

Tree Condition Report
Arboricultural Impact Assessment



Church View, School Lane, Bronington, Whitchurch, SY13 3HN

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1.0 Remit

Inspect the condition of trees within and adjacent to the proposed development. Provide an Arboricultural Impact Assessment, Method Statement and Tree Protection Plan to BS5837 (2012) 'Trees in relation to design, demolition and construction – Recommendations'.

2.0 Report limitations

The tree condition conclusion and recommendations in this report are valid for a period of one year, or a lesser period where indicated in the report. All trees are susceptible to exceptional weather events or deterioration resulting from other environmental changes in close proximity to the tree. The evaluation is based upon Visual Tree Assessment (Mattheck & Breloer 2001). Observations have been made from ground level with the aid of binoculars.

2.1 Statutory Obligations

Bats and the Law (Woodland Management for Bats 2005) 'The Wildlife and Countryside Act 1981 makes it an offence to disturb, damage or destroy bats or their roosts. The Act applies in both England & Wales and requires consultation with the appropriate SNCO before carrying out activities which might harm or disturb bats or their roosts.

The Act is amended by the CROW Act 2000. This adds recklessness to the offence of damaging or destroying a place a bat uses for shelter or disturbing a bat while using a roost.

The Conservation (Natural Habitats Regulations 1994) implements the European Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992, amended August 2007 & Oct 2010. Under the regulations, damaging or destroying a breeding site or resting place is an absolute offence, regardless of whether the act of doing so may be regarded as reckless, deliberate or incidental.

Wild Birds (Mynors 2002) The Primary legislation affecting wild birds in England, Scotland and Wales is the Wildlife and Countryside Act 1981 (as amended). In January 2001 the Countryside and Rights of Way Act 2000 (CROW) included amendments, which strengthened the law in

England and Wales. The basic principle of the Wildlife and Countryside Act 1981 (as amended) is that all wild birds, their nests and eggs, are protected by law and some rare species are afforded special protection. There are certain exemptions to this notably in respect of wildfowl, game birds and various species that may cause damage. (Cowan 2002)

Felling licence: Subject to tree size, location, condition and other Statutory protection, or prior planning approval, not more than 5m³ of timber can be felled in any Calendar quarter without first obtaining a Forestry Commission (FC) felling licence. Failure to obtain a licence where required is a prosecutable offence. Detailed information including exemptions can be found on the FC web site.

Conservation Area and Tree Protection Orders: The Local Authority protects trees within the district by the use of and administration of Tree Preservation Orders (TPOs). Trees can also be protected if they are within a Conservation Area. TPOs are used to protect trees (including areas of woodland) where their removal would have a significant impact on the local environment and its enjoyment by the public. TPOs prohibit the cutting down, uprooting, wilful damage or destruction of trees. Any works to a tree(s) protected by a TPO or falling within a Conservation Area first requires the consent of the Local Authority.

It is a prosecutable offence to carry out work to a tree protected by a TPO, or remove it, without the prior consent of the Local Authority. Detailed information including exemptions can be found on the Local Authority web site.

2.2 Tree Condition Survey

Inspection method: Visual Tree Assessment (VTA) from ground level.

Location: Church View, School Lane, Bronington, Whitchurch, SY13 3HN

Inspection Date: 24.05.2021

Protection Status: No TPO's are register within or adjacent to the site.

Limitations: Trees and shrubs have been identified, current height measured to the nearest metre and ultimate height assessed with reference to The Hillier Manual of Trees and Shrubs. A Visual Tree Assessment (VTA) has been carried out on trees in, or adjacent to, the development site. Refer to proposed site layout drawing for tree locations. The risk assessment and recommendations are valid for a period of one year. No detection equipment has been used other than a sounding hammer and metal probe.

NB. All trees are at risk of failure through exceptional weather conditions.

2.3 Methodology

The survey methodology followed best practice guidelines published by the Arboricultural Association (Fay et al., 2005) and additional guidance given in BS5837:2012. All plant names are taken from Johnson and More (2004) or Stace (2010). The following parameters were recorded for each tree (T#), group (G#) or hedge (H#):

- Height;
- Stem Diameter at Breast Height (DBH) – measured according to Annex C of BS5837:2012;
- Crown spread – in the four cardinal directions;
- Direction and height of the lowest branch (if the growth form allows);
- Lowest height of crown clearance;
- Age class – Young (Y), Semi-Mature (SM), Early Mature (EM), Mature (M), Overmature (OM) or Veteran (V).

