### Appendix i – the benefit of trees.

The benefits provided by trees are significant, not only as a valuable timber resource but also due to the social, environmental and economic benefits they provide including;

- Mitigating climate change by acting as carbon storage and sequestration.
- Cooling the urban heat island effect.
- Improving air quality by reducing airborne and particulate pollution.
- Mitigating flood alleviation, storm water management and wind turbulence.
- Masking noise pollution and improving water quality
- Aiding the restoration of contaminated land and soil protection.
- Enhancing landscape character and providing cultural and historical interest.
- Providing health and wellbeing benefits.
- Providing amenity, shelter and aesthetic value.
- Providing ecological and biodiversity benefits.

#### Interesting facts about the benefit of trees

- Flowering bulbs such as bluebells have evolved their growth cycle to be in sync with the Oak tree's growth cycle to ensure the get enough light to flower.
- A diverse woodland structure from mature, veteran trees through to the
  microorganisms in the soil are all essential. Although trees within a woodland
  sequester carbon dioxide from the atmosphere, the ground flora including wild
  flowers and bulbs also play an enormous part in sequestering carbon dioxide
  from the atmosphere.
- Our most important woodlands are ancient woodlands which means they
  have been continually wooded since at least 1600AD. Some ancient woods
  link back to the original wildwood that covered the UK around 10,000 years
  ago, after the last Ice Age.
- Research has shown that it you can see a tree from your sick bed you are likely to need less drugs and have shorter hospital stays than those who see only a brick building wall. Ulrich (1984) <a href="https://pubmed.ncbi.nlm.nih.gov/6143402/">https://pubmed.ncbi.nlm.nih.gov/6143402/</a>
- Trees release scents and aromas that elicit a positive emotional response contributing to wellbeing
- Aspirin comes from Willow bark
- Taxol which is used in the treatment of some cancers comes from yew trees.
- Quinine is the basic ingredient for many anti-malarial drugs and is obtained from pine tree bark.
- Trees Increase value of property by 5-18 per cent (Forestry Commission the Case for Trees [2008])
   <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment</a> data/file/718033/eng-casefortrees.pdf;
- Woodchip and bio-fuel are a by-product of tree works;

- Trees and woodlands carry out a natural process of photosynthesis that sequesters (absorb) carbon dioxide from the earth's atmosphere and converts the gas into carbon which is stored within the trees structure until they die or are burnt. Trees and woodlands release oxygen back into the earth's atmosphere as a by-product of carbon dioxide absorption and photosynthesis.
- As trees grow larger, higher amounts of carbon dioxide are absorbed from the atmosphere and converted to stored carbon. Trees and woodlands are long term store houses of carbon and are known as carbon sinks that will continue to store carbon when the trees are converted into long lasting wood products.
- Tree foliage slows the volume and speed with which rainfall enters drainage systems – reducing flash flooding.
- The urban built environment within town centres is much warmer than rural areas. Brick, concrete and tarmacadam absorb and store heat from the sun known as the island effect. Trees can provide a cooling affect in the order of 1-10 degrees Centigrade within urban settings and can reduce localised extremes in temperatures by cooling in the summer and warming in the winter (Forestry Commission the Case for Trees [2008]) <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/718033/eng-casefortrees.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/718033/eng-casefortrees.pdf</a>
- Even when a tree dies, if it is left in situ it has its ecological uses by providing habitat for boring insects, support fungi and slowly releasing its nutrients back into the soil as it decomposes.

Appendix ii – Detailed list of relevant legislation and guidance taken into account by Winchester City Council when undertaking its tree duties.

## Relevant legislation relating to the council's management of its own trees and duty as a planning authority:

- Climate Change Act 2008
- Control of Substances Hazardous to Health 2002 (COSHH)
- Countryside and Rights of Way Act 2000
- Data Protection Act 2018
- Directive 2009/128/EC of the European Parliament and of the Council of 21
  October 2009 establishing a framework for Community action to achieve the
  sustainable use of pesticides
- Environment Act 2021
- Environmental Protection Act 1990
- Food and Environment Protection Act 1985 (FEPA)
- Forestry Act 1967
- Hedgerow Regulations 1997
- Highways Act 1980
- Natural Environment and Rural Communities Act 2006
- Occupiers' Liability Acts 1957 and 1984
- The Conservation of Habitats and Species Regulations 2017 (as amended)
- The Health and Safety at Work etc. Act 1974
- The Lifting Operations and Lifting Equipment Regulations 1998
- The Provision and Use of Work Equipment Regulations 1998
- The Town and Country Planning (Tree Preservation) (England) Regulations 2012
- The Wildlife and Countryside Act 1981 (as amended)
- The Work at Height Regulations 2005

#### Relevant guidance documents:

- Chapter 8 code of practice for signage lighting and guarding of street works and road works on all highways
- HSE Sector information minute. Management of the risk from falling trees 2011.

