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Arboricultural Impact Assessment

**Ballymany
Newbridge
Co. Kildare**

Client:

Briargate Developments Newbridge LTD

Authored by qualified Arborist Kevin Lawlor in February 2022

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1.0 Introduction

Lawlor Landscapes and qualified Arborist Kevin Lawlor have been engaged by **Briargate Developments Newbridge LTD** assess the Impact of trees within or bordering the site for development and the practical measures to be taken guided by BS5837:2012 on the site at Ballymany, Newbridge, Co. Kildare. This Assessment relates to **Phases 2 - 7** and the link road under construction at the proposed development on these lands.

Date: February 2022



Figure 1 – full extents of lands being developed

- 1.1 Extent of Lands for development between the R445 approach road to Newbridge to the south of the site (right hand side above) and the Standhouse Road to the north of the site (left hand side above)
- 1.2 The focal point of the Tree Survey and Tree Constraints plans have been regarding the mature trees on the western Boundary – the line of trees above between the blue line and the green agricultural fields in the picture above.
- 1.3 This Arboricultural Impact Assessment refers to Phases 2 - 7 of the proposed Development and the Link Road that has planning permission.
- 1.4 The site is former quarried land in the south sections of the site, with stands of quarried material, and some mixed agricultural land and scrub land to the north.
- 1.5 There will be minimal disruption to existing trees by the development and only 1 tree is being recommended for removal as part of the removal of the northern hedgerow on the Standhouse Road.

