the barriers with a notice saying;

'CONSTRUCTION EXCLUSION ZONE - NO ACCESS'

GROUND PROTECTION DURING DEMOLITION AND CONSTRUCTION

Employed to avoid soil compaction around tree roots, especially when wet.

Where construction working space or temporary construction access is justified within the RPA, it should be facilitated by a set-back in the alignment of the tree protection barrier. Suitable existing hard surfacing that is not proposed for re-use as part of a finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. In this case the area of old concrete hardstanding and path can be retained for the duration of construction - but should be carefully removed and care taken not to damage roots. Material should be removed using appropriate machinery or by hand working backwards so machine is not moving over exposed ground.

Where the set back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection prior to starting on site. Temporary ground protection should be capable of supporting any traffic entering or using the site without distorting or compacting the underlying soil.

1. Ground protection for pedestrians may include a traditional thickness scaffold board placed either on top of a driven scaffold frame forming a suspended walkway, or on top of a compression resistant layer of 100mm depth woodchip laid over geotextile membrane.
2. For ped operated plant up to 2 t, interlinked ground protection boards placed on top of compression resistent layer eg. 150mm depth woodchip over geotextile.
3. For wheeled or tracked construction traffic exceeding 2 t, a proprietary system or pre-cast reinforced concrete slabs able to accommodate the likely loading to which the ground would be subjected .

In the case of T6 the Oak tree located in the neighbouring garden, a precautionary approach to establish the presence of roots in the application site is recommended, by digging a trench 500mm away from boundary wall, and depending on findings some further test digging accordingly. The wall foundations may have provided a barrier to deflect the roots with the tree adjusting rooting area to the east and away from the site and into the neighbouring rear gardens. A precautionary approach would be to to adjust ground protection on the application site according to the extent of the rooting area.

NB. The plan shows the full unobstructed area of ground protection. beneath T6.

An area of less than 20% of the RPA is shown beneath Plot 1 and depending on presence of roots and ground conditions, the foundations designed accordingly (see. Section 7.5 of BS5837:2012).

A banksman should oversee any other construction vehicles that are likely to come into conflict with the retained tree canopy to ensure adequate clearance from trees at all times. Access facilitation pruning should take place prior to works on site to maintain clearance.

Fires should be avoided and where they are unavoidable should take place away from trees, and managed at all times.

Any materials that if spilled would cause damage to a tree should be stored and handles away from the outer edge of the RPA

The protection of the retained trees and their surrounding soil structure is a priority. The design of this scheme has worked on that basis.

In the area of the courtyard parking to the front of the dwellings, a stablised gravel surfacing is specified which will sit over a cellweb construction. This system will protect the roots of T1 and T6 where present and provide a permeable surfacing solution that is SuDs compliant. The approach driveway requires a more solid surface in order to take heavier vehicles such as a fire truck, and a resin bonded material is proposed, contained by block paving to edges.

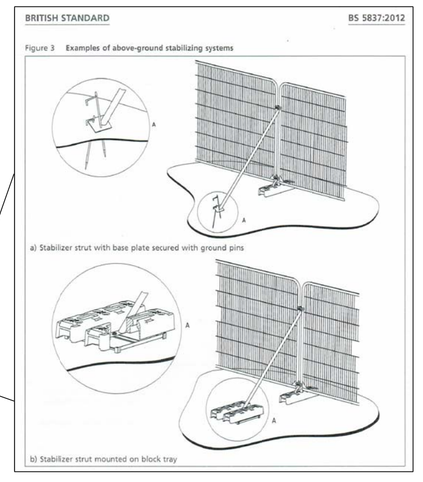
All other retained trees will be incorporated into new soil beds and mulched. T5 and T7 to be carefully assimilated into new plant border

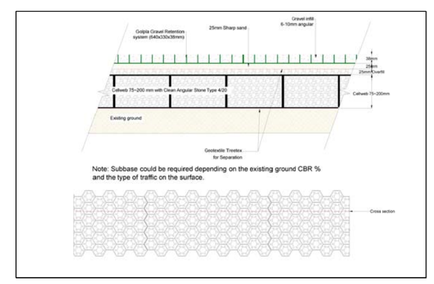
PERMANENT PROTECTION TO TREE STEM of T1 Tulip Tree;

A detail comprising of upended railway sleepers shown around the tree stem to protect it from reversing cars.

Sleeper ends to be fitted into the ground with extended pins between tree roots (like piling within rpa but on a much smaller scale)

Store all excavated plants to be re-used in shaded area and cover rootballs - keep well watered until planting





KEY

- Existing trees
- Trees to be removed
- Root Protection Area (RPA) (BS5837:2012)
- Protective Fencing in accordance with BS5837
- Possible extent of RPA of T6
- Trench
- Existing Shrubs
- New standard tree with bark mulch circle beneath
- Close Boarded fence with trellis 1.8m total ht.(proposed)
- Existing fence to be retained (1.8m c/b)
- Shed with gravel surround
- Ground protection (in event of barrier conflicting with construction)BS5837:2012
- Flag paving to paths and patios
- 200x100x400mm ht. railway sleeper teeth protect tree from cars
- Site Compound (construction)

Rev. -: - - -

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Project: 3 Southdown Road -

Drawing Title: Tree Protection Plan

Purpose: Planning

Dwg. No. 1022-5400

Tudor Homes (Sussex) Ltd.

Scale: 1:100 @ A1

Date: 20-May-2017

ARUN DISTRICT COUNCIL DEVELOPMENT