#### **International Policies**

- United Nations Conference on Environment and Development (UNCED), Earth Summit. Rio de Janeiro, 1992
- 2 Agenda 20/30 -Sustainable Development Summit 2015
- 3 The Kyoto Protocol Green Bonds

#### **National policies**

- 1. The UK Strategy for Sustainable Development 2005. (http://sd.defra.gov.uk/what/principles/).
- 2. Strategy for England's Trees Woods and Forests. DEFRA, 2007
- 3. The Natural Choice: Securing the Value of Nature 2011
- 4. UK Natural Ecosystem Assessment 2011
- Woodland Carbon Code. More details can be found at: <a href="https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics-2018/uk-forests-and-climate-change/carbon-sequestration/">https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics-2018/uk-forests-and-climate-change/carbon-sequestration/</a>
- 6. The Government urban tree planting challenge. A copy of the urban tree planting may be found at: https://www.gov.uk/government/organisations/forestry-commission
- 7. Woodland Carbon Guarantee
- 8. National Planning Policy Framework 2021
- 9. Planting of new woodlands. Details can be found at: https://www.gov.uk/guidance/create-woodland-overview
- 10. How to avoid the impact of development activities on ancient woodlands and veteran trees (including semi ancient woodlands and wood pastures. of new woodlands. <a href="https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions">https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions</a>

#### **Local Polices**

11. Winchester City Council Local Plan.

#### Part 1 can be found at:

https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2011-2036-adopted/local-plan-part-1-joint-core-strategy-adopted-march-2013-local-plan-review-2006/local-plan-part-1-joint-core-strategy-adopted-2013.

#### Part 2 can be found at:

https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2011-2036-adopted/local-plan-part-1-joint-core-strategy-adopted-march-2013-local-plan-review-2006/local-plan-part-1-joint-core-strategy-adopted-2013

12. South Downs National Park Local Plan 2019. A copy of this plan may be found at: <a href="https://www.southdowns.gov.uk/wp-content/uploads/2019/07/SD\_LocalPlan\_2019\_17Wb.pdf">https://www.southdowns.gov.uk/wp-content/uploads/2019/07/SD\_LocalPlan\_2019\_17Wb.pdf</a>

#### **Supplementary Planning documents and Statements**

13. Winchester Districts Landscape Character Assessment 2004. A copy of the Landscape Character Assessment may be found at this address:

<a href="https://www.winchester.gov.uk/planning/landscape-countryside/landscape-character-assessment">https://www.winchester.gov.uk/planning/landscape-countryside/landscape-character-assessment</a>

- 14. High Quality Places Supplementary Planning Document 2015. Further reading of this document can be viewed at:

  <a href="https://www.winchester.gov.uk/planning-policy/supplementary-planning-documents-spds/high-quality-places-spd-adopted">https://www.winchester.gov.uk/planning-policy/supplementary-planning-documents-spds/high-quality-places-spd-adopted</a>
- 15. Neighbourhood Design Statements. Copies of the Winchester Local Area Design Statements may be found at these addresses:

  <a href="https://www.winchester.gov.uk/planning-policy/village-design-statements">https://www.winchester.gov.uk/planning-policy/village-design-statements</a>
  <a href="https://www.winchester.gov.uk/planning-policy/neighbourhood-plans">https://www.winchester.gov.uk/planning-policy/neighbourhood-plans</a>
- 16. Winchester City Council Carbon Neutrality Action Plan 2019. A copy of the plan may be found at: <a href="https://www.winchester.gov.uk/climate-change-and-energy/carbon-neutrality-action-plan">https://www.winchester.gov.uk/climate-change-and-energy/carbon-neutrality-action-plan</a>
- 17. Winchester City Council Nutrient Neutrality Position Statement 2020. Details of this statement may be found at:

  <a href="https://www.winchester.gov.uk/planning/wcc-position-statement-on-nitrate-neutral-development">https://www.winchester.gov.uk/planning/wcc-position-statement-on-nitrate-neutral-development</a>
- 18. Winchester City Council Biodiversity Action Plan 2021. A copy of this plan may be found at: <a href="https://www.winchester.gov.uk/planning/landscape-countryside/biodiversity">https://www.winchester.gov.uk/planning/landscape-countryside/biodiversity</a>

### Appendix iii – A list of useful contacts (as of January 2022).

Winchester City Council tree team: Telephone on 01962 848301

E mail <u>naturalenvironment@winchester.gov.uk</u>

On line reporting service that is available 24 hours a day 7 days a week <a href="https://iweb.itouchvision.com/portal/f?p=1030:login:::NO:RP:UID:BCCCL9AHR2LD8">https://iweb.itouchvision.com/portal/f?p=1030:login:::NO:RP:UID:BCCCL9AHR2LD8</a> 259KCC868YE04000B7F01006BA4

You may also write to the tree team at Winchester City Council at: City Offices Natural Environment and Recreation Team Colebrook Street Winchester Hants S023 9LJ.

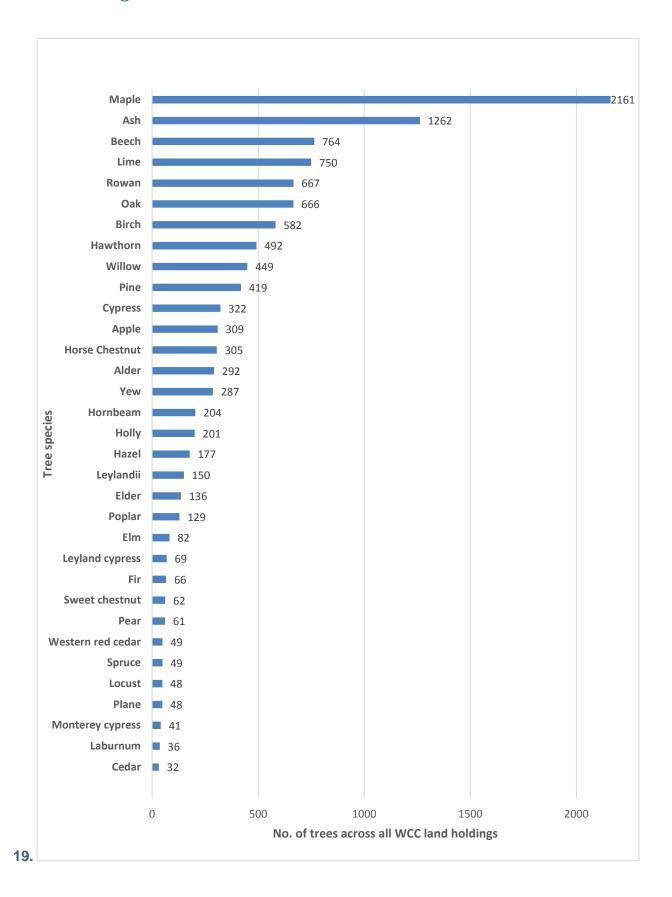
In case of a tree emergency the out of hours number is 01962 865407.

Other contacts: (Please note these numbers and links were up to date as of early 2022)

Winchester City Council Tree Team	Telephone 01962 848301 E mail naturalenvironment@winchester.gov.uk
Winchester City Council Customer Services	Telephone 01962 840222 E mail www.winchester.gov.uk
Winchester City Council Housing services	Telephone 01962 848400 E mail HHub@winchester.gov.uk
Winchester City Council Planning	Telephone 01962 484 549 E mail planning@winchester.gov.uk
WCC – Planning Application Forms and Guidance	www.winchester.gov.uk/planning/planning-applications/winchester- 1app-forms/
South Downs National Park Authority	01962 848 185 Email sdplanning@winchester.gov.uk
SDNP – Planning Application Forms and Guidance	https://www.southdowns.gov.uk/planning-applications/apply/
WCC - Planning Applications	