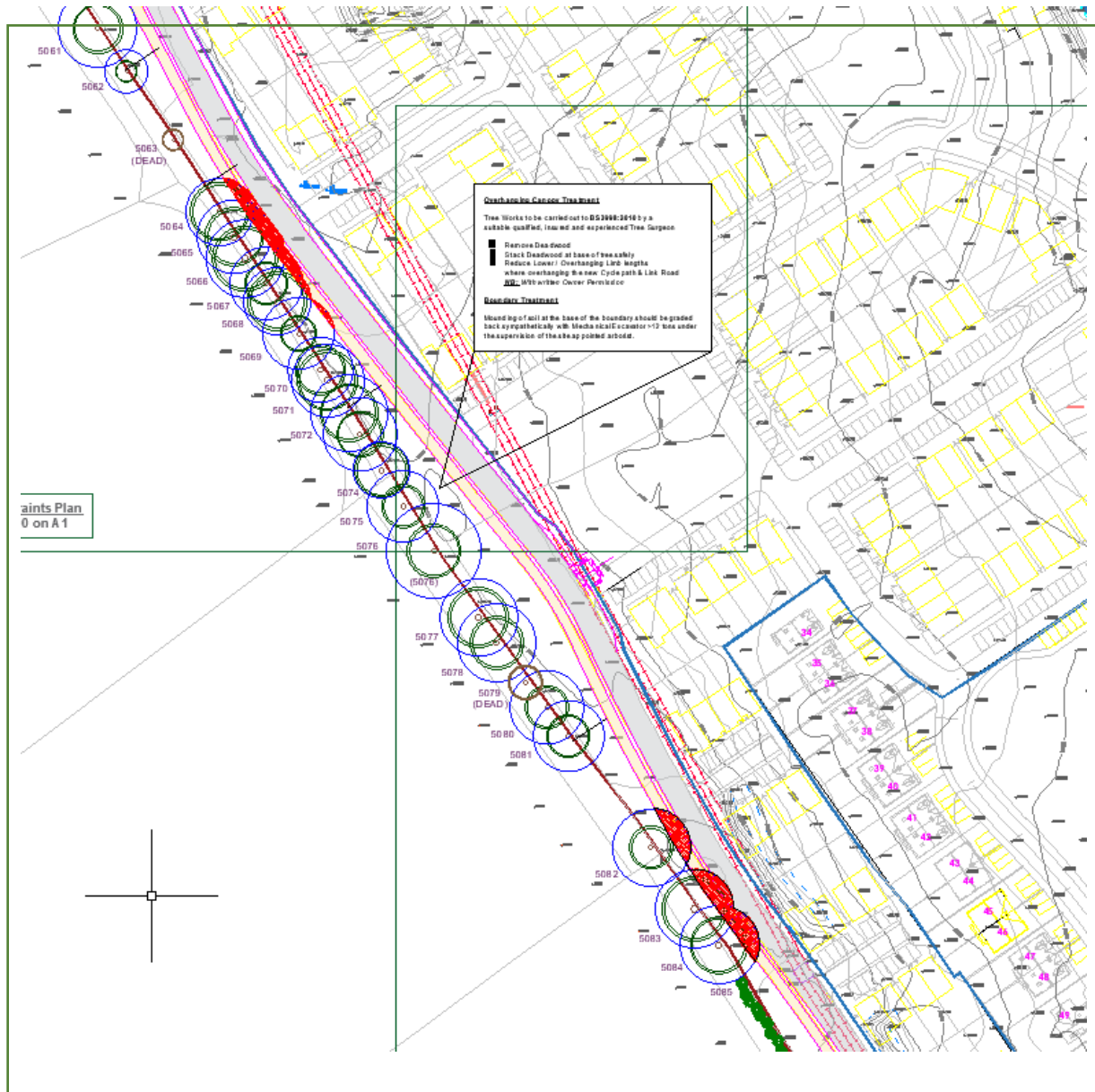


Figure 2 Main interaction of the Development with Existing Trees along the Western Boundary

2.0 Limitations of Report

- 2.1 This report was carried out on a visual basis with supporting photographs, where deemed appropriate. Any reference to condition of trees is accurate at the time of survey and is based on a visual non-invasive inspection from the ground up.
- 2.2 Tree conditions may change due to weather events such a snowfall or high winds causing damage. Tree Welfare may not be noted due to some diseases or rot in a tree may not be visible, and therefore may not be reported.
- 2.3 Regular inspections are advised in the case where land use is changing or during development works to ensure that trees valuable to the property are being properly protected.
- 2.4 Kevin Lawlor and Lawlor Landscapes do not accept any responsibility for damage to property or injury to persons by trees surveyed in this report. Any tree works are to be carried out to BS3998:2012 by a qualified and adequately insured professional tree worker / company. The appointment of a tree professional and the onus to obtain proof of insurance and qualification is solely the responsibility of the tree owner or developer with permission of the tree owner.

3.0 Methodology

- 3.1 The inspection for the Tree Survey was carried out visually and, in the context, of future development on the entire site. This report is supported by pictures taken to outline particular areas for consideration.
- 3.2 The trees have been assessed using the current recommendations, as detailed in British Standard 5837 : 2012 '*Trees in relation to Design, Demolition & Construction – Recommendations*', in order to arrive at a Retention Category for each individual tree or group of trees. A Root Protection Area (RPA) has been assigned to each tree (where appropriate) based on its stem diameter and in some cases crown spread.
- 3.3 For full details of the relevant assessment criteria and retention categories see Table 1 of B.S. 5837 (*attached as appendix 1*).
- 3.4 Separate Tree Constraints Plans and Tree Protection Plans will be prepared in conjunction with this tree survey report
- 3.5 This report is based on tagging done for previous survey dated 2016

4.0 Site Context

- 4.1 Survey of trees includes trees on the neighbouring property along the western boundary. The Hedgerow along the section of the northern boundary beside the Standhouse road will be removed as permitted under Ref. 16/658 to facilitate the Link Road with current planning permission. The hedgerows to the rear of the existing properties at the northern end of the site are not on the development property.
- 4.2 Trees along the R445 have been detailed in the planning permission submitted to Kildare County Council for Phase 1 of the proposed development on these lands.
- 4.3 Extensive protection of the western boundary trees will be detailed in a separate Tree Protection Plan in order to protect the trees along this boundary as they contain many valuable trees including several Veteran *Quercus robur* (Common Oak).
- 4.4 A link road is currently being constructed along the Western side of the development that will be carried out with due consideration to the RPA of the trees.

