Firs Farm, Copthorne Common Road, Copthorne

Arboricultural Implications Assessment and Method Statement

September 2025

Client	DevTec Properties
Job name	Firs Farm, Copthorne Common Road, Copthorne
Report title	Arboricultural Implications Assessment and Method Statement
File reference	24-1788-Report

	Name	**Position**	**Date**
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Report Contents

1 Introduction

1.1 Site Description

Firs Farm, Copthorne Common Road, Copthorne (the ''site'') is situated approximately a mile southeast of the centre of Copthorne. The site currently comprises a number of used and disused agricultural buildings and is predominately flat. The site is bound to the north by residential dwellings, to the east and south by commercial buildings and to the west by grazing land.

1.2 Proposed Works

The demolition of the existing buildings and the construction of five dwellings with the associated access road and car parking are proposed. Works that are likely to affect retained trees include the installation of new hard surfaces and the movement of construction and delivery vehicles.

1.3 Aims of Study

To inform a planning application, Canopy Consultancy has been commissioned by DevTec Properties to undertake a tree survey of the site, in accordance with British Standard (BS) 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations".

The aim of this report is to present the results of the survey, including a Tree Survey Schedule (TSS), an Arboricultural Implications Assessment (AIA), and an Arboricultural Method Statement (AMS). A Tree Protection Plan (TPP) has also been produced and accompanies this report as a separate drawing.

This report in no way constitutes a health and safety survey report. Where concerns for tree health and safety exist, the necessary and appropriate tree inspections should be carried out.

2 Methodology

The trees were inspected from ground level by consultant arboriculturist Neil Taylor on the 14th of June 2024. Measurements were taken in accordance with the recommendations set out in the BS 5837:2012. Canopy spreads were measured and plotted to the four compass points. Where direct access was not possible measurements have been estimated. The surveyed trees are colour coded on the accompanying tree survey drawing according to their relevant BS category.

The tree data collected is used to enable the current canopy spread of the surveyed trees and the Root Protection Area (RPA) to be plotted on the accompanying TPP. The RPA is defined by the formula in paragraph 4.6 from the BS 5837:2012 and may be refined by taking into account current on-site constraints to root activity such as buildings, earthworks and hard paving. This forms part of the design process for the proposed development.

3 Assessment

3.1 Tree Character Groups

The detailed results of the tree survey are provided in the TSS, in Appendix 1. In summary, the trees on and adjacent to the site are in a reasonable condition and vary in terms of amenity value provided to the wider landscape. The trees can be divided into three distinct character groups as follows:

1. The first character group includes the large mature tree found growing on the northern boundary. The tree is in a good condition and provides significant arboricultural amenity to the local area.

2. The second character group includes the medium sized, middle-aged trees found growing across the site. The majority of the trees in this character group are in a fair condition structurally and as such, have a limited life expectancy.

3. The third character group includes the smaller, young to middle-aged trees found growing across the site. In the main, the trees in this character group are in a reasonable condition but due to their size are of limited amenity value to the local area.

4 Arboricultural Impact Assessment (AIA)

4.1 Methodology

The AIA uses the information obtained in the tree survey to identify areas where the proposed construction may be at odds with accepted standards, in terms of a tree's requirements for space in which to maintain existing roots and shoots, and space for future growth.

The quality and relative importance of each tree is illustrated as a coloured polygon. The colour used relates to the BS categories as follows: A - green, B - blue, C - grey and U - red (see accompanying drawing reference 24-1788-TPP). In general, the design process will try to retain A and B category trees. Proposed construction will therefore normally be excluded from the RPA of A and B category trees. Red trees are discounted as they are recommended for removal.

Details of the trees surveyed are given in the TSS (Appendix 1). The juxtaposition of the proposed development in relation to existing tree locations are shown on the accompanying TPP drawing, reference 24-1788-TPP.

