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TREE SURVEY - ARBORICULTURAL METHOD STATEMENT (AMS)

Prepared For:

Lindridge Ln,
Desford,
LE9 9GN

Prepared By:

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1. INTRODUCTION

1.1 Brief:

I am instructed by Adam Page of XL Designs (Midlands Ltd) to produce an Arboricultural Method Statement (AMS) covering the construction of a new development at Lindridge Lane, Desford. This is to cover the general agreed arboricultural operations (e.g. pruning, tree removal), tree protection measures and installation, that will be required during construction.

This Arboricultural Method Statement has been compiled to ensure the safe and healthy retention of all trees to be retained on this development. Integral to achieving this goal is the implementation of the special construction details and protection methods detailed within this report. **This Method Statement must be made available to all contractors** and operatives on the site during the construction process so that they fully understand the importance of the measures set out for tree protection.

The information contained within this Arboricultural Method Statement conforms to BS 5837:2012 'Trees in relation to Design, Demolition and Construction – Recommendations'.

1.2 Qualifications and experience:

I have based this report on my site observations and the information provided. I have come to conclusions in the light of my experience.

1.3 Documents and information provided

Trees Retention and Removal Plan - S. Raju R3Designs Developments

Site Proposal (4) - S. Raju R3Designs Developments

Arboricultural Implications Assessment, March 2024 completed by Canopy Tree Services.

1.4 Scope of this report:

The AMS is concerned only with the trees within the boundaries of the site as indicated on the plans provided and has been compiled in order that retained trees are adequately protected throughout the course of the development. It is not intended to be used for any other purpose. The report does not take into account any other trees or vegetation, except where these are specifically referred to.

1.5 The activities to which the AMS relates are:

- Tree removal and pruning (including root pruning) for access and clearance
- Tree protection measures
- Construction methods

1.6 Risk assessments (with relevant control measures) should be produced for each of these operations prior to commencement of work. This is the duty of the contractors engaged to undertake the work.

2 TIMING AND MONITORING OF OPERATIONS

2.1 In order to ensure that disturbance to retained trees is kept to a minimum, the site operations should proceed in the following order:

Phase 1 – Pre-development

1. Pre-commencement site meeting between client, project arboriculturist
2. Completion of the approved tree work
3. Installation of tree protection measures (as appropriate)

Phase 2 – Development

1. Ensure site accessible to construction traffic
2. Site compound, WC, materials
3. Ground-works (at which time root-pruning should take place) and service installations
4. Main development activity

Phase 3 – Post-development

1. Final landscaping operations (if appropriate)
2. Removal of tree protection barriers
3. Completion of the approved landscape scheme under supervision of project arboriculturist (if significant changes are to be made)

2.2 Any amendments to the ordering of events that are likely to affect the retained trees on site should be with the approval of the project arboriculturist or the Local Planning Authority (LPA) Arboricultural Officer.

- 2.3 Tasks requiring additional input from the project arboriculturist may involve them being on site throughout the duration of sensitive operations. Additionally, the project arboriculturist should be contactable by phone (0797 0325 361) and simple queries may be dealt with in this way without the need for a site visit.

3.0 TREE REMOVALS & TREE WORKS

- 3.1 There are a number of trees being removed, these have been marked on the TPP.
- 3.2 Access facilitation pruning may be required to enable the construction to take place at the site entrance.
- 3.3 Any tree works should be undertaken to BS3998 by a qualified operator ensuring that any remaining trees are not damaged in the process.
- 3.5 Once completed the tree works have been completed the Tree Protection Fencing and ground protection should be installed.
- 3.5 Any tree defects seen by a contractor or the client that were not apparent to the project arboriculturalist must be brought to our attention immediately.

4.0 THE CONSTRUCTION LIMITATION ZONE (CLZ)

- 4.1 Several of the trees on site that are to be retained that could be adversely affected during the proposed development. A Construction Limitation Zone has been plotted on the Tree Protection Plan.
- 4.2 Within the CLZ/RPA, the following restrictions shall apply:
- NO mechanical digging or scraping
 - NO hand digging (unless in accordance with sections, below)
 - NO storage of heavy plant machinery (unless in accordance with sections, below)
 - NO vehicular or plant access (**unless in accordance with section 6**, below)
 - NO fire lighting
 - NO washing down of vehicles or machinery
 - NO handling, discharging or spillage of any chemical substance including cement washings
 - NO action likely to cause localised water-logging
 - NO changing of ground levels (unless agreed by the LPA)

- NO earthworks

4.3 In addition to the above, further precautions are necessary adjacent to trees outside the CLZ:

- Materials that will contaminate the soil such as concrete mixing, diesel spillage and vehicle washings must not be discharged within 10m of a tree. This must take into account the topography of the site and the slopes to avoid toxic materials running towards retained trees.
- Fires must not be lit in a position where their flames can extend to within 5 metres of the foliage, branches or trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services (etc.) should not be attached to any part of a tree.