	www.winchester.gov.uk/planning/planning-applications/winchester- 1app-forms/	
Hampshire County Council Highways	Telephone 0300 555 1388 E mail <u>roads@hants.gov.uk</u>	
Police (Hampshire) Non Emergencies	101	
Arboricultural Association	Telephone 01242 522152 Web address <a href="https://www.trees.org.uk">https://www.trees.org.uk</a>	
Forestry Commission	Telephone 0300 067 4000 Web address https://www.gov.uk/government/organisations/forestry- commission E mail nationalenquiries@forestrycommission.gov.uk	
Hampshire Bat Group	Telephone 0345 1300 228 Web address www.hampshirebatgroup.org.uk/contact	
Ancient Tree Forum	www.woodland-trust.org.uk/ancient-tree-forum	
The Woodland Trust	www.woodland-trust.org.uk	
Environment agency	Telephone: 03708 506 506 E mail enquiries@environment-agency.gov.uk	

# Appendix iv– Chart showing most common tree species found on WCC holdings.



# Appendix v – Further details explaining why non-essential works will not be carried out unless under exceptional circumstances.

## 1. <u>Council tree causing shading, blocking a view or impacting on satellite</u> reception

Whilst the council recognises the importance of television and satellite reception, the concerns with shade and blocking a view, requests for pruning works to reduce the concerns are not advised. Regrowth from any pruning works carried out to trees with a view to improve light levels is a short term solution, as the tree often grows back with a more dense crown than before pruning. Pruning or crown reduction and topping of a tree creates new growth at the pruning points, creating weak branch attachments which render the tree branch or stem to future failure.

Leaves, twigs and buds are vital components for photosynthesis as well as absorbing carbon dioxide from the atmosphere and releasing oxygen in to the atmosphere, and offsetting the effects of global warming by providing shade. Topping or pruning of the tree has the potential to considerably reduce photosynthetic material from the tree's leaves within its canopy, thereby having a detrimental effect on the trees ability to carry out its natural biological functions. This in turn leads to a weakness in the tree's ability to create energy to compartmentalise pruning wounds as the potential size of the resultant wounds could predispose the wounds to decay thereby harming the long term health and wellbeing of the tree, which will reduce the tree's safe useful life expectancy

Therefore crown reduction, crown lifting, crown thinning, tree felling or topping of a tree(s) are not deemed essential works and therefore will not be undertaken.

It is therefore advised that anyone who has reception issues should consult the service provider to discuss viable alternative solutions.

#### 2. Tree leaves, blossom, nuts, fruits, berries and debris.

Although they can be an inconvenience, falling leaves and debris are not regarded as a 'nuisance' in law and works to remove them are deemed non-essential.

The production of leaves and autumn leaf fall blossom, nuts and fruits are part of the natural biological process trees carry out every year and cannot be avoided by pruning. Leaves, twigs and buds are vital components for photosynthesis as well as absorbing carbon dioxide from the atmosphere and releasing oxygen into the atmosphere and offsetting the effects of global warming by providing shade.

It is also important to note that the council does not provide a service to clear leaves from private properties and it is the landowner's responsibility to manage any concerns they have with debris.

#### 3. Honey Dew.

Honey Dew is a natural seasonal problem that is caused by greenfly and other leaf feeding insects feeding on the sap from tree leaves. Certain species of lime and sycamore are prone to colonisation by the greenfly. As the greenfly feed of the sap

they excrete a sweet sugary sticky waste that then becomes colonised by a black sooty mould. Any item or property placed under the tree or near the tree can become colonised with black sooty mould. Unfortunately it is not possible to remove or discourage the aphid or other leaf feeding insects. Pruning the tree is non-productive as pruning induces new leaf growth which is rich in sweet sap and therefore increase the amount of sap available to the aphids and potentially increases the problem.

Where property or parked cars have affected by black sooty mould, warm soapy water will remove the mould if undertaken as soon as possible.

#### 4. Bird Droppings.

Whilst bird droppings from birds in trees may be a nuisance, the problem is not sufficient to justify the removal or pruning of trees. This will not mitigate the nuisance and only result in new leaf growth and the birds remaining in the tree.

The removal of bird droppings can be achieved using warm soapy water.

