Environmental Statement

Appendix 8.4: Arboricultural Impact Assessment

Land at Lower Berse Farm, Wrexham

On behalf of Redrow Homes Ltd

July 2024



Arboricultural Impact Assessment

Land at
Lower Berse Farm
Ruthin Road
Wrexham

Ref:
AIA/RRW/11/22
Revision C

Date:
18th July 2024

Commissioned by:
Ms M Jeffery
on behalf of
Redrow Homes Ltd

Prepared by
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Arboricultural Impact Assessment

Outline Application

Land at

Lower Berse Farm

Ruthin Road

Wrexham

This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction'.

Planning permission is being sought to develop site to provide to provide residential housing along with associated infrastructure, access roads and internal site roading areas of open space and school and community facilities. An illustrative site masterplan has been prepared. The site is to be developed as part of the Sustainable Urban Extension of the City of Wrexham.

All trees on and immediately adjacent to the site have been surveyed and assessed in accordance with the recommendations of BS5837: 2012. The survey recorded eighty-six individual trees, fifty groups of trees, forty-three hedgerows and two areas of woodland. These ranged in quality and amenity value from High (46), Moderate (60) and Low (68) with (7) unsuitable for long-term retention in current context.

The site masterplan demonstrates that the site can be developed without having a significant impact on the wider arboricultural resource. The site layout accommodates significant trees and groups of trees and ensures that important assets such as notable trees and ancient semi-natural woodland are provided with appropriate buffer zones. The proposed development of the site also provides the opportunity to provide significant levels of new tree planting that will mitigate the impact of ash dieback and provide future trees that will benefit the wider area and improve canopy cover levels in line with the objectives of Wrexham County Borough Council.

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Date	Revision	
5th August 2021	Feasibility & Planning	Issued for Site Design
22nd November 2022	AIA/RWW/11/22 - Draft	Issued for Planning Support
9th December 2022	AIA/RWW/11/22	Issued for Planning Support
5th June 2023	AIA/RWW/11/22 – Rev A	Issued for Planning Support
11th August 2023	AIA/RWW/11/22 – Rev B	Issued for Planning Support
18th July 2024	AIA/RWW/11/22 – Rev C	Issued for Planning Support

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Instruction

1.1 Shields Arboricultural Consultancy received instructions from Ms M Jeffery of Redrow Homes Ltd to undertake an arboricultural impact assessment to support an outline application at the above location. The client or their agents may copy and distribute this report as required for the purpose of applying for planning permission for or preparing any documents or plans for this or future applications at this site.

1.2 The site is to be developed as part of the Sustainable Urban Extension of the City of Wrexham. A site masterplan ref: 9730.001I has been prepared and is considered in this report.

Scope & Limitations

2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development and is based on a site assessment undertaken July