The radius of the Root Protection Area (RPA) for each tree is given. For a single stemmed tree, the RPA radius = the DBH × 12; for multiple stems, the RPA radius = the combined DBH × 12. To calculate the combined DBH of a multi-stemmed tree: -

EITHER $\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 + \dots + (\text{stem diameter } 5)^2}$ (for up to 5 stems);

OR $\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$ (for more than 5 stems)

Tree condition was evaluated using the Visual Tree Assessment (VTA) protocol described by Lonsdale (1999), and augmented by Mattheck & Breloer (1998) and Strouts & Winter (1998). This involves a systematic, non-invasive, ground-based examination of each tree (aided by binoculars), looking for signs of ill-health, vulnerability or damage and their causes.

The likely remaining contribution of each tree was noted: <10, 10-20, 20-40 or >40 years. This can only be an informed opinion based on the surveyors experience and the current condition of the tree, and obviously cannot take account of catastrophic weather conditions or other stochastic events.

The current value of the trees is assessed in the Arboricultural Impact Assessment section (Section 4) using the quality categorisation scale published in BS5837: Categories A, B, C or U, ranging from high quality (A) to low quality (or DBH <150mm) (C), based on arboricultural, landscape and cultural value (including conservation). Category U trees are considered to be unsafe for arboricultural reason, and should be removed.

3.0 Arboricultural Data

Reference Number	Species	DBH (mm)	Height (m)	Age	Average Crown Spread (m)	Crown Clearance (m)	Comments	Estimated remaining contribution	Tree Quality category rating
G1	Green Privet	-	3.0	Early Mature	See Plan	0.0	Group of green privet shrub planting. Low value group.	10-20	C3
T1	Holly	200	3.0	Mature	1.0	1.5	Single stem at ground level with mutli-stems at 1.5m due to unsympathetic past pruning. Partially suppressed by tree above.	10-20	C2
T2	Silver Birch	350	5.0	Semi Mature	3.5	2	Single-stemmed with an upright stem and a balanced crown. No previous pruning. No major visible defects.	20-40	B1
T3	Laurel	-	2	Young	1.5	0.0	Multi stemmed at ground level. No previous pruning. No major visible defects.	10-20	C2
T4	Leylandii 'Haggerton Grey'	400	5.5	Mature	2.0	0.0	Single stemmed at ground level with no significant pruning.	10-20	C2
T5	Leylandii	250	1.5	Semi Mature	1.5	0.0	Single stemmed at ground level with no significant pruning.	10-20	C2
G2	Green Privet	-	3.0	Early Mature	See Plan	0.0	Group of green privet shrub planting. Low value group.	10-20	C3
T6	Leylandii	200	2.0	Semi Mature	1.5	0.0	Single stemmed at ground level with no significant pruning.	10-20	C2
T7	Stump	n/a	n/a	n/a	n/a	n/a	Proposed that the stump is removed.	n/a	n/a
T8	Holly	50	2.0	Young	0.5	1.0	Single-stemmed with an upright stem and a balanced crown. No previous pruning. No major visible defects.	20-40	C3
T9	Cherry	50	2.5	Young	1.0	1.5	Single-stemmed with an upright stem and a balanced crown. No previous pruning. No major visible defects.	20-40	C3
G3	Laurel	-	1.5	Young	See Plan	0.0	Group of laurel shrub planting. Low value group.	10-20	C3

