Schedule of Trees

Tree	Species	Height (m)	Crown radius N	E	S	W	DBH (mm)	No. of Stems	Crown Height AGL (m)	Age class	Physical Condition	Comments	Management	Estimated remaining	BS Category
1	Common Lime	18	6	6.2	5	4.5	530	1	3	Mature	Good	Surface root action Basal growth present Epicormic growth present Decay pockets at pollard points Occluded wounds evident Maintained by crown reduction Landscape value in local amenity Well balanced crown London borough of Camden Highways tree		>40	B2
2	Common Lime	18	5.6	5.1	4.9	5.8	630	1	1.8	Mature	Good	Formerly pollarded at 5m Maintained by crown reduction Low branches Decay pockets at pollard points Basal growth present Low level screening value in local amenity Well balanced crown London borough of Camden Highways tree		>40	B2
3	Bay (Laurus nobilis)	4	2.9	4.2	3.9	3.3	770	4	2	Mature	Fair	Multi-stemmed from ground level Previously crown reduced Pruning wounds present Rubbing touching the crown Well balanced crown Low level screening value Landscape value in local amenity		10-20	C2
4	Purple Crab Apple (Malus x purpurea)	4	2.5	4.7	3.5	1	140	1	1.8	Middle Aged	Fair	Trunk leaning severely to east Suppressed unbalanced crown Previously crown reduced Pruning wounds present No particular landscape value Epicormic growth present Low branches	Consider Felling	10-20	C2
5	Laburnum (Laburnum anagyroides)	5	2	2.5	2	2.5	200	4	Not over site	Middle Aged	Fair	Within front garden of 21 Suppressed unbalanced crown Crown becoming sparse Multi stemmed from ground level No particular landscape value		10-20	C2
6	Magnolia	3.5	3.8	4.9	3.3	2.3	210	1	1	Middle Aged	Fair	Trunk leaning to east Occluding wounds present Pruning wounds present Low branches Previously reduced Rubbing branches No particular landscape value		10-20	C2
7	Magnolia	4	2.4	2.5	2	2	200	1	1.5	Middle Aged	Fair	Base not seen Within rear garden of 21 No particular landscape value Forked trunk at 1m		20-40	C2
8	Common Ash (Fraxinus Excelsior)	16	9.5	8.9	7	7	400	1	12	Middle Aged	Fair	Base not seen Within rear garden of property in Lyndhurst Rd Forked trunk at 2m Pruning wounds present Well balanced crown Screening value Landscape value in local amenity		>40	B2
9	Himalayan Birch (Betula Utilis)	11	7.5	2.2	1.5	4.8	230	1	1.5	Middle Aged	Fair	Mutually suppressed Unbalanced crown Screening value	Crown reduce 30%	20-40	B2
10	Himalayan Birch	12	4.9	4.2	4.5	2.6	290	1	2	Middle Aged	Fair	Mutually suppressed Unbalanced crown Forked trunk at 3m Screening value	Crown reduce 30%	20-40	B2
11	Purple Leaf Plum (Prunus Cerasifera Pissardii)	7.5	3	3	4.2	3.9	660	2	3	Mature	Fair-Poor	Ganoderma bracket present at base Twin stemmed from ground level Previously crown reduced Epicormic growth Pruning wounds present Low level screening Rubbing branches Light dead wood in crown	Fell	<10	R
12	Purple Leaf Plum	7.5	3	3	4.2	3.9	600	1	2.5	MAture	Fair	Base not seen Within rear garden of 23 Trunk leaning to north Forked trunk at 1.5m Included bark at stem junctions Rubbing branches Previously reduced Pruning wounds Low level screening		10-20	C2
13	Magnolia	3.5	1.5	1	1	2.2	180	2	1.5	Middle Aged	Good	Suppressed Unbalanced crown Twin stemmed from ground level Trunks leaning to north Low branches Low branches Low level screening		20-40	C2
14	Horse Chestnut (Aesculus Hippocastanum)	9	4	4	4	4	650	1	Not over site	Mature	Fair	Previously pollarded Low level screening Low branches In neighbouring rear garden Restricted inspection base not seen		20-40	C2

Impact on Existing Trees

This table summarises the likely impact on the trees. Trees are categorised by their value recorded in the survey.