5.0 TREE PROTECTION FENCING

- 5.1 The Tree Protection Plan (TPP) (Appendix 1.) shows the position of the Tree Protection Fencing (TPF) (Appendix 2). This fencing must be erected after the tree removals but before any materials or machinery are brought onto site and before any demolition, development or stripping of soil commences.
- 5.2 Once erected, barriers and ground protection will be regarded as sacrosanct, and will not be removed or altered without prior agreement of an arboriculturalist and approval of the local planning authority.
- 5.3 Barriers should be fit for the purpose of excluding constructive activity, and appropriate to the degree and proximity of work taking place around the retained tree. On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.
- 5.4 Weld mesh panels on rubber or concrete feet are not resistant to impact and can be easily moved. The panels must be secured to the ground in a semi-permanent manner with 60cm pins. (Appendix 2).
- 5.5 Once the CLZ has been protected by barriers and/or ground protection, construction can commence. All weather notices should be fixed to the barriers with the words: 'Tree Protection Area – Keep out' or similar (Appendix 2).

6.0 GROUND PROTECTION

- 6.1 The Department for Communities and Local Government's guide "Tree Roots in the Built Environment" states that "ground protection should be installed before any materials or machinery is brought onto the site" Ground protection has been specified to protect the roots of the trees 4, 12, 60 and 70. the rooting areas of these tree could be adversely affected by compaction. It has been shown that "the major contribution to soil

compaction from vehicle movements comes from the first passes of vehicles over the ground” (Section 4.2.3) Thus **it is essential that ground protection is specified and installed from day one of construction projects**. Failure to protect the ground from compaction will lead to reduced water and oxygen infiltration to the tree roots and can ultimately lead to the decline of the tree.

- 6.2 At the entrance of the site and near to tree 70, vehicular traffic is to be protected with either a trackway mat system or by installing the road with cellular confinement system (see 10 New hard surfacing within the CLZ) depending on conditions. Details to be confirmed with project arboriculturalist:
- 6.2 The trackway should be installed without machinery travelling over unprotected ground.
1. Edge rails of 200 x 50mm sawn timber should be installed where the trackway will pass under the tree canopy. These should be staked on either side of the trackway using 50 x 50 x 500mm timber stakes at 1.5m spacings.
 2. A layer of geotextile membrane should be laid to cover at least the area under the tree canopy and preferably under the whole of the trackway.
 3. A pad of trackway mats should be laid on top of the geotextile membrane, between the timber rails.
 4. A 150mm deep layer of wood chipping should be laid over the mats
 5. The trackway can then be laid so that it rises over the wood chippings as it passes over the RPA'S.

7.0 CONSTRUCTION WITHIN THE CLZ

- 7.1 To ensure there are no significant roots are damaged any construction works within the CLZ must be first dug by hand.
- 7.2 All soil removal must be done with care to minimise the disturbance of roots. Smaller fibrous roots should be retained if possible. When digging by hand, a fork should be used to loosen the soil and help locate any substantial roots. Once roots have been located, the trowel should be used to carefully clear the soil away from them without damaging the bark. Exposed roots smaller than 25mm should be cut cleanly with a sharp saw or secateurs 100-200mm behind the final face of the excavation. Roots temporarily exposed must be protected from direct sunlight, drying out and extremes of temperature by appropriate covering such as dampened hessian sacking. Roots greater than 25mm in diameter should be retained where possible and only cut after consultation with the supervising arboriculturist.
- 7.3 Where practical subsequent removal of debris will be carried out by hand. Should be mechanical means be required due to the size of the debris, then a small (1.5 ton) digger may be used providing that, when picking up the debris, no tines/teeth from the bucket cause any damage to the underlying soil surface. Once left with manageable size pieces, hand removal will be used, where the digger is employed, it will only travel on the undisturbed hard surface.

- 7.4 If during final landscaping turf needs to be removed from RPA's, hand tools must be used. Should any roots over 25mm diameter, have grown above the final soil level and be a hindrance to the final surface installation, their removal will only be carried out under arboricultural supervision.
- 7.5 If, for whatever reason there is a delay before the area is left exposed prior to awaiting a new surface, then a temporary surface must be implemented or the area fenced off. Tree roots must NOT be left exposed to the elements. Damp hessian sacking can be used to prevent roots drying out or freezing.