T10	Rowan	220	7.5	Semi Mature	5.0	2.5	Single-stemmed with an upright stem and a balanced crown. No previous pruning. No major visible defects.	20-40	B1
T11	Holly	50	1.5	Young	0.5	1	Single-stemmed with an upright stem and a balanced crown. No previous pruning. No major visible defects.	20-40	C3
T12	Crab apple	180 comb	2.0	Semi Mature	1.5	0.5	Multi-stemmed at ground level; with a spreading, slightly unbalanced crown. No significant pruning. No major visible defects.	10-20	C2
T13	Stump	n/a	n/a	n/a	n/a	n/a	Proposed that the stump is removed.	n/a	n/a
T14	Stump	n/a	n/a	n/a	n/a	n/a	Proposed that the stump is removed.	n/a	n/a
T15	Beech	150	5.5	Early Mature	3.0	1.5	Single-stemmed with an upright stem and a balanced crown. No previous pruning. No major visible defects.	20-40	B1
T16	Leylandii 'gold'	200 comb	5.5	Early Mature	1.5	1.0	Twin stemmed at ground level. No significant pruning. Crossing branches in crown of tree.	10-20	C3
T17	Beech	420 comb	3.5	Early Mature	2.0	-	Multi stemmed at ground level. Significant historic pruning has resulted in heavily unbalanced growth. No high value specimens present.	<10	U
T18	Stump	n/a	n/a	n/a	n/a	n/a	Proposed that the stump is removed.	n/a	n/a
T19	Beech	450 comb	3.5	Early Mature	2.0	-	Multi stemmed at ground level. Significant historic pruning has resulted in heavily unbalanced growth. No high value specimens present.	<10	U
T20	Beech	570 comb	3.5	Early Mature	2.0	-	Multi stemmed at ground level. Significant historic pruning has resulted in heavily unbalanced growth. No high value specimens present.	<10	U
G4	Mixed Species	-	3.0	Early Mature	See plan	1.0	Row of semi-mature screening trees of generally low quality and value as individuals which looked to form original hedge along boundary. Group includes beech and Sycamore. Significant historic pruning has resulted in heavily unbalanced growth. No high value specimens present.	<10	U

G5	Green Privet	-	2.0	Early Mature	See Plan	0.0	Group of green privet shrub planting. Low value group.	10-20	C3
G6	Mixed Species	-	4.5	Early/Semi Mature	See plan	1.0	Group of semi-mature screening trees of generally low quality and value as individuals. Group includes beech, Sycamore, Hawthorn, Holly and Silver Birch. No high value specimens present. Dense Ivy to stems throughout.	10-20	C2
G7	Mixed Species	-	4.0	Early/Semi Mature	See plan	0.0	Group of mixed garden tree and shrubs of low quality and value. Group includes privet, buddleia, holly, rose and laurel.	10-20	C3
H1	Mixed Species	-	3.0	Early Mature	-	0.0	A regular clipped garden hedge which included Laylandii and holly	10-20	C2
T21 (on neighbouring property)	Laylandii 'gold'	225	6.0	Mature	3.0	1.0	Single stem at ground level. No significant pruning.	10-20	C2
T22 (on neighbouring property)	Laylandii 'gold'	450 comb	6.0	Mature	3.0	1.0	Twin stemmed at ground level. No significant pruning. Crossing branches in crown of tree.	10-20	C2
T23 (on neighbouring property)	Scot Pine	300	7.0	Early Mature	3.5	2.0	Single-stemmed with a slight lean east and an unbalanced crown. No significant pruning. Deadwood in lower crown. Major crossing branches in union. Poor form. Situated below utility wires.	20-40	B1
G9	Mixed Species	-	2.0	Early Mature	See plan	0.0	Group of mixed garden tree and shrubs of low quality and value. Group includes privet, buddleia, holly, and laurel.	10-20	C2
G10	Laurel	-	2.5	Early Mature	See plan	0.0	Group of Laurel planting. Low value group.	10-20	C2

Species

Common Name	Latin Name
Green Privet	Ligustrum Ovalifolium Evergreen
Leylandii 'Haggerton Grey'	Cupressocyparis Leylandii
Common Beech	Fagus sylvatica
Holly	<i>Ilex aquifolium</i>
Wild Cherry	<i>Prunus avium</i>
Leylandii 'gold'	Cuprocyparis leylandii - Gold Leylandii
Crab apple	Malus sylvestris
Rowan	<i>Sorbus aucuparia</i>
Laurel	Laurus nobilis
Scot Pine	Pinus sylvestris

4.0 Arboricultural Impact Assessment (AIA)

Overview of the development

The proposed development of the site has been developed to facilitate the retention a large percentage of the boundary trees and vegetation. This is to maintain the existing screened nature of the site and provide a mature setting for the new and redeveloped existing property.

The proposed trees and shrubs to be removed on the site are predominantly small garden specimens or outgrown internal screening groups and are listed in the table below.

All other site trees are to be retained and protected from development impacts through tree protection fencing, as detailed in the accompanying Arboricultural Method Statement (AMS).

Tree Type	Number	Tree/Group Reference
Category A trees	0	None
Category B trees	0	None
Category C trees/groups	10	T4, T5, T6, T8, T9, T11, T12, T16, G4, G5, G2, H1 (part of)
Category U trees/ groups	3	T17, T19 & T20

The proposed new dwelling will be accessed from the existing vehicular and pedestrian access into the site and as such no new entrance through the existing boundary vegetation is to be created.