The AIA considers existing site conditions and the effect that they may have on the development of the surveyed trees' root systems. Hard structures such as building and paved roads and paths can influence the root activity of trees by reducing the availability of both moisture and nutrients.

4.2 Assessment

Refer to the accompanying TPP, drawing, reference 24-1788-TPP, for the relationship between the proposed development and the trees on and adjacent to the site.

- The following trees will be removed to enable the proposed development:

T3	to enable the construction of a dwelling.
T4	to enable the construction of a dwelling.
T5	to enable the construction of a dwelling.
T6	to enable the construction of a dwelling.
T7	to enable the construction of a dwelling.
G1	to enable the construction of an access drive and car parking spaces.
Part of G2	to enable the construction of an access drive.

- The following trees will be pruned prior to the construction of the proposed development:

  T8 – crown lift to clear 3 metres.
  T9 – crown lift to clear 3 metres.
  T10 – crown lift to clear 4 metres.

G2 – face back group by 2 metres.

- The following trees will be affected by the removal of the existing buildings from within the RPA:

  T9 and T10

  The buildings will be demolished in accordance with the methodology outlined in Section 5.2 below.

- The following trees will be affected by the removal of the existing hard surface from within the RPA

  T9

  The hard surface will be removed in accordance with the methodology outlined in Section 5.2 below.

- The following trees will be affected by the construction of a new hard surface within the RPA:

  T8 and T9

  The proposed hard surfaces will be constructed in accordance with the 'no dig' principles outlined in Arboricultural Association Guidance Note 12 and utilise a cellular confinement system such as Cell Web as a subbase. Refer to Section 5.3 below for details.

- The following trees will be affected by the construction of a cycle and bin store within the RPA:

  G3

  The hard surface will be installed in accordance with the 'no dig' principles outlined in Arboricultural Association Guidance Note and utilise a cellular confinement system such as Cell Web as a subbase. Refer to Section 5.3 below for details.

5 Arboricultural Method Statement (AMS)

5.1 Methodology

The AMS provides the means by which retained trees and hedges can be protected throughout the development.

The movement of demolition and construction machinery in close proximity to trees may cause compaction of the soil which affects the tree's ability to absorb moisture and nutrients. The RPAs of retained trees and hedges will be protected by a tree protection barrier as described in paragraph 5.5 below and shown on the accompanying TPP, drawing number 24-1788-TPP.

5.2 Demolition within the RPA of Retained Trees

Prior to demolition commencing, the retained trees will be protected in accordance with the accompanying TPP, drawing number 24-1788-TPP.

The existing buildings to be demolished that are within the RPA of a retained tree will be demolished using a top down, pull back method with any machinery used stood on an existing hard surface or outside of the RPA. Where possible, any foundations within the RPA will be left in situ. The concrete slab and hard surface surrounding the buildings within the RPA of T10 will be removed using hand operated tools only to break up and remove the concrete. The tree protection barrier will then be relocated as shown on the accompanying TPP, drawing number 24-1788-TPP.

The existing hard surfacing that is within the RPA of a retained tree will remain in situ until the construction phase is completed so as to act as ground protection. Once construction is complete, the hard surface will be broken up and removed from within the RPA using hand operated tools only. The area will then immediately be reinstated with topsoil.

5.3 Construction within the RPA of Retained Trees

Construction of Hard Surfaces

Construction of the new hard surfaces that are within the RPA of a retained tree will utilise a cellular confinement system such as Cell Web. The new hard surface will be constructed on top of the existing ground level, and no excavations will take place to level the ground. Guidance on the form of construction necessary to avoid root damage and loss is provided in the form of an extract of the Cell Web Product brochure for their cellular confinement system at Appendix 2. The installation of the hard surface should proceed in the following order:

- Lay geotextile membrane over the soil and pin into place

- Lay cellular confinement system (such as Cell Web) as specified by engineer and pin into place.
- Fill the cellular confinement system with a 'no fines' aggregate to engineer's specification Work must be carried out progressively so that any machinery used only moves on the laid surface.
- Install timber edging (if required) as specified by engineer
- Lay geotextile membrane over filled cellular confinement system.
- Lay wearing course as specified by landscape architect

Where the proposed new hard surface is to be installed on the existing soft landscape, allowances will be made for the increase in level which can be graded out across the remainder of the new and existing hard surface.