8.0 AVOIDING CROWN AND STEM DAMAGE

- 8.1 Great care must be exercised when working close to retained trees. Plant and machinery with booms, jibs and counterweights and the passage of tall or wide loads etc. must be controlled by a banksman to maintain adequate clearance.
- 8.2 If during the development additional access facilitation pruning is required advice should be sought from the project arboriculturalist. Any pruning of the trees covered by TPO's will require the permission of the Local Borough. **Under no circumstance shall construction personnel undertake any tree pruning operations.**

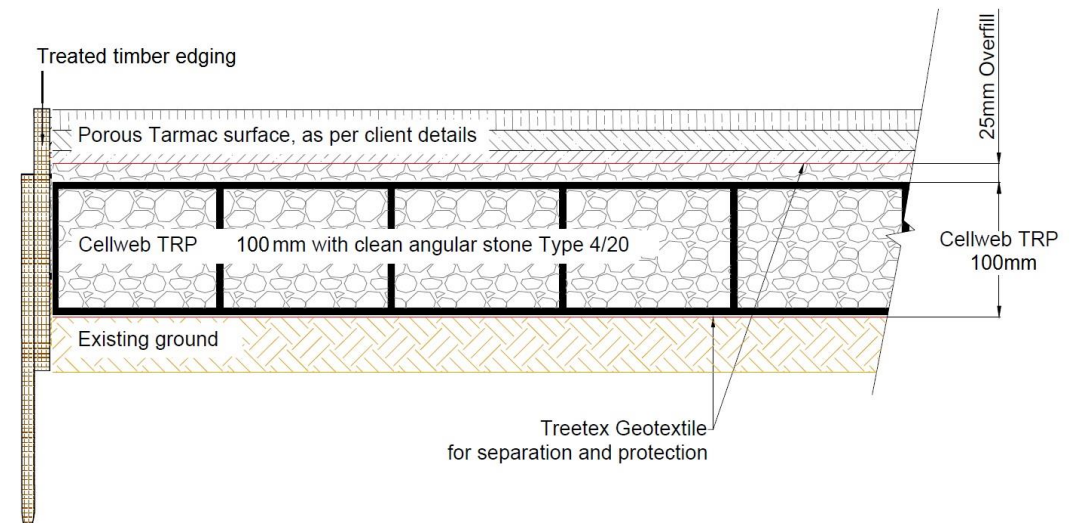
9.0 INSTALLATION OF UNDERGROUND SERVICES

- 9.1 Trenching for the installation of underground services can sever root and may change the local soil hydrology in a way that adversely affected the health of the tree. For this reason, particular care will be taken in the routeing and methods of excavation used to install underground utilities.
- 9.2 Utilities through the CLZ are to be dug by hand as per National Joint Utilities Group Volume 4, Issue 2. (Appendix 4.) No excavation by machinery. Roots over 25mm in diameter, must NOT be cut unless advice has been sought from the local authority tree officer or project arboriculturalist. Roots smaller than 25mm to be pruned using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible. Trench to be backfilled with excavated soil. Any exposed roots to be protected with dry sacking which must be removed before backfilling.

10.0 NEW HARD SURFACING WITHIN THE CLZ

- 10.1 Depending on conditions a cellular confinement system may be installed at the beginning of the development rather than relying on temporary ground protection. If the temporary ground protection is used before the installation of the new hardstanding it must be removed without vehicles travelling on the unprotected ground.
- 10.2 The hard surfacing in the form of an access road that crosses the RPAs of Trees 4, 12 and 70 must be based on a cellular confinement system installed using a no dig technique.

- 10.3 The design of such a system needs to be sensitive to the requirements of tree roots, substantial enough to withstand the expected levels of traffic and practicable in terms of ease of fabrication. The final surface treatment must be porous to enable the percolation of water through the surfacing to the tree roots beneath. This method is considered to be appropriate in terms of minimising damage to retained trees. However, a structural engineer should be consulted to ensure that the mechanical needs of the chosen design are adequately met.
- 10.4 Surface vegetation, rocks debris and organic material to be removed using appropriate handheld tools. Any hollows filled to create flat surface with angular stone. Do not level of high spots or compact soil through rolling.
- 10.5 Geotextile layer laid over prepped area and cellular confinement system pinned into place.
- 10.6 The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm. (Do not use M.O.T type 1 or crushed stone with fines). Infill the Cellweb cells with the clean angular stone, using the infilled panels as a platform. No compaction is required of the infill. Do NOT use a whacker plate or other means of compaction. Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- 10.7 Edge restraints. Excavations for kerbs and edgings should be avoided within the RPAs. A peg and treated timber board edging is acceptable.
- 10.8 Surface design to be finalised, but must be porous. Surfaces can include porous block paving, porous asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel.