### 5. Council trees, pollen and medical complaints.

Tree pollen can cause discomfort for some residents living or working near the trees. As flowering of the tree and the production of pollen is a natural reoccurring event there is no solution to remedy this. Pruning or felling of the tree will have a short term benefit and will have a detrimental ecological effect on the local insect pollenating insects. Therefore felling or pruning to ease medical complaints is not deemed as essential works.

# Appendix vi – Procedures the council will undertake to ensure biodiversity is protected and enhanced

#### Birds -

The council and/or its contractors will check trees for nesting birds during the nesting season (c. March – September). This will include checking any visible nests to see if they are 'in use' and watching the trees (particularly any holes or crevices) for any signs of birds entering carrying food or nesting material. If evidence of active nests or breeding birds are found then the works will be postponed until the nests are no longer in use (i.e. any eggs have hatched and young fledged or there is sufficient evidence to suggest the nest has naturally failed/been abandoned). If, despite best efforts an active nest is found after work has started a 5m buffer around the nest will be created, and the works within the buffer area will be reconvened once the nest is no longer in use.

#### Bats -

An initial ground level assessment will be done by the Council/or its contractors to identify any potential roost features (PRFs) such as woodpecker holes, rot holes, cracks in stems or branches, partially detached bark, hollows or cavities. Where a PRF is identified this will need to be inspected further (potentially above ground). Following inspection, if a PRF is still considered suitable for roosting bats then a suitability qualified ecologist must be contacted and further surveys and/or measures may be required. In the event of a bat roost being discovered during tree works, all works will stop immediately. The contractor will report the bat roost to the City Council who in turn will contact a licenced bat ecologist and Natural England. Their recommendations will then be followed accordingly.

#### Dormice -

Hazel dormice are known to be present at two Council sites including Dean Copse, Knowle and Topfield, Kingsworthy. At these locations mitigation licences are held to allow works to proceed lawfully. If tree works are proposed at these sites, or sites within close proximity to areas where dormice are known to be present, then the council ecologist must be informed to ensure the works are in accordance with the licence, legislation and best practice guidelines. If a dormouse or a dormouse nest is discovered during tree works, all works will stop immediately. The contractor will report this to the council who will act accordingly.

#### Badgers-

The council and/or its contractors will check for evidence of badger setts (holes) within 10m of any tree works or 30m of any work which requires digging with machinery. If a potential impact on a badger's sett is identified then the contractor will report this to the council and appropriate action will be taken. This may require further surveys and a licence from Natural England.

#### General -

In addition to taking account of protected species, it is important that the biodiversity benefit of trees is enhanced where possible. Consequently possible habitat features such as cavities, dead wood, water pockets, log piles and standing dead trees will be retained where appropriate.

# Appendix vii – Links to the current Winchester City Council Local Plan and NPPF

#### **Local Plan**

The Winchester Local Plan contains numerous policies some of which directly relate to the trees and their protection. It is therefore essential that anyone wishing to undertake development which may impact on trees and their location, woodlands and important hedgerows should consult this document as early as possible.

Part 1 can be found at <a href="https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2011-2036-adopted/local-plan-part-1-joint-core-strategy-adopted-march-2013-local-plan-review-2006/local-plan-part-1-joint-core-strategy-adopted-2013.">https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2011-2036-adopted/local-plan-part-1-joint-core-strategy-adopted-march-2013-local-plan-review-2006/local-plan-part-1-joint-core-strategy-adopted-2013.</a>

Part 2 can be found at <a href="https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2011-2036-adopted/local-plan-part-1-joint-core-strategy-adopted-march-2013-local-plan-review-2006/local-plan-part-1-joint-core-strategy-adopted-2013">https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2011-2036-adopted/local-plan-part-1-joint-core-strategy-adopted-march-2013-local-plan-review-2006/local-plan-part-1-joint-core-strategy-adopted-2013</a>

## The National Planning Policy Framework (NPPF) and National Planning Policy Guidance (NPPG)

The National Planning Policy Framework provides information for anyone wishing to undertake development which may impact on trees and their locality, woodlands and important hedgerows. Again it is essential that anyone wishing to undertake development which may impact on trees and their location, woodlands and/or important hedgerows should consult this document as early as possible. For a link to the NPPF please see appendix vii This can be found at <a href="https://www.gov.uk/government/publications/national-planning-policy-framework--2">https://www.gov.uk/government/publications/national-planning-policy-framework--2</a>.