Neither re-routing of existing services nor provision of new services is to be undertaken within the RPA of any retained tree as part of the proposed development; no adverse impacts on any tree are therefore expected in relation to service provision within the site.

General construction works have the potential to adversely affect trees through activities such as repeat vehicle movements leading to ground compaction within the rooting zone, storage and spillage of chemicals or materials hazardous to tree health, physical damage to stems and branches by construction machinery and root severance during the installation of boundary treatments (e.g. fences) or services. All these activities will be managed and controlled to avoid adverse impacts on trees through the accompanying Arboricultural Method Statement for the site, submitted alongside this report

Summary

Whilst a number of trees will be lost in order to facilitate the development on the site, these comprise predominantly small garden specimens or outgrown internal screening groups of low quality and value. The amenity value of trees to be removed is minimal, being largely hidden from view or only partially visible through retained plantings.

With key trees along site boundaries retained and construction activity managed through implementation of an Arboricultural Method Statement, no adverse impact on the arboricultural amenity is envisaged as a result of the proposed development of the site.

5.0 General Arboricultural Method Statement ref. BS 5837 (2012)

The root protection area (RPA)

The root protection area (RPA) recommendation in BS 5837 2012 (Trees in relation to design, demolition and construction – Recommendations), is based upon a minimum area (in m²) calculated from the measurement of the stem diameter and a factor of the radial distance between the tree stem and the outer extent of the main lateral roots. The resulting area is usually recorded as a generalised circle on the tree survey. However, the significant figure is the equivalent available rooting area in m² rather than the circular shape; tree roots exploit the optimum ground conditions for their physical development dependent upon soil aeration, plant-available water, mineral elements and physical barriers to growth. Providing the total minimum area in m² recommended in the RPA is available to the tree, the actual shape of the area is less significant, providing it can be demonstrated that the construction process will not result in significant damage to existing roots greater than 25mm in diameter. 'The viable retention of trees on construction sites is dictated by the successful protection of their root systems throughout the development process from initial site clearance to installation of the new landscape. Healthy soils contain five basic components: oxygen, organic matter, mineral matter, living organisms and moisture. A soil's porosity allows water to drain through, carbon dioxide to escape and oxygen to enter. Construction vehicles operating on exposed soils, particularly in wet conditions, compact the soil pores and prevent these processes from occurring' (Cowan 2005)

Protective Fencing

- i. Protective barriers should be erected with verticals positioned to avoid the lateral roots of the larger trees. Refer to BS 5837 (2012) figure 3 Protective barrier for details of the recommended specification.
- ii. The barrier and ground protection shall be maintained in a satisfactory condition throughout the duration of development. There is to be no access or operations of any kind within the barrier, nor repositioning of the barrier even temporarily, without the prior written approval of the LPA.
- iii. The inclusion of all-weather notices to be attached to every third panel of the tree protection fence stating that the fence is a tree protection fence and the zone beyond it is a construction exclusion zone.

Appendix 1 Photographs



Photo 1: G1 adjacent to the existing property



Photo 2: T1 – T3 in the north east corner of the site



Photo 3: T4– T5 on the northern boundary of the site.



Photo 4: T6 on the northern boundary of the site.



Photo 5: G2 in the centre of the site behind the existing property

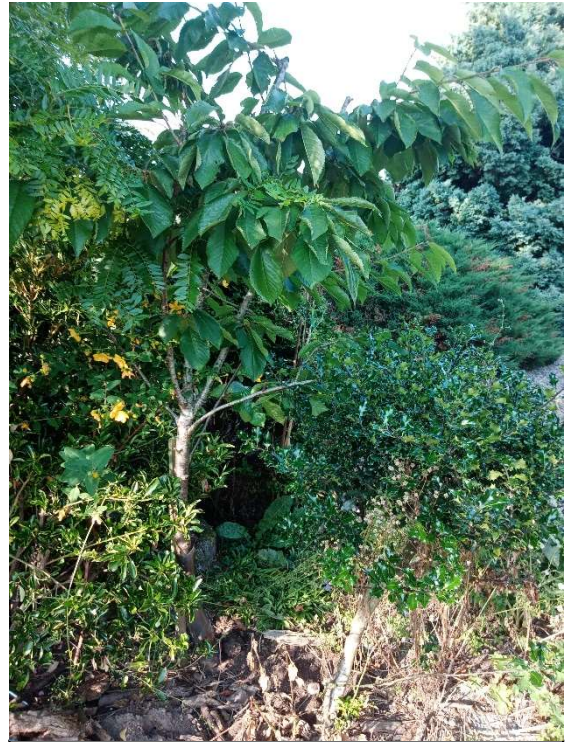


Photo 6: T8 & T9 located centrally along the northern boundary of the site.