5.0 Summary of Tree Survey

- 5.1 General breakdown of trees surveyed below

Retention Category (BS 5837: 2012)	Number of Individual Trees	Number of Groups of Trees	Number of Hedgerows
Category A High Quality	26 no.		None
Category B Moderate Quality	none	1no.	1no.
Category C Low Quality	2 no.	none	none
Category U REMOVE	1 no.	none	none

Totals	29 no.	1 no.	1 no.
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- 5.2 Where trees have been put into a Category based on the Cascade Chart from BS5837:2012 an assessment has been made independent of the future development in order to get a realistic impression of the tree in its current state.
- 5.3 All Category U trees should be removed, irrespective of any development proposals, for sound arboricultural practice
- 5.4 Category C trees are not normally retained in the context of a development unless located in an area of the development that they do not represent a significant restraint on the proposal.
- 5.5 All Category A and Category B trees are retained under normal circumstances. These should inform and influence the design, site layout and in some cases the specific construction methods to be used. The root protection areas of these trees will generally form a Construction Exclusion Zone (CEZ) although in some circumstances construction may be possible with appropriate specifications to minimise compression of the root area. These specifications would need to be agreed with the Arborist, Client, Engineers/Architects and the local authority.

6.0 Arboricultural Impact of The Proposed Development

6.1 Trees to be Removed

It is recommended that the Ash (*Fraxinus excelsior*) Tag no. 5062 on the northern boundary is removed. It is overhanging the Standhouse Road and is positioned on a bank. In the light of the widespread disease Ash Dieback caused by *Hymenoscyphus fraxineus* this tree is unsustainable. The rate of decline by trees suffering from the dieback is uncertain due to it being a relatively recent disease however decline and eventual mechanical failure are inevitable.

- 6.2 The Hedgerow along the section of the northern boundary beside the Standhouse road will be removed as permitted under Ref. 16/658 to facilitate the Link Road with current planning permission.
- 6.3 Trees to be removed will be taken down by suitably qualified, experienced and insured tree surgeons to BS 3998:2010 prior to any works in that phase of the proposed development.
- 6.4 Link Road and Western Boundary Trees

Tree Protection has been proposed for these trees during general construction works. The cycle path to the west of the link road comes within the CEZ in some areas and a No Dig construction method should be proposed by the Site Engineer to ensure that the Root Protection Area is not disturbed or does not suffer long term effects from works.

Where the Link Road infringes on the RPA of 3 trees to the south a suitable solution will be proposed by the site engineer to minimise the impact of the road on the Roots of the trees 5082, 5083 and 5084.

- 6.5 Any works inside the RPA or CEZ are to be planned in consultation with and supervised by the Site Appointed Arborist.

7.0 Practical Recommendations

- 7.1 Along the Western Boundary many of the mature trees have had soil mounded at the base of the boundary. This is causing compaction of the root zone and some asphyxiation of the roots. This should be cleaned off under the supervision of the site arborist before the Tree Protection Fencing is installed.
- 7.2 Any limbs overhanging the development should be shortened and deadwood removed in the interest of safety. Deadwood should be placed safely at the base of the tree it is removed from. Permission should be sought from the tree owner before any tree works are carried out.
- 7.3 The agricultural fence that has been fixed to many of the trees should be removed as it is becoming included in the tree bark
- 7.4 All recommended tree works to be carried out to BS5837:2010 by a suitably qualified, experienced and insured tree surgeon