Impact	Reason	Low Value Trees	Moderate Value Trees	High Value Trees	Poor Trees
Trees to be removed	Buidling Constructions and/or surfacing	T6			
Trees to be removed	Arboricultural Reasons				T11
Retained trees that may be damaged	Removal of existing structures/ surfaces/installation of new structures/surfacing/landscaping	T7, T12			

BS 5837:2005 acknowledges that the shape of the tree root system may be affected by several factors and that the shape of the RPA should reflect this. For open grown trees, it may be acceptable to offset the distance by up to 20% in one direction. In this case, the tree root systems are unlikely to have been significantly reduced in any one direction by external factors e.g. walls or footpaths and the proposed development only impacts on one side of the root system. The maximum offset of the RPA is considered and will be required in the case of trees T12 and T7 which are within the neighbouring rear gardens.

Category U trees. One category U tree was recorded in the survey, T7 Purple-leaf plum. This tree has Ganoderma species brackets at the base and is to be removed.

Category C trees. Eight trees are in category C and of these all except T6, Magnolia, are to be retained. Tree 6 is a semi-mature specimen within the rear garden and is considered to be of little landscape value.

Category B trees. Six trees in the B category to be retained.

Category A trees. There are no category A trees within influencing distance of the proposed development.

General. The majority of trees to be retained are of limited landscape amenity value as they are within the rear garden and screened from the Public Highway by the adjacent properties. Several trees may be adversely affected by the proposed development without adequate protection and suitable construction methods. The threat to these trees is summarised below.

Threat to trees during development

1 Compaction of ground
2 Covering rooting areas with impervious surfaces
3 Excavations for foundations
4 Excavation for service runs
5 Alterations in ground level
6 Access and movement of machinery
7 Need for temporary site storage
8 Crown damage by passage of high-sided vehicles

BS 5837:2005 provides useful guidance for the assessment and formulation of measures for the mitigation of such threats. To assist in the prediction of the likely impact of development on retained trees, a model is used. This model is based on the age, vitality and size of individual specimens.

The British Standard relies heavily on the creation of a protected zone (RPA) around each tree. This area should be protected from disturbance “in order to avoid unacceptable damage to the tree as a result of severance or asphyxiation of the root system.” The recommended minimum area (m2) for each tree to avoid potentially harmful disturbance have been calculated for all the trees on site and entered into Appendix B (Tree Root Protection Area).

Root Damage

- Trees that are growing satisfactorily have achieved equilibrium with their surroundings. Any construction work that affects this equilibrium could be detrimental to health, future growth and the safety of the tree.
- The part of the tree most susceptible to damage is the root system, which, because it is not immediately visible, is frequently ignored. Damage or death of the root system will affect the health, growth, life expectancy and safety of the rest of the tree. The effects of such damage may only become evident several years later.
- The majority of a tree”s root system is generally considered to be in the top 600mm of the soil, extending radially in any direction for distances frequently in excess of the tree”s height. However, roots are adventitious and if conditions are suitable for root development to a greater depth, then roots may extend as deep as conditions will allow; this may exceed depths of 3m or more. Works within this area are liable to damage the roots.
- Close to the trunk are the main structural roots that develop in response to the tree”s need for structural stability. Beyond these major roots, the root system rapidly subdivides into smaller diameter roots; off this main system a mass of fine roots develop.
- Tree root systems can be damaged in a number of ways during construction works:

- Root severance. The severance of a root will destroy all parts of the root beyond that point. Even roots less than 10mm diameter may be serving a mass of fine roots over a large area. The larger the root severed, the greater the impact on the tree.
- Damage to root bark. The bark protects the root and is essential for further root growth; it is loosely attached and easily damaged. If damage extends around the whole circumference, the root beyond that point will be killed.
- Compaction of the soil. Compaction of the ground reduces the space between soil particles, particularly in clay soils. A single passage of heavy equipment or the storage of materials can cause significant damage. Compaction can restrict or even prevent gaseous diffusion through the soil and thereby asphyxiate the roots. The roots must have oxygen for survival, growth and effective functioning.
- Alterations in ground levels. Lowering the level will strip out the mass of roots near to the surface. Raising the ground levels will have the same effect as compaction.
- Capping over roots. Covering the rooting area with impervious surfaces. This prevents natural diffusion of gases between the soil and the atmosphere and can lead to oxygen depletion in the soil.
- Toxicity. Direct toxicity of some materials. For instance, petrol or diesel spillage or lime in cement can kill underlying roots.
- Wounding. Minor wounds to root bark can allow pathogens into the tree root system that can lead to a further impairment of water absorption. The general debilitation of trees due to root severance can make them more susceptible to invasion by some decay fungi such as Armillaria
- Fine roots. Damage to the fine roots by severance of a main root, or by compaction, or by alteration of levels, will prevent the fine roots absorbing the water and nutrients essential for tree growth. The effects of damage from different causes will be cumulative.
- The effects of tree root damage may not be immediately apparent. If the root system is capable of rapid regeneration, the tree may recover without noticeable ill effects, though usually symptoms take several years to develop. The range of symptoms varies from minor branch dieback, to deterioration and ultimate tree death depending on the severity of the damage and the ability of the roots to regenerate.

Proposals to mitigate any impact

Protection of retained trees

- Successful retention of trees is dependent on the standard of the protection and supervision to the protection measures remain in place whilst a risk of damage remains. This is best achieved by the use of a method statement.

General

Arboricultural Standards

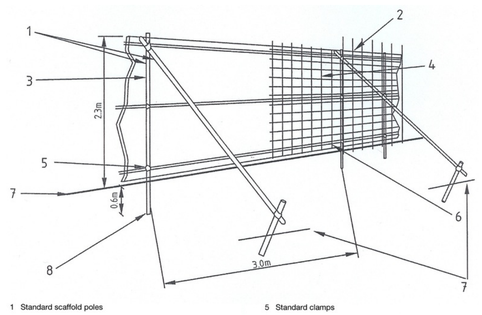
Implementation of works: Any tree works should be done in accordance with the British Standard Recommendations for Tree work, BS 3998 as modified by later research. Works should be undertaken by properly qualified and experienced tree contracting company as recommended by a local authority or one approved by the Arboricultural Association. A Register of Contractors is available from The Arboricultural Association Ullenwood Court, Ullenwood, Cheltenham, Gloucestershire, GL53 9QS, England Tel +44 (0) 1242 522152 Fax +44 (0) 1242 577766 Email: admin@trees.org.uk.

Pre-commencement site meeting.

A pre-commencement site meeting is advised prior to any works commencing on site, to agree all the approved processes with the relevant concerned parties.

Protective fencing and ground protection.