Photo 7: T8 – T12 along the northern boundary of the site.



Photo 8: T13 – T16 located in the north western corner of the site.

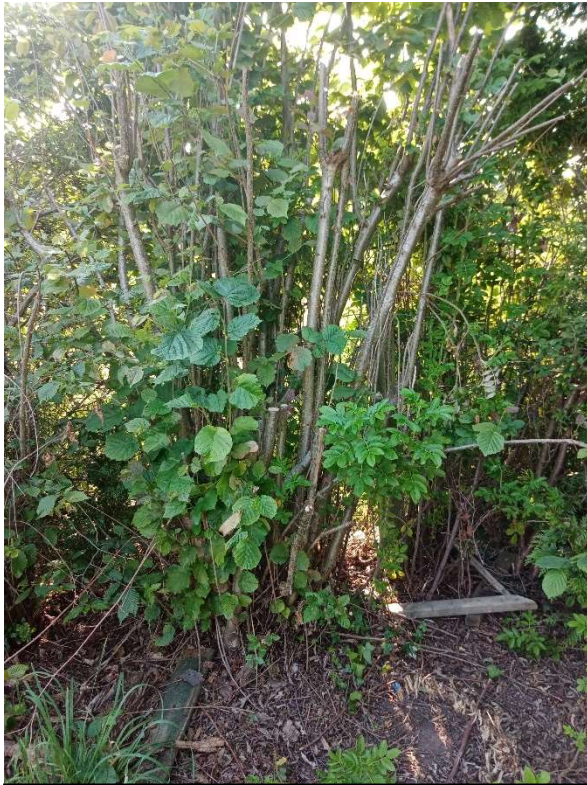


Photo 9: T19 located on the western boundary of the site.



Photo 10: G4 on the western boundary of the site with G6 behind on the neighbouring land.



Photo 11: G7 on the south west boundary of the site.



Photo 12: H1 on the south east boundary of the site.



Photo 13: T22 & G8 on the southern end of the eastern boundary of the site.



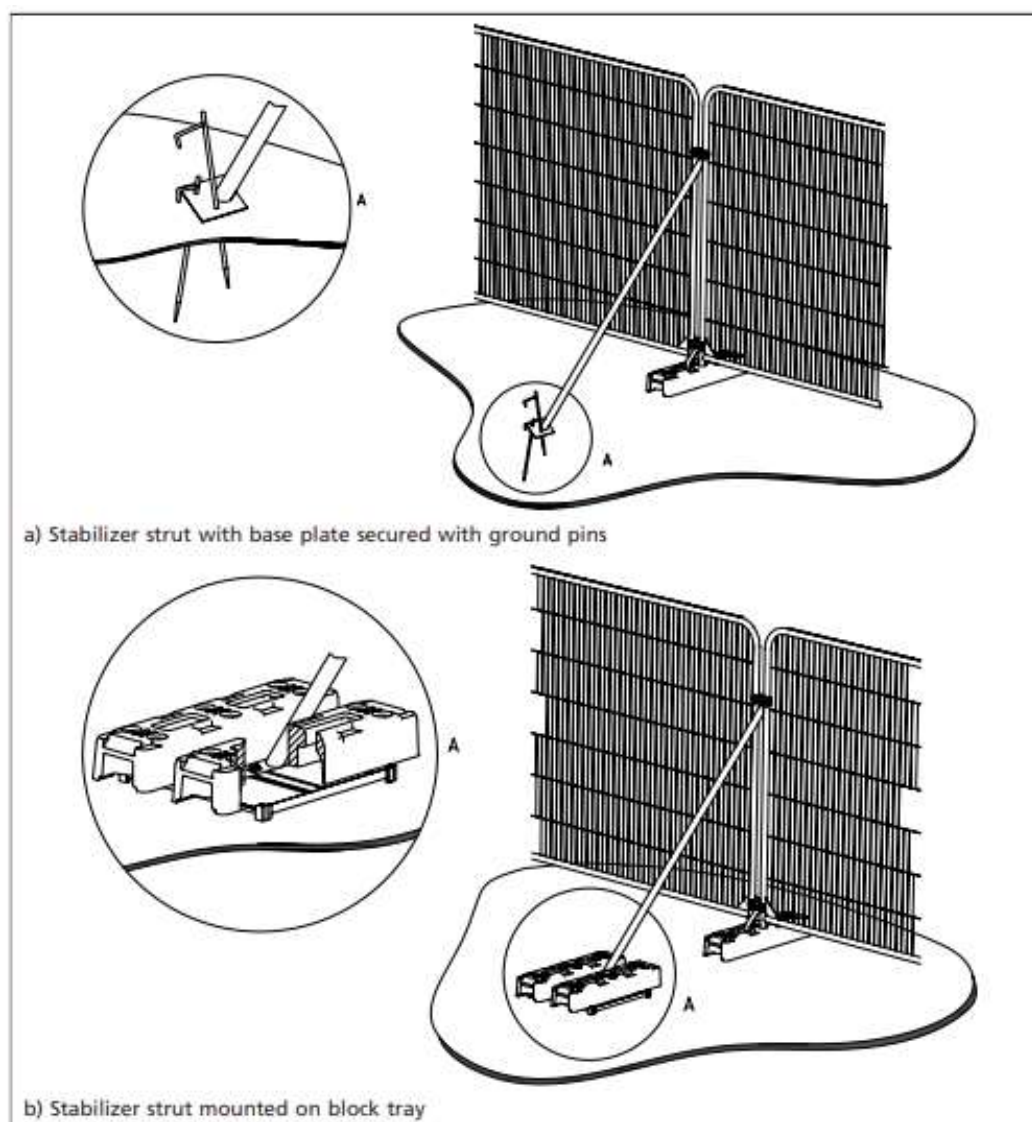
Photo 14: T21-T23 on the neighbouring property adjacent to the south east corner of the site.