11.0 TEMPORARY BUILDINGS/STORES

- 11.1 The location of any site office/welfare unit and temporary buildings are to be assigned with consultation of the project arboriculturalist and should be kept away from any CLZ. These should be plotted on the TPP.

12.0 MIXING AREA/CHEMICAL STORAGE

- 12.1 Discharging or spillage of any chemical substance including cement washings can cause damage to the trees. Care must be taken to ensure that pollutants do not end up in the root zones.
- 12.2 To ensure waste does not affect the roots a mixing area and chemical store must be assigned with consultation of the project arboriculturalist. It is important to ensure runoff drains away from the root zone.

13.0 REFERENCES

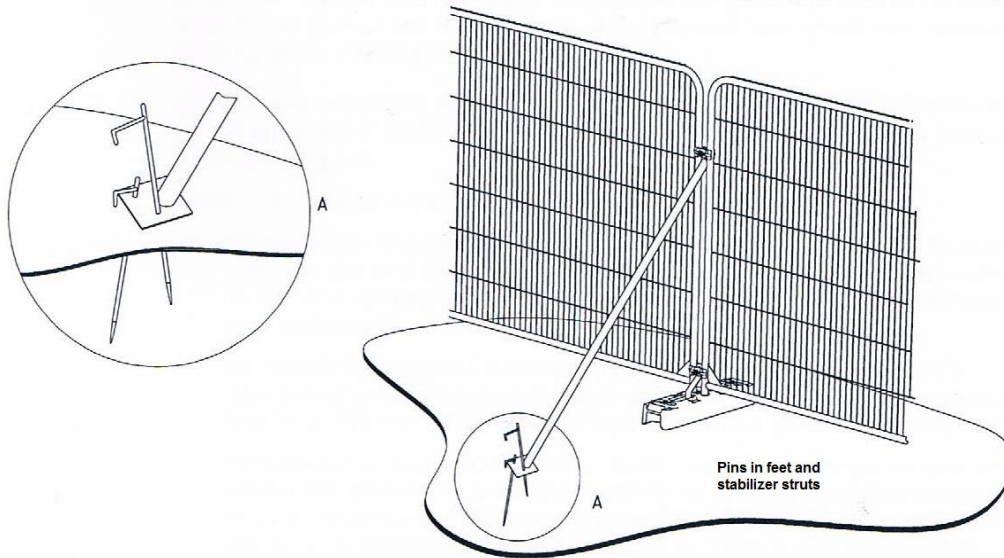
BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations.
BS 3998:2010 Tree work - Recommendations
National Joint Utilities Group Volume 4

Appendix 1.

Tree Protection Plan (See A0 PDF for detail)



Appendix 2. –Tree Protection Fencing



TREE PROTECTION AREA

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECTS OF A
TREE PRESERVATION ORDER
(TOWN & COUNTRY PLANNING ACT 1990)

CONTRAVENTION OF TREE PRESERVATION ORDERS MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING **MUST** BE OBSERVED BY ALL PERSONS:-

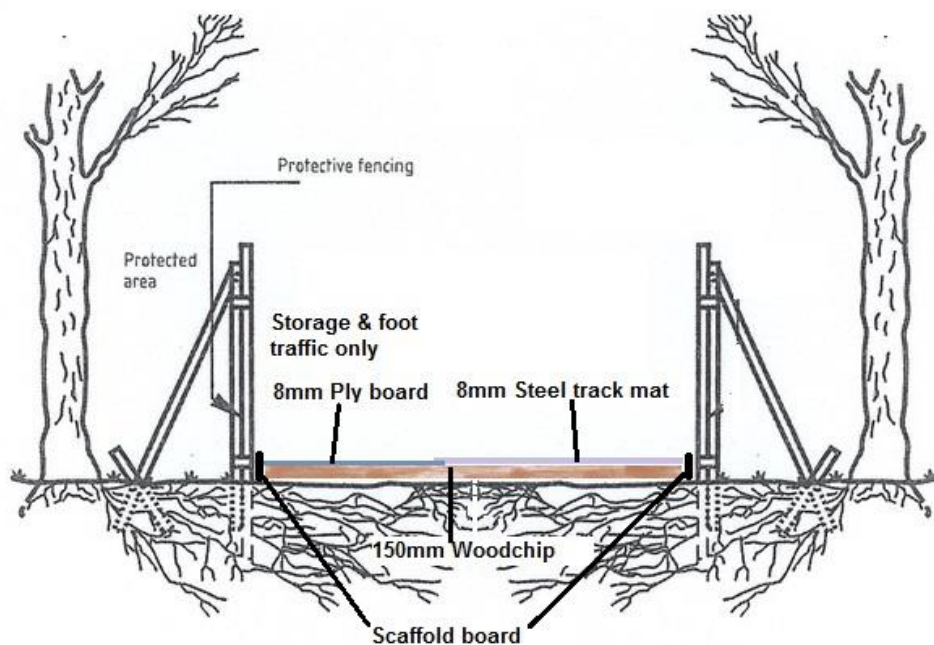
- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