- All trees to be retained on site should be protected by barriers and ground protection where applicable. Barriers should be in place before any materials or machinery is brought onto site. Once in place, barriers and ground protection should be considered sacrosanct and should not be altered or removed without prior recommendation by an arboriculturist and approval of the local planning authority.
- The protective fencing is to be erected prior to any site works or demolition works.
- The barrier is to comprise of a vertical and horizontal framework (figure 1 below), well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Weld-mesh panels, such as Heras, should be securely fixed with wire or scaffold clamps to this framework. Weld-mesh panels on rubber or concrete feet are not resistant to impact and should not be used.
- Where retained trees are in close proximity to the existing buildings, a higher specification hoarding will be required to prevent damage from falling rubble. In place of the weld-mesh, panels solid hoarding should be used, for example, scaffold boards.
- It is advised that a plan be pinned up on site in highly visible areas such as in the site huts, so that all ground staff involved in the demolition and construction works have a point of reference for tree protection issues. All demolition and construction workers should be briefed on the importance of tree protection prior to works commencing. Special attention must be paid to ensure that protective fencing remains rigid and complete during the course of all works.
- Where it is agreed that vehicular or pedestrian access for construction purposes is necessary within the RPA, ground protection measure will be required to prevent damage to the soil structure within the RPA.
- For pedestrian access within the RPA, the installation of ground protection in the form of a single thickness of scaffold boards over a compressible layer laid onto a geo-textile, or supported by scaffold, is likely to be acceptable (figure 2).
- For wheeled or tracked vehicle, access within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs. The structure must use a no dig design (see methodology described in 1.7 below) to prevent root severance and must prevent localised soil compaction by distributing the load across the track width. Such a system may include the use of three dimensional cellular confinement systems (CCS) as a component of the sub-base, to act as a load suspension layer. A no dig example is given in figure 3 below.
- Where the new access would cover in excess of 20% of the RPA or be wider than 3m within it, it should be constructed to be permeable to moisture and gas.



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 1: Protective Fencing for RPA.

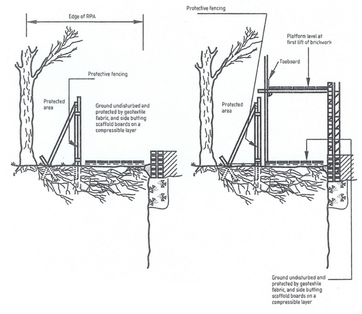


Figure 2 Ground Protection

NOTES

revision description date

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date 18 June 2014
site address 22 Thurlow Road
London
NW3 5PP
title Tree Protection Measures
Sheet 1
scale NTS
purpose PLANNING

Construction exclusion zone
Once the construction exclusion zone (CEZ) has been protected by barriers and/or ground protection, demolition/construction can take place.
Inside the Construction Exclusion Zone (CEZ) of the protective fencing, the following prohibitions shall apply:

No mechanical digging or scraping
No hand digging
No storage of plant, equipment or materials
No vehicular or plant access
No fire lighting
No washing down of vehicles or machinery
No handling, discharge or spillage of any chemical substance, including cement washings
No action likely to cause localised water-logging
No change in ground levels
No construction of a hard surface
No earthworks

- In order to inform site personnel of the purpose of the fencing, information notices shall be fixed to the fencing at 5m intervals. These notices shall be of all- weather construction and shall be in the form of the example provided at Figure 4 below, and replaced as and when necessary.
- In addition to the above, further precautions are necessary adjacent to trees outside the CEZ:
- Materials that will contaminate the soil, e.g. concrete mixing, diesel soil and vehicle washings, should not be discharged within 10 metres of the tree stem. This should take into consideration the topography of the site and slopes to avoid materials such as concrete washings running towards trees.
- Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services should not be attached to any part of the tree.

Avoiding damage to stems and branches
- Site operations should be planned to ensure that wide or tall loads or plant with booms, jibs and counterweights, could operate without coming into contact with retained trees. Mechanical damage from large plant can be significant and make their safe retention impossible. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure adequate clearance from trees is maintained at all times.
- If the use of a tower crane is necessary, its location will be predetermined and agreed in writing by the Local Planning Authority, and its operation and movements supported by a detailed Method Statement.

Reporting damage to trees and protective fencing
- In the event of any damage to trees scheduled for retention, the damage should be reported to the site agent immediately. The site agent shall report up the chain of responsibility to the retained consultant arboriculturist or in the absence of such an appointment to an appropriately qualified arboriculturist, to enable remedial measures to be carried out immediately and if possible.
- Should protective fencing be damaged to impair its function, all work shall cease near the damage until the fence has been returned to standard.