Photo 15: G8 & G9 along the eastern boundary of the site.



Photo 16: G5 adjacent to the existing garage and workshop building.



6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

6.2.3.2 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 measures prior to work starting on site.

6.2.3.3 New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
- b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
- c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

6.2.3.4 The locations of and design for temporary ground protection should be shown on the tree protection plan and detailed within the arboricultural method statement (see 6.1).

6.2.3.5 In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

6.2.4 Additional precautions outside the exclusion zone

6.2.4.1 Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance.

NOTE In some instances, local planning authority consent for pruning might be required.

6.2.4.2 Fires on sites should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be taken into account when determining its location, and it should be attended at all times until safe enough to leave.

NOTE Local environmental health authorities might have specific restrictions.

6.2.4.3 Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA.

Appendix 4 Glossary of Arboricultural Terms

Adaptive Growth: Woundwood.	New strengthening woody growth in response to loss of tissue through decay or physical damage
Age Class: Young	Up to 1/3rd life expectancy
Early-mature	Between 1/3rd and 2/3rds life expectancy
Mature	Over 2/3rds life expectancy
Late-mature	Onset of natural limb loss; increase in dysfunctional tissue
Over-mature	Declining or moribund trees of low vigour. NB Late-mature and over-mature trees are more prone to structural failure than young or early-mature trees.
Breakout:	Loss of a limb usually close to the junction the main stem or scaffold limb
Branch bark ridge:	Natural feature in the axil of the branch providing a simple guide for locating the best position for the top edge of a pruning cut.
Buttressing:	Root flare at the base of the stem
Crown dieback:	Significant loss of foliage throughout the crown; often the result of root damage. Usually indicating a tree in decline.
Deadwood:	Dead secondary branching persisting on the scaffold limbs. Minor deadwood 50mm present a greater hazard and is a greater risk of failure in trees without durable heartwood e.g. Lime and ash. Deadwood which is not presenting a hazard to the highway is excluded from the inspection report. Deadwood stubs: Prevent the sealing of the wound site, providing sites of decay and increasing risk of limb failure.
Epicormic Response:	Growth of dormant buds on areas of the stem or scaffold limbs effected by loss of woody tissue or foliage. New woody tissue is laid down in areas of vigorous epicormic growth.
Included bark:	Weak regions of bark-to-bark contact at the stem or branch junctions.
Retrenchment:	Describes the response in new growth in the lower crown, following dieback in the upper crown. A feature of some over-mature trees, enabling survival into great age (veteran trees)
Scaffold limbs:	1 st order limbs; the major limbs supporting the secondary branching or 2nd & 3rd order branches
Soil Heave:	Raised lateral roots or loosened soil surrounding the base of the tree.

References and main literature sources

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