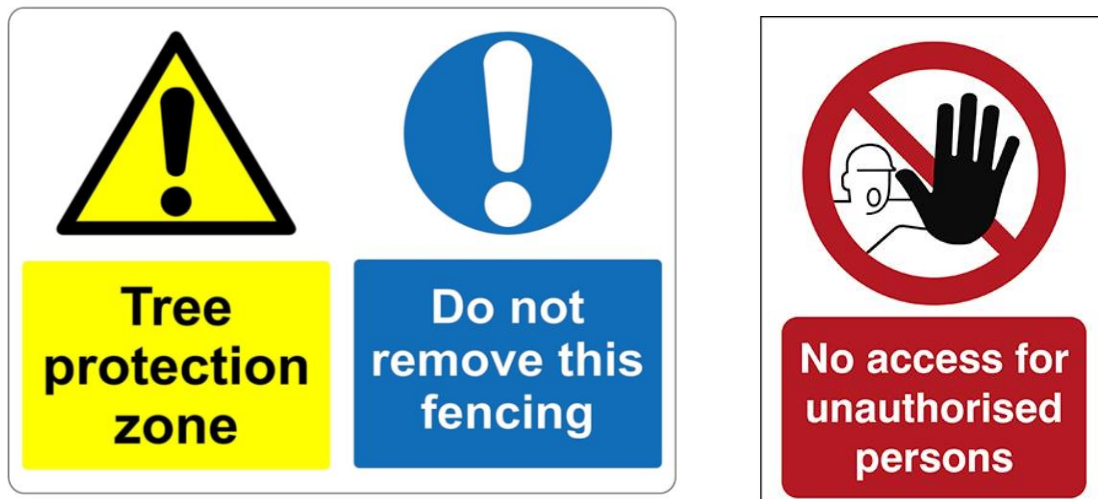
8.0 Tree Protection in accordance with BS 5837:2012

8.1 As set out in BS5837:2012 the RPA will be calculated by creating a circumference around the main stem of the tree 12 x the DBH (Diameter at Breast Height).

8.2 In order to protect this area the line of the proposed Tree Protection Fence will be kept outside the calculated RPA.

8.3 Where the tree is standing as an individual the Tree Protection Fence will be erected continuously around the tree. Where the trees are in a line, group or hedgerow the fence will be continuous where possible and return at the ends so as to prevent access to the RPA or Trees by any construction work or storage.

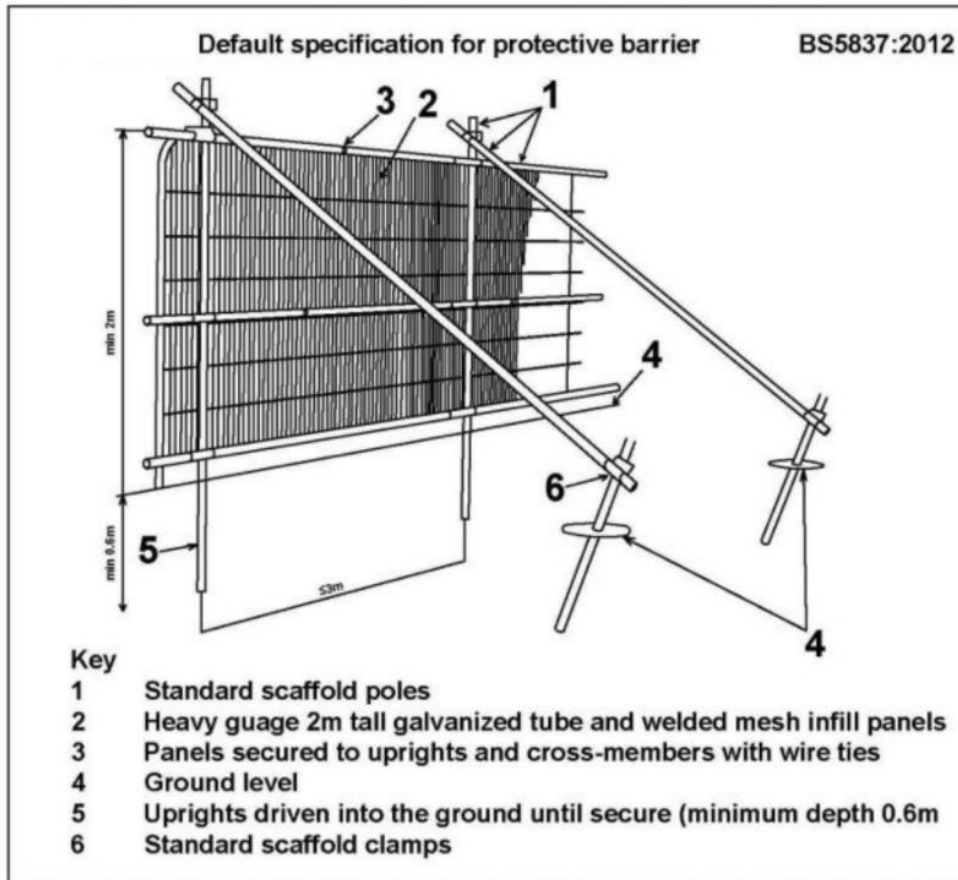
8.4 Suitable Signage is to be erected at regular intervals on the Tree Protection Fencing to clearly annotate its purpose. Examples below