Working in Root Protection Areas
- All excavations must be carried out using hand tools and taking care not to damage bark and wood of the roots. Specialist tools (air spade) may be suitable in certain situations to remove soil from around the roots. Where a mass of flexible roots is encountered, it may be possible to displace the roots to another location either temporarily or permanently to avoid areas of excavation. Exposed roots to be removed should be cut cleanly with a sharp saw or secateurs approximately 20cm back from the face of the final excavation. Roots that are exposed temporarily should be protected from drying out, direct sunlight and extremes of temperature by suitable covering. Roots greater than 2.5cm diameter should be retained where possible; roots up to 10cm diameter should only be cut in exceptional circumstances and roots greater than 10cm should only be cut after consultation with the appropriate supervising officer.
- Working within RPAs requires a high level of care to ensure the long-term potential of the trees. Qualified supervision is vital to minimise the risk of misinterpretation. Site personnel must be properly briefed before work commences and ongoing work should be regularly inspected by an arboriculturist to confirm compliance by the contractor.

Removal of hard surfacing in close proximity to retained trees
- Any removal of existing surfacing, or other excavations within the root protection area or construction exclusion area of retained trees, must be done by hand to avoid any surface root damage. To be supervised on site by the Retained Arboricultural Consultant when in close proximity with retained trees.
- Any removal of hard surfacing in close proximity to trees, and working only from the hard surface should be broken up with the use of hand tools or appropriate machinery, but under the supervision of an arboriculturist. Any machinery or equipment to be used will need to lightweight and run on additional ground protection, or working from the existing hard standing only.
- If the area of the RPA is to be left following the removal of the existing hard surface, before a new hard surface is laid or the area receives soft landscaping treatment, then the line of protective fencing MUST be correctly re-established immediately the hard surface removal work has been completed.
- If there is a delay before the exposed RPA is to receive a new surfacing, then a temporary surface must be implemented. An example of this would be the use of Eve Trakway or other system ensuring it meets the load bearing specification for the anticipated machinery.

Installation of hard surfacing in close proximity to retained trees
- Where hard surfacing passes beneath the tree"s canopy, or where it is close to the base of the tree, Geoblock surfacing or a similar permeable surfacing will need to be used.
- Prior to the installation of a new ground surface, existing ground cover vegetation surface should be killed using an appropriate herbicide (see Pesticide Handbook). Specialist advice should be sought in order to determine the most suitable herbicide treatment due to the potential for leaching through the soil.
- The soil surface will not be skimmed to establish new paving or other surfaces at the former ground level as this has the potential to cause root damage. Therefore loose organic matter, and/or turf will be removed carefully using hand tool, and the new surface established above the former ground level, using a granular fill where required.
- If ground levels are to be raised within the RPA (by no more than 200mm though), this should be achieved by use of a granular material which does not inhibit vertical gaseous diffusion. Examples of suitable granular materials include, no-fines gravel, washed aggregate, or cobbles. Depending on the California Bearing Ratio (CBR) of the soil, it may be necessary to install a load suspension layer such as a cellular confinement system.
- The construction of hard surface access within the root protection area is to be that of a no dig design to avoid root loss due to excavation. In addition, the structure of the hard surface should be designed to avoid localised compaction, evenly distributing the carried weight over the track width and wheelbase of any vehicles that will use the access. The design will be based on a cellular confinement system as an integral component of the sub-base, to act as a load suspension layer.
- The finished surface will be either a granular material, permeable and gas- porous finished surface (wearing course) to allow moisture infiltration and gaseous diffusion. It is essential to maintain adequate supplies of water and oxygen for trees through the soil. Porosity is important particularly where the new hard surface covers an area of previously unmade ground, under which tree roots may have developed preferentially.
- No-fines granular materials should be used wherever fill or a sub-base is required to help to ensure adequate gaseous diffusion. Excess water in the root protection area should be avoided, particularly on clay soils where water logging can occur. In these cases, the hard surface should slope away from the tree to avoid ponding. Provided surface water is not liable to be contaminated by salt or toxic run-off from oil or petrol, a permeable surface should be employed.
- Washed gravel. Washed gravel retains its porosity unless excessively consolidated, and is particularly useful where changes of level occur, or an irregular shape is needed around the stem of a tree. Gravel is easily renewed or topped up. Although weeds may become established, they can be controlled by chemical or mechanical means. However, gravel is rarely suitable for use where there is vehicle or pedestrian traffic for example, in residential areas. Materials with high fines content, such as binding gravels or hogging, should not be used due to their almost impermeable texture when consolidated.
- Paving slabs and block pavers. Paving slabs and block pavers are available with built in infiltration spaces between the slabs or blocks. These are ideal, though they should be laid dry-jointed on a sharp sand foundation to allow air and moisture to penetrate to the rooting area.
- Graded Soil. Sufficient spoil shall be placed along the edge of the area to receive Geoweb, suitably graded away from the works in order that it may be pulled in later. This eliminates the need to transport soil over the finished surface. The spoil (E.g. Heicom sand) shall be graded into the finished structure at the end of the scheme.
- Construction. Refer to Fig 3.