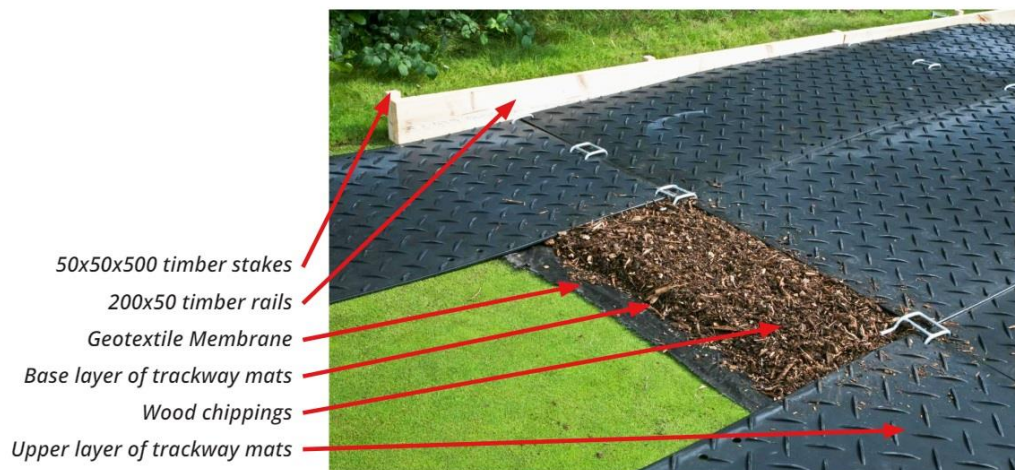
KEEP OUT!

Appendix 3 - Ground Protection

Temporary ground protection over RPA's



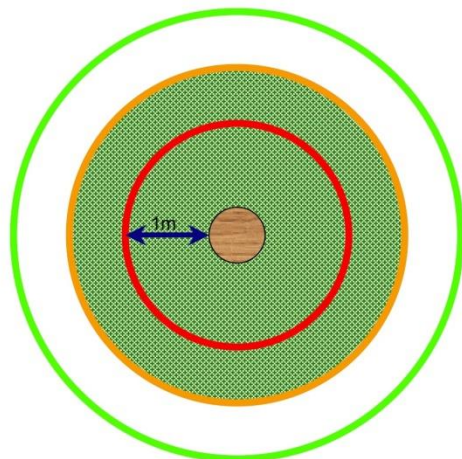
Scaffold boards attached to fencing
150mm Woodchip applied directly to ground
8mm plywood sheets securely fastened together – for storage and foot traffic only.
Heavy duty track mats – for vehicular transport.



Appendix 4. - NJUG Guidelines



NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2



TREE PROTECTION ZONE

Key to Diagram



Trunk of Tree



Spread of canopy or branches



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

- Don't** excavate within this zone.
- Don't** use any form of mechanical plant within this zone
- Don't** store materials, plant or equipment within this zone.
- Don't** move plant or vehicles within this zone.
- Don't** lean materials against, or chain plant to, the trunk.
- Do** contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.
- Do** protect any exposed roots uncovered within this zone with dry sacking.
- Do** backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.
- Do** notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

- Don't** excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.
- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Don't** repeatedly move / use heavy mechanical plant except on hard standing.
- Don't** store spoil or building material, including chemicals and fuels, within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.

THE PERMITTED ZONE

- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Do** use caution if it is absolutely necessary to operate mechanical plant within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.
- Don't** use any form of mechanical plant within this zone
- Don't** store materials, plant or equipment within this zone.
- Don't** move plant or vehicles within this zone.