8.5 Any access to the RPA or inside the Tree Protection Fence is to be gained under the supervision of the site-specific Arborist and a minimum of 5 days' notice must be given to allow time to arrange site presence.

8.6 Under no circumstances should the fencing be removed, opened or dismantled during construction works. Damaged fencing to be repaired within 2 hours. Fencing will be inspected upon monthly inspections by the Site Appointed Arborist.

8.7 Tree Protection Fencing Detail from BS5837:2012







8.8 Similar Acceptable for Small Sites



Appendix 1 – BS5837:2012 Chart for Tree Quality Assessment

BS5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i></p>	
	1 Mainly arboricultural qualities	2 Mainly landscape qualities
		3 Mainly cultural values, including conservation
Trees to be considered for retention		
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	

Appendix 2 – Glossary of Terms

AGL	Above ground level Usually used to describe the height at which a tree is crown lifted to AGL.
Arisings	Debris created resulting from tree work. e.g. twigs / branches / woodchips / logs / foliage.
BS3998:2010	British Standard Recommendations for Tree Work.
BS5837:2012	British Standard Recommendations for Trees in Relation to Construction
Cable Bracing	Installation of hardware or synthetic rope in a tree to provide supplemental support to weak branches or branch unions.
Cavity	Hole in a tree resulting from decay or damage.
Conservation Area	A protection order that means the LPA (Local Planning Authority) must be informed of any works to trees with a diameter over 75mm – there are some exemptions from this. The LPA then has 6 weeks in which to place a TPO should they object to the proposals. Heavy fines can be incurred if this procedure is not followed.
Coppice	The entire removal of the growth of a tree to a stump in order that the tree will re-generate. A traditional practice used to produce straight stems of wood in a regular cycle. Also used to create vigorous re-growth or reform certain growth forms. Only appropriate for certain species and ages of tree.
Crown / Canopy	The part of a tree that is composed of the branches and the foliage.
Crown Clean	Removal of dead, dying, diseased, crossing, epicormic and obviously hazardous branches.
Crown Lift	Removal of the lowest branches on a tree to raise the height of the lower canopy. This practice can greatly increase light as well as improving sightlines and views. Lifting may also be effective in helping create a feature of the bark or stem of a tree from what may have been an undefined form
Crown Thin	Selected branches are removed in a busy canopy to allow more light through.
Deadwood	This wood is often removed due to safety concerns or in order to create/maintain a feature tree. However it is important for the sustainability of wildlife. Where suitable it may be left on site in eco-piles.
Dieback	Condition in which the ends of the branches are dying.
CODIT	Compartmentalization Of Decay In Trees A concept created by Dr. Alex Shigo after years of studying tree decay patterns. Though disputed upon its introduction in the late 1970s, the concept is now widely accepted by modern arboriculture.
Epicormic Growth	Small re-growth or shoots