Soft Landscaping
- Soft landscaping includes the re-profiling of the existing soil levels and covering the surface with new plants or mulch. No significant excavations or cultivation, particularly by mechanised vehicles (rotovators), should take place in the RPA. Good quality and relatively permeable top soil should be used to fill in voids where an existing structure has been removed or where levels need to be raised to tie in with new structures. The soil should be firmed in place but not compacted prior to turfing or shrub planting. All areas close to the trunks of trees should be kept at the original level as far as possible and should be finished with mulch, not grass, to prevent mower damage.
- Service connections: The location of all new service routes should ideally be outside of the root protection zones of the trees to be retained to avoid damage to tree roots. All proposed service installations should be carried out in accordance with the guidelines set out in NJUG Publication No. 10, and Section 11.3.5 and 11.7 of BS5837:2012. Great care should be taken to preserve and work around roots greater than 25mm in diameter, and clusters of smaller roots avoiding damage to bark. Where it is necessary to sever roots greater than 25mm in diameter, arboricultural advice must be sought. Where smaller roots must be severed, they should be cut back cleanly using secateurs or a sharp pruning saw. Where possible, services laid through protected areas need to be installed at a depth preferably not less than 750mm deep in order to preserve the maximum number of roots, and avoid conflicts between the tree roots and the utility service run. The trench should be kept as narrow as possible to reduce the potential amount of root severance. Backfilling of trenches should be carried out using the excavated soil, which should be worked in around roots and lightly “tamped” not compacted and preserving the original soil profile. The backfill should be left proud of surrounding levels to allow for settlement. Trenches must not be left open overnight, and arboricultural supervision should be provided during excavation of trenches through protected zones. If the trench is to remain open for any period during the day to prevent the roots from drying out, it is advised that moist Hessian sacking be wrapped around the exposed roots, and/or trench to prevent desiccation from occurring. All existing site services that are already within the root protection areas that are shown to be made redundant will still need to comply with the above in order to prevent any damage to roots within these areas.

Walls, buildings etc on new foundations:
Strip or trench foundations excavated within RPAs for larger structures are likely to lead to significant root loss and therefore there are implications for the long-term survival of the trees concerned; it is unlikely that such foundations would be acceptable. Disturbance and damage can be significantly reduced by the use of a piled foundation, utilising micro-piles (where appropriate), with a beams or cast floor slabs above ground level. The design of such a system is a matter for the engineers but should be flexible to allow the piles to be relocated if major roots are encountered in the original locations; a system known as Housedeck offered by Abbey Pynford Plc offers such flexibility. If ground protection is required, spaces should be left at the calculated location for the piles. The locations should be hand dug to at least 800mm to determine if there are any significant roots greater than 25mm in diameter. If large roots are discovered, the pile location will need to be moved and a new trial hole dug by hand. Once the piles are installed, it is essential to ensure that the lowest point of the supporting beams is above ground level to avoid further excavation. Beams can be precast or cast in position using a degradable void former for the base. If the piled foundation is being installed on highly shrinkable clay soil or on a site with existing mature trees then the design will require the provision of anti-heave measures. Piles should be sheathed to prevent concrete leachates from damaging the roots.