A copy of the NPPG can be found at: https://www.gov.uk/government/collections/planning-practice-guidance

### Appendix viii – Glossary

**Aesthetic appearance** - the pleasant or positive appearance of a tree or group of trees.

Ancient and veteran trees – A veteran tree may not be very old, but it has significant decay features, such as branch death and hollowing. These features contribute to its exceptional biodiversity, cultural and heritage value. All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient or veteran will vary by species because each species ages at a different rate.

Arboricultural – the cultivation, management and study of individual trees.

**Ash dieback** – a serious fungal disease of the European ash, characterised by the progressive death of the tree's branches.

**Bark union** – where two or more stems grow into one another.

**Biodiversity** – the variety of plant and animal life in the world or in a particular habitat.

**Biosecurity** – procedures or measures designed to protect the population against harmful biological substances.

**BS5837 -** The British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (2012), details the steps that should be taken to ensure that trees are appropriately and successfully retained when a development takes place

**Canopy cover** – the area of leaves, branches and stems of trees covering the ground when viewed from above.

**Carbon neutral** – making or resulting in no net release of carbon dioxide into the atmosphere.

**Common Law right** – a system of laws based on customs and court decisions rather than on written laws made by a parliament.

**Compartmentalise** – divide into discrete sections or categories

**Crown lifting** – Removal of the lowest branches.

**Crown reduction** – crown is reduced in height and/or spread whilst maintaining the tree's natural shape as far as practical

**Crown thinning** – Removing a small percentage of secondary and and small branches to produce a uniform density of foliage around an evenly spaced branch structure.

**Cyclical pollarding** - After the initial heading cuts are made on certain species of tree, this particular pruning technique is normally carried out on a regular cycle of 4-5 years, leaving a clean framework for future growth until the process is again repeated.

**DBH** - Diameter at breast height, or DBH, is a standard method of expressing the diameter of the trunk or bole of a standing tree. DBH is one of the most common dendrometric measurements.

**Decay pathogens** - Decomposition or rotting, the breakdown of organic matter, usually by bacterial action, resulting in the formation of other substances

**Dutch elm disease** - Dutch elm disease is a highly destructive disease of several species of elm (trees in the Ulmus genus). It is caused by two related fungi, Ophiostoma novo-ulmi and Ophiostoma ulmi, although almost all cases are now caused by O. novo-ulmi. The fungus is spread from tree to tree by elm bark beetles.

**evergreen or semi-evergreen** - The Act applies to trees or shrubs that keep their foliage all year (evergreen) and to those that keep at least some live foliage for the year (semi-evergreen)

**extension growths** - As the shoots extend from the buds in spring, we recognize in the process of extension growth a continued upward growth of the tree.

**Felling** - the process of cutting down trees (to fell is to remove the tree)

**flood alleviation** - the technique or practice of preventing or controlling floods with dams

**Fungal fruiting** - Fruiting bodies are fungal structures that contain spores. They come in many sizes, shapes, and colors, all of which aid in identification of the specific fungus

**latent buds** - a bud often concealed that may remain dormant indefinitely but under certain conditions develops into a shoot.

**lateral branches** - a branch descended from a brother or sister of a person in the direct line of descent.

**Stem** - the main body or stalk of a plant or shrub, typically rising above ground but occasionally subterranean.

**Mitigating** - having the effect of making something bad less severe, serious, or painful.

**mitigation licences** - You need a mitigation licence if your work will have impacts on European protected species (EPS) that would otherwise be illegal. This includes: capturing, killing, disturbing or injuring them - on purpose or by not taking enough care.

**mulching** - a material (as straw or bark) spread over the ground especially to protect the roots of plants from heat or cold, to keep soil moist, and to control weeds. mulch. verb. mulched; mulching

**native & non-native** - Native: a species that originated and developed in its surrounding habitat and has adapted to living in that particular environment. ... Non-native: a species that originated somewhere other than its current location and has been introduced to the area where it now lives (also called exotic species).

**natural regeneration** - Natural regeneration is the process by which woodlands are restocked by trees that develop from seeds that fall and germinate in situ. ... Seedling establishment of some species has been observed by following the growth and survival of tree species growing after silvicultural operations to promote natural regeneration.