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Felling	A method used to remove a tree by cutting at the base and directing the whole tree to fall in a specific area.
Formative Prune	Pruning young trees to create a desired form or shape. The aim is most often to produce a tree that in maturity will be free from major physical weaknesses.
Hazard Beam	A large branch that shows signs of potential and probable failure.
Height Reduction	The top of the tree is reduced down to lower branches, usually specified in meters, so the height of the tree is reduced.
Included bark	Bark that is pushed inside a developing fork, causing a weakened structure.
Leader	The main upright stem or shoot at the centre of a tree.
Lion Tailing	A poor example of thinning where shoots along the entire length of a branch are removed leaving all the foliage at the end of the branch.
LPA	Local Planning Authority.
MEWP	Mobile Elevated Work Platform A machine used to access the tree when climbing is not suitable or safe to do so.
Overall Crown Reduction	The shortening of branches by a given amount, usually specified in meters, to reduce the size of the whole crown.
Pollarding	A pruning technique that begins on young trees, in which the tree crown is regularly cut back to bare branches. Used to maintain trees at a certain height and shape but must be begun when the tree is young. Only suitable for certain species.
Pruning	Cutting away unwanted or damaged parts of a plant
Reaction Wood	Wood formed, often as strengthening material, on a weakened part of the tree.
Reduction	A method of reducing the height and most often also the spread of a tree by cutting branches to laterals that are large enough to support the growth of the limb. The aim is to leave a natural shape. A good reduction should not look like it has been worked upon by an untrained eye.
Retrenchment Pruning	A technique that can be used to reduce the risk for a fully mature, late-mature or ancient tree to collapse or 'fall apart' under its own weight due to excessive end-loading on long or weakly attached limbs. It is also applicable to trees in decline.
Ringwood/ Rounds	If this wood is to be left on site it is usually done so in lengths that are able to be split with an axe.
Sail Area	The area of the tree that is affected by the wind.

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Scaffold Branches	The main structural branches within the crown of a tree.
Section Felled Free Fall	A method for removing trees when there is not enough space to fell the whole tree. The tree is cut down in sections which free fall down to the ground when it is not important to protect features beneath the tree.
Section Felled Rigged	A method for removing trees when there is not enough space to fell the whole tree. The tree is cut down in sections which is rigged to control the cut sections so not to damage features beneath the tree.
Selective Reduction	This is used where an overall reduction is unnecessary or inappropriate. The overall effect is usually to bring in branches that are outside the uniformity of the crown or those that are causing particular problems or concern.
Stem	The trunk of the tree.
Stump	The root flare of the stem which is left once a tree is removed.
Stump Grinding	The removal of a tree stump using a machine which grinds the stump away to allow re-turfing or replanting.
Sucker	Shoot arising from the roots.
Thinning	The removal of small branch growth from throughout the crown of a tree. This technique is used to provide air/light/wind penetration through the crown of a tree and to lighten the weight of the branches whilst maintaining the essential shape of the tree.
TPO	Tree Preservation Order. Proposed works to a tree with a TPO on it must be submitted to the LPA. They will then usually take up to 8 weeks in which to reach a decision. There are some exemptions from this. Heavy fines can be incurred if this procedure is not followed.
Tree Surgeon	Someone who carries out tree work but may not necessarily be an arborist
Veteran Tree	A veteran tree or legacy tree is a tree, which, because of its great age, size or condition, is of exceptional cultural, landscape or nature conservation value.
Whorl	A group of branches arising from the same level on a stem.
Windthrow/ Windblown	The failure of an entire tree due to the action of the wind.
Woodchip	Branchwood is processed through a machine called a Wood Chipper, which creates woodchip. This can be used in suppressing weeds, covering pathways or biomass.