Light structures:
Small light structures such as bin stores, sheds and cycle stores do not normally require substantial foundations and can be constructed with permeable bases to allow for the free movement of gas and water. Although these structures generally require a level base, this can be achieved by excavating any high spots by up to 50mm only and filling depressions with permeable fill, ensuring no roots greater than 25mm are cut. If larger roots are encountered, the base level should be raised if possible rather than cutting the root. If this is not possible, and the only option is to cut the root this should be discussed with the supervising officer before action is taken. The roof to these structures are usually supported directly from the base, onto supports driven directly into the ground, or set in carefully dug holes. The supports should be well spaced, at least 1500mm apart, and of narrow diameter. If the supports are set in concrete, a membrane should be used to prevent cement coming into contact with the roots due to its toxic nature.

Soft Landscaping:
Soft landscaping includes the re-profiling of the existing soil levels and covering the surface with new plants or mulch. No significant excavations or cultivation, particularly by mechanised vehicles (rotovators), should take place in the RPA. Good quality and relatively permeable top soil should be used to fill in voids where an existing structure has been removed or where levels need to be raised to tie in with new structures. The soil should be firmed in place but not compacted prior to turfing or shrub planting. All areas close to the trunks of trees should be kept at the original level as far as possible and should be finished with mulch, not grass, to prevent mower damage.

1. Remove existing vegetation by strimming and the use of recommended herbicides ensuring no soil disturbance.
2. Lay a geotextile membrane, for example Fibretex F4M non- woven with dry joints overlapping by 300mm.
3. Place the cellular confinement system (CCS), for example, Cellweb, and anchor open using metal pins during the infill. The California Bearing Ratio (CBR) of the soil and expected loading determines size of CCS grid to use.
4. Place edge constraints - it is essential that all kerbing is non- invasive within the RPA.
5. Backfill using no-fines granular fill (20-40mm). Backfill should be laid by starting at one end of the CCS, such that the laying plant runs only on the hard surface being created. Once the full length of the sub-base is completed, it shall be sufficiently compacted both to form a positive interlock with the CCS and to prevent rut formation under the load-carrying limit of its intended use.
6. Lay chosen surface:
7. Block paving – place another layer of geotextile membrane on top of infill. Place sharp sand bedding, compact with vibro compactor, and finish with blocks. If used within the RPA dry jointing should be used or blocks incorporating built in infiltration (e.g. Formpave – Aquaflow or RMC – Uni-Ecoloc)
8. Tarmac – place 25mm surcharge of granular material. Lay bitumen base and wearing courses (porous tarmac if within RPA).
9. Loose gravel - place another layer of geotextile membrane on top of infill. Place edge constraints and fill aggregate to required depth.

Figure 3 No-dig construction example for light traffic:

CONSTRUCTION EXCLUSION ZONE KEEP OUT

THE FOLLOWING PROHIBITIONS APPLY WITHIN THE CONSTRUCTION EXCLUSION ZONE:

- No mechanical digging or scraping
- No hand digging or trenching
- No fire lighting
- No storage of chemicals, plant, equipment or material No cleaning operations of plant
- No vehicle and plant access No contact with fencing
- No spillage of cement materials No change in ground levels
- No construction of a hard surface
- No earthworks
- No activity likely to lead to water-logging

REPORT DAMAGE TO TREES OR PROTECTIVE FENCING IMMEDIATELY

Figure 4 Warning Notice.

revision description date

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