Construction of Bin and Cycle Store

The surfaces will comprise dry jointed slabs laid on top of a subbase installed as outlined above. The bin and cycle store will then be bolted to the new hard surface.

No materials or spoil is to be stored within the RPA of a retained tree, unless on an existing hard surface.

In order to avoid damage to the retained trees the tree surgery and felling work identified in the accompanying tree survey schedule will be carried out prior to the occupation of the site by the building contractor. The work will be carried out in accordance with BS 3998:2010.

5.4 Services

The proposed locations of all service runs have not been finalised at this early stage. If services are required to pass through the RPA of retained trees on and adjacent to the site, excavations within the RPA will be carried by hand in accordance with 'broken trenches' described in NJUG 4 Section 4, an extract of which can be found in Appendix 3. This will ensure that tree roots are not damaged during the installation of the service. All roots with a diameter of 25mm or more will be retained, any roots with a diameter of less than 25mm will be pruned back to the edge of the trench with sharp secateurs.

5.5 Tree Protection

All trees that are to be retained on the site will be protected by the use of a tree protection barrier erected in the location shown on the accompanying TPP, drawing number 24-1788-TPP.

The fence will consist of "Heras" type panels or similar braced at minimum intervals of three metres and secured to keep in place. The tree protection barrier will be erected prior to the occupation of the site by the building contractor and will only be removed once the construction phase is complete.

5.6 Site Monitoring and Supervision

The process of reporting to the client and LPA/Tree Officer will be by emailing the checklist form at Appendix 4. After the pre-commencement meeting with the site manager, site monitoring is to be at four-week intervals unless supervision of specialist construction activities are required. It will involve a site visit by the arboriculturist to ensure that the appropriate tree protection measures, as detailed in the approved drawings and method statements, are continually adhered to. The completed checklist will be sent to the LPA within 5 working days of the site visit.

6 Conclusion

Canopy Consultancy was commissioned by DevTec Properties to carry out a tree survey at the site. The results of the survey indicate that the trees within the survey area vary considerably in terms of condition and contribution to the amenity of the wider landscape.

A total of five individual trees, one group of trees and part of one further group will be removed to enable the proposed development. All trees to be removed are in the C category as they are either young and easily replaced or of ailing structural condition with a limited life expectancy.

The proposed development of the site provides an opportunity to plant a number of new trees and hedges as part of a landscape scheme for the site. This will improve the age range and species diversity of the trees in the local area, as well as enhancing the tree cover on the site.

Through the specified tree protection measures and construction methodologies, it will be possible to minimise the impact of the proposed development on the retained trees.

Overall, there are no known overriding arboricultural constraints which would prevent the proposed development from going ahead, subject to the protection measures and construction methodologies specified within this report being correctly implemented.

7 Appendices

Appendix 1: Tree Survey Schedule

Project:	Firs Farm, Copthorne Common Road, Copthorne	BS 5837 2012 Trees in relation to design, demolition and construction- recommendations	Surveyed by	NT
Ref:	24-1788-TSS		Weather	Overcast
Date:	14.06.24		Tagged	No
Client:	DevTec Properties			