**biodiversity net gain** - Biodiversity net gain (BNG) is an approach to development, and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand

**NPPF** – National Planning Policy Framework - The NPPF sets out the Government's intention to provide local communities with the tools they need to energise their local economies, meet housing needs, plan for a low-carbon future and protect the environmental and cultural landscapes that they value.

**Organisms** - The definition of an organism is a creature such as a plant, animal or a single-celled life form, or something that has interdependent parts and that is being compared to a living creature.

particulate - relating to or in the form of minute separate particles.

**perennial plant** - A perennial plant or simply perennial is a plant that lives more than two years. The term is often used to differentiate a plant from shorter-lived annuals and biennials.

**Photosynthesis** - where the tree turns sun light in to sugars for energy to carry out it natural biological functions. photosynthetic material

**primary stems** - Primary growth of stems is a result of rapidly-dividing cells in the apical meristems at the shoot tips. Apical dominance reduces the growth along the sides of branches and stems, giving the tree a conical shape.

**Processionary -** The species is notable for the behaviour of its caterpillars

**Pruning** - Pruning is a horticultural, arboricultural and silvicultural practice involving the selective removal of certain parts of a plant, such as branches, buds, or roots.

**public visual amenity value** – the appearance a tree has from the public domain (ie roads, footpaths, large blocks of flats etc) and the value this brings to the lives of those who see it.

**radial root growth** - the ability to grow in girth by the formation of wood, bast and cork. The more technical term for radial growth is secondary growth, which distinguishes the process from primary growth taking place at the tips of stems and roots during plant elongation.

**epicormic growth** - Epicormic growth is a plant response to damage or stress. It is the growth of new shoots from epicormic buds that lie dormant beneath the bark. ... Plants which respond in this way are often referred to as resprouters.

**root protection area** - A root protection area is usually a calculated area of ground that lies immediately under a tree and just beyond the extent of its crown. It is intended to help avoid damage to the tree's rooting system.

**sail area** - The area of a tree's aerial part that intercepts wind, broadly varying with wind direction, leafiness etc.

**sap** - Filled with nutrients and minerals, sap is the blood of a tree. It carries energy out into the branches when new buds are forming

**sequestration** - Biological (or terrestrial) sequestration involves the net removal of CO2 from the atmosphere by plants and micro-organisms and its storage in vegetative biomass and in soils. On this page, we deal with the main natural carbon dioxide sinks in Manitoba: Soils. Grasslands.

**soil compaction** - Soil compaction occurs when soil particles are pressed together, reducing pore space between them

**soil desiccation** - The roots of all vegetation can take moisture from the soil. In a clay soil this may result in drying and shrinkage of the soil and subsidence in the ground which may cause damage to buildings.

**sparse crown** - These crowns are below the general level of the canopy. They receive no direct light. Crowns are generally short, sparse, and narrow.

**structural condition** - A structural condition assessment is the process of collecting observations and data and systematically using them to evaluate and assess the condition of an existing structure

**structural integrity** - Structural integrity is an engineering field that helps ensure that either a structure or structural component is fit for purpose under normal operational conditions and is safe even should conditions exceed that of the original design.

**Topping** - This pruning practice is the reduction of tree size by heading back many or most large, live branches without regard for tree health or structural integrity. Topping manages height and spread but leaves behind woody stubs that cause decay, weak branch attachments, and increased likelihood of failure.

**tree canopy** - refers to the part of a city that is shaded by trees. The tree leaves and branches covering the ground is our tree canopy.

**Tree pit design** - The hole in the ground in which a tree is planted. In the urban context the pit may represent the whole of the root volume available to the tree when mature.

**Uprooting** - To pull something, (especially a tree or plant) out of the ground.

**Veteran and Ancient trees** – A veteran tree may not be very old, but it has significant decay features, such as branch death and hollowing. These features contribute to its exceptional biodiversity, cultural and heritage value. All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient or veteran will vary by species because each species ages at a different rate.

**Water pockets** - pocket (as in rock) where water may gather especially: a water hole in the bed of an intermittent stream occurring typically as a bowl at the foot of a cliff over which the stream leaps when in the flood stage.

**Wilful damage/destruction** - The intentional and malicious destruction of or damage to the property of another.