				Canopy Spread											
Tree No.	Species	Height (m)	Stem Dia (mm)	N	E	S	W	Stems	Height of crown clearance	Age class	Physiological condition problems/comments	Structural condition	Preliminary management recommendations	Estimated remaining contribution years	BS category
T1	Acer campestre (Field Maple)	8	230	3	2	2	2	1	0	Y	Good	Fair - Multiple stems above 1.5m.	None	20-40	C1
T2	Salix caprea (Goat Willow)	7	276	4	3	2	2	2	0	MA	Good	Fair - Multiple stems above 1.5m.	None	Oct-20	C1
T3	Salix fragilis (Crack Willow)	5	283	0	1	2	4	2	0	MA	Good	Fair - partial failure at base	None	Oct-20	C1
T4	Salix caprea (Goat Willow)	5	380	4	4	4	4	1	0	MA	Good	Fair - spreading lower limbs beginning to deflect	None	10-20	C1
T5	Acer campestre (Field Maple)	6	120	3	1	0	2	1	0	Y	Good - suppressed.	Fair - Poor shape & form.	None	Oct-20	C1
T6	Acer campestre (Field Maple)	4	141	2	3	2	2	3	0	Y	Good	Good	None	20-40	C1
T7	Salix caprea (Goat Willow)	5	247	4	4	3	4	5	1	MA	Good	Fair - Multiple stems at ground level.	None	Oct-20	C1
T8	Acer pseudoplatanus (Sycamore)	9	310	4	2	3	3	1	2	MA	Good - pruned clear of power lines	Good	None	40+	B2
T9	Salix caprea (Goat Willow)	7	541	4	5	5	4	3	1	M	Fair - Low vitality. Pruned clear of power lines	Fair - Multiple stems below 1.5m.	None	10-20	C1
T10	Quercus robur (Common Oak)	17	750	5	9	10	7	1	2	M	Good - base inaccessible, stem diameter estimated	Good	None	40+	A2

Project:	Firs Farm, Copthorne Common Road, Copthorne	BS 5837 2012 Trees in relation to design, demolition and construction- recommendations	Surveyed by	NT
Ref:	24-1788-TSS		Weather	Overcast
Date:	14.06.24		Tagged	No
Client:	DevTec Properties			

				Canopy Spread											
Tree No.	Species	Height (m)	Stem Dia (mm)	N	E	S	W	Stems	Height of crown clearance	Age class	Physiological condition problems/comments	Structural condition	Preliminary management recommendations	Estimated remaining contribution years	BS category
G1	Prunus cerasifera (Cherry Plum),Fraxinus excelsior (Ash),Sambucus nigra (Elder)	4	Varied							Y	Good	Good	None	20-40	C1
G2	Prunus laurocerasus (Cherry Laurel),Arbutus unedo (Strawberry Tree),Sambucus nigra (Elder)	4	Varied							Y	Good - boundary group.	Good	None	40+	C1
G3	X Cupressocyparis leylandii (Leyland Cypress)	8	Varied							Y	Good - boundary group.	Good	None	20-40	C1
G4	Prunus laurocerasus (Cherry Laurel)	6	Varied							MA	Good - boundary group.	Good	None	20-40	C1

Appendix 2: Extract from the Cell Web product brochure

CellWeb

Tree Root Protection System

CellWeb Tree Root Protection System provides a flexible and permeable solution for protecting tree roots while creating a strong stable surface for traffic.

With increased urbanisation and more redevelopments of existing properties, the need to be mindful of the impact on the surrounding environment is more important than ever.

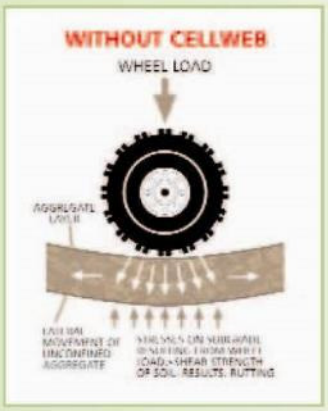
The demand for building site access, driveways and parking around existing trees can have a potentially fatal impact on the tree if carried out incorrectly. Tree preservation orders (TPO's) ensure that trees are not wilfully damaged. However the need for vehicle access over and around tree roots can still cause the following problems:

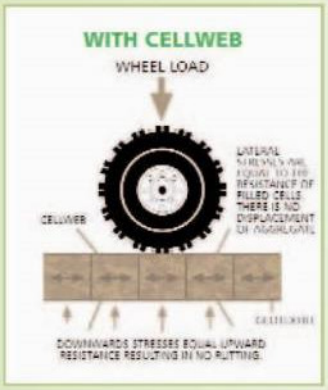
Problems:

- Compaction of subsoils (especially by construction traffic) causing oxygen and nutrient depletion
- Creating an impermeable surface that prevents water reaching the roots
- Changes in ground level and water table
- Damage caused during excavation
- Contamination of the subsoil

By using CellWeb Tree Root Protection System you can avoid these problems and ensure the tree's long-term future. BS 5837:1991 (revised 2005) and APN 1 provide information for the protection of trees during the construction process, and CellWeb is a well-established solution that conforms to these guidelines.

Product features

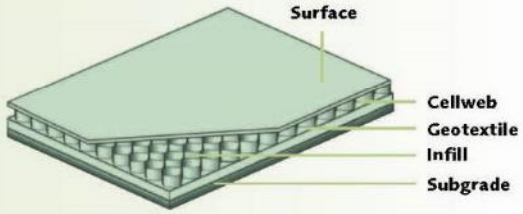




Cellweb's patented design with its unique cellular structure and perforated cell walls reduces the vertical load pressure on tree roots and prevents damage. With clean granular materials as infill, air and moisture can reach the roots to encourage healthy growth.

With no-dig solutions being the preferred option of most Arboricultural Consultants and Tree Officers, CellWeb is ideal as only the surface vegetation need be removed. As well as avoiding disruption to the roots this reduces installation time and saves money.

What's more CellWeb also cuts down the depth required for the sub base – in most cases by 50% for further cost savings. CellWeb also significantly reduces surface rutting, increasing the long-term performance of the finished surface.



Using CellWeb for tree root protection gives you these benefits:

- Reduced depth of excavation required
- Preventing the compaction of subsoils
- Preventing oxygen and nutrient depletion
- Environmentally sound
- Quick, easy and cost-effective installation
- Free technical support available

CellWeb gives you the cost-effectiveness you need at the same time as helping to preserve trees.

Geosynthetics Ltd is a leading dis

Please call
01455 617 139
or email sales@geosyn.co.uk
for further information.

Wide product range

Large stock holding

Next day delivery

Access road for the National Lake District Parks Authority.

Site before construction pictured above.

CellWeb during installation.

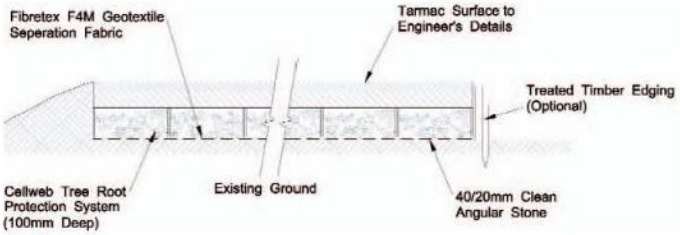
Final surfacing.

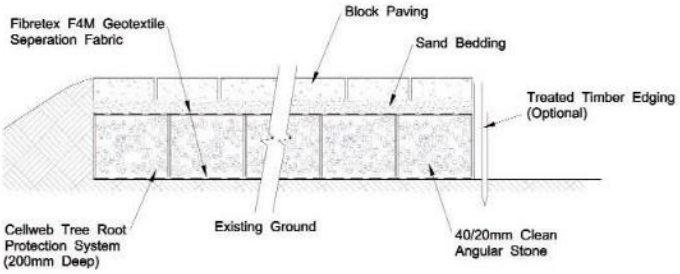
Final surfacing

The CellWeb Tree Root Protection is totally confined within the clean stone sub base, therefore you can choose whichever surface materials are most appropriate for your installation. Some materials are more suitable than others and serious consideration should be given to the porosity of the surface for continued healthy growth of the tree. An ideal surfacing are DuoBlocks: a grass reinforcement and gravel retention system. Geosynthetics can supply these systems for a visually attractive surface that also has the advantage of being fully porous.

Loose or bonded gravels can be used as an alternative hard landscaping and CellWeb can also be used with block paviors whose porous joints will permit moisture and air transfer to the roots. Where planning allows, porous asphalt is yet another possible surfacing treatment.

Call our sales office on 01455 617 139 for more information.





Appendix 3: Section 4, extracted from NJUG 4

4. HOW TO AVOID DAMAGE TO TREES

This section gives general guidance on methods of work to minimise damage to trees. The local authority (or for privately owned trees, the owner or their agent), should be consulted at an early stage prior to the commencement of any works. This will reduce the potential for future conflict between trees and apparatus.

4.1 Below Ground

Wherever trees are present, precautions should be taken to minimise damage to their root systems. As the shape of the root system is unpredictable, there should be control and supervision of any works, particularly if this involves excavating through the surface 600mm, where the majority of roots develop.

4.1.1 **Fine Roots**
Fine roots are vulnerable to desiccation once they are exposed to the air. Larger roots have a bark layer which provides some protection against desiccation and temperature change. The greatest risk to these roots occurs when there are rapid fluctuations in air temperature around them e.g. frost and extremes of heat. It is therefore important to protect exposed roots where a trench is to be left open overnight where there is a risk of frost. In winter, before leaving the site at the end of the day, the exposed roots should be wrapped with dry sacking. This sacking must be removed before the trench is backfilled.

4.1.2 **Precautions**
The precautions referred to in this section are applicable to any excavations or other works occurring within the Prohibited or Precautionary Zones as illustrated in Figure 1 – 'Tree Protection Zone'.

4.1.3 **Realignment**
Whenever possible apparatus should always be diverted or re-aligned outside the Prohibited or Precautionary Zones. Under no circumstances can machinery be used to excavate open trenches within the Prohibited Zone.

The appropriate method of working within the Precautionary Zone should be determined in consultation with the local authority (or for privately owned trees the owner or their agent) and may depend on the following circumstances;

- the scope of the works (e.g. one-off repair or part of an extensive operation)
- degree of urgency (e.g. for restoration of supplies)
- knowledge of location of other apparatus
- soil conditions
- age, condition, quality and life expectancy of the tree

Where works are required for the laying or maintenance of any apparatus within the Prohibited or Precautionary Zones there are various techniques available to minimise damage.

Acceptable techniques in order of preference are;

a) Trenchless
Wherever possible trenchless techniques should be used. The launch and reception pits should be located outside the Prohibited or Precautionary Zones.
In order to avoid damage to roots by percussive boring techniques it is recommended that the depth of run should be below 600mm. Techniques involving external lubrication of the equipment with materials other than water (e.g. oil, bentonite, etc.) must not be used when working within the Prohibited Zone. Lubricating materials other than water may be used within the Precautionary Zone following consultation and by agreement.

b) Broken Trench - Hand-dug
This technique combines hand dug trench sections with trenchless techniques if excavation is unavoidable. Excavation should be limited to where there is clear access around and below the roots. The trench is excavated by hand with precautions taken as for continuous trenching as in (c) below. Open sections of the trench should only be long enough to allow access for linking to the next section. The length of sections will be determined by local conditions, especially soil texture and cohesiveness, as well as the practical needs for access. In all cases the open sections should be kept as short as possible and outside of the Prohibited Zone.

c) Continuous Trench - Hand-dug
The use of this method must be considered only as a last resort if works are to be undertaken by agreement within the Prohibited Zone. The objective being to retain as many undamaged roots as possible.

Hand digging within the Prohibited or Precautionary zones must be undertaken with great care requiring closer supervision than normal operations.

After careful removal of the hard surface material digging must proceed with hand tools. Clumps of roots less than 25mm in diameter (including fibrous roots) should be retained in situ without damage. Throughout the excavation works great care should be taken to protect the bark around the roots.

All roots greater than 25mm diameter should be preserved and worked around. These roots must not be severed without first consulting the owner of the tree or the local authority tree officer / arboriculturist. If after consultation severance is unavoidable, roots must be cut back using a sharp tool to leave the smallest wound.

4.1.5 **Backfilling**

- Any reinstatement of street works in the United Kingdom must comply with the relevant national legislation (see: **Volume 6 – 'Legislation and Bibliography'**). In England this relates to the requirements of the code of practice – 'Specification for the Reinstatement of Openings in Highways' approved under the New Roads and Street Works Act 1991. Without prejudice to the requirements relating to the specification of materials and the standards of workmanship, backfilling should be carefully carried out to avoid direct damage to roots and excessive compaction of the soil around them.

- The backfill should, where possible, include the placement of an inert granular material mixed with top soil or sharp sand (not builder's sand) around the roots. This should allow the soil to be compacted for resurfacing without damage to the roots securing a local aerated zone enabling the root to survive in the longer term.

- Backfilling outside the constructed highway limits should be carried out using the excavated soil. This should not be compacted but lightly "tamped" and usually left slightly proud of the surrounding surface to allow natural settlement. Other materials should not be incorporated into the backfill.

4.1.6 **Additional Precautions near Trees**

- Movement of heavy mechanical plant (excavators etc.) must not be undertaken within the Prohibited Zone and should be avoided within the Precautionary Zone, except on existing hard surfaces, in order to prevent unnecessary compaction of the soil. This is particularly important on soils with a high proportion of clay. Spoil or material must not be stored within the Prohibited Zone and should be avoided within the Precautionary Zone.

- Where it is absolutely necessary to use mechanical plant within the Precautionary Zone care should be taken to avoid impact damage to the trunk and branches. A tree must not be used as an end-stop for paving slabs or other materials nor for security chaining of mechanical plant. If the trunk or branches of a tree are damaged in any way advice should be sought from the local authority tree officer / arboriculturist.

See TABLE 1 –'Prevention of Damage to Trees Below Ground' below for summary details regarding causes and types of damage to trees and the implications of the damage and the necessary precautions to be taken to avoid damage.

TABLE 1 - Prevention of Damage to Trees Below Ground

Causes of Damage	Type of Damage	Implications to Tree	Precautions
Trenching, mechanical digging etc.	Root severance	• The tree may fall over • Death of the root beyond the point of damage • Potential risk of infection of the tree The larger the root the greater the impact on the tree.	Hand excavate only within the Precautionary Zone. Work carefully around roots. Do not cut roots over 25mm in diameter without referring to the local authority tree officer. For roots less than 25mm in diameter use a sharp tool and make a clean cut leaving as small a wound as possible.
Trenching, mechanical digging, top soil surface removal etc.	Root bark damage	• The tree may fall over • If the damage circles the root it will cause the death of the root beyond that point • Potential risk of infection of the tree The larger the root the greater the impact on the tree.	Do not use mechanical machinery to strip the top soil within the Precautionary Zone. Hand excavate only within the Precautionary Zone. Work carefully around roots. Do not cut roots over 25mm in diameter without referring to the local authority tree officer. For roots less than 25mm use a sharp tool and make a clean cut leaving as small a wound as possible.
Vehicle movement and plant use. Material storage within the precautionary area.	Soil compaction & water saturation	Restricts or prevents passage of gaseous diffusion through soil, the roots are asphyxiated and killed affecting the whole tree.	Prevent all vehicle movement, plant use or material storage within the Precautionary Zone.
Top-soil scouring, excavation or banking up.	Alterations in soil level causing compaction or exposure of roots.	Lowering levels strips out the mass of roots over a wide area. Raising soil levels asphyxiates roots and has the same effect as soil compaction.	Avoid altering or disturbing soil levels within the Precautionary Zone.
Use of herbicides.	Poisoning of the tree via root absorption	• Death of the whole tree • Death of individual branches Damage to leaves and shoots.	The selection and application of herbicides must be undertaken by a competent person in accordance with COSHH regulations.
Spillage of oils or other materials.	Contamination of soil	Toxic and asphyxiation effects of chemicals, oils, building materials (cement, plaster, additives etc.) on the root system can kill the tree.	Never store oils, chemicals or building materials within the Precautionary Zone or within the branch spread of a tree, which ever is the greater.
Placement or replacement of underground apparatus.	Various	Death of all or part of the tree.	Effective planning and liaison with local authority tree officer, taking into consideration the position of trees, and their future growth potential and management

4.2 Above Ground

4.2.1 Damage by Pruning

Trees (including shrubs and hedges) can be damaged by inappropriate or excessive pruning. Reference should be made to the Energy Networks Association (ENA) document "Engineering Technical Report 136 Vegetation Management near Electricity Equipment – Principles of Good Practice" (see section 8 – 'Other Useful Publications') or appropriate company specific documentation for guidance on pruning.

See TABLE 2 – 'Prevention of Damage to Trees Above Ground' below for summary details regarding causes and types of damage to trees and the implications of the damage and the necessary precautions to be taken to avoid damage.

TABLE 2 - Prevention of Damage to Trees Above Ground

Causes of Damage	Type of Damage	Implications for the Tree	Precautions
Impact by vehicle or plant Physical attachment of signs or hoardings to the trunk Storage of materials at base of tree Rubbing by winch or pulling cables	Bark bruising, bark removal, damage to the wood, damage to buttress roots, abrasion to trunk	Wounding with the potential for infection ultimately resulting in death of all or part of the tree. Structural failure of the tree	Surround the trunk with protective free-standing barrier. Exclude vehicles, plant or material storage from the Precautionary Zone. Ensure sufficient clearance of cables or ropes.
Impact by vehicle or plant Rubbing by overhead cables	Bark damage to branches, breakage and splitting of branches, abrasion to branches	Structural failure of the branch. Wounding or loss of a branch with the potential for infection ultimately resulting in death of all or part of the branch or tree.	Exclude vehicles, plant or material storage from the Precautionary Zone. Ensure sufficient clearance of cables or ropes. All pruning should be carried out in accordance with BS3998 *(prune affected branches to give appropriate clearance from cables)*
Inappropriate siting of overhead apparatus, such as CCTV, lighting fixtures and communications masts and dishes.	Inappropriate pruning, unnecessary tree removal	Severely pruning tree to acquire line of sight signal for communications dish etc.	Effective planning and liaison with local authority tree officer / arboriculturist, taking into consideration the position of trees, and their future growth potential and management.
Lack of forethought in design and location of apparatus and services entries on new developments	Complete tree removal	The tree is removed unnecessarily	Agree the location and installation of services at the design stage. Consideration should be given to the creation of dedicated service routes wherever possible.
Use of herbicides	Poisoning of the tree via absorption through bark, leaves and shoots	Death of the whole tree, death of individual branches, damage to leaves and shoots	The selection and application of herbicides must be undertaken by a competent person in accordance with COSHH regulations.

Appendix 4: Programme of Site Monitoring

Firs Farm, Copthorne Common Road, Copthorne
Site Monitoring Form

To be completed by the named arboriculturist and emailed to the client and tree officer at the completion of each operation.

Arboriculturist……

Client……

Project Manager……

Tree Officer……

(The above to be filled in with names and contact numbers)

OPERATION	TIMING	DATE	COMMENTS
Pre-commencement meeting or contact with project/site manager.	Before any works or pre-works on site, including storage of materials		
Site visit to check tree protection barrier is as specified and in the correct location	Before demolition begins on site		
Spot check of relocated tree protection measures following demolition	Before construction begins on site		
Spot check of no dig construction of hard surfaces within RPA of retained trees	During ground works		
Completion of development	Once all construction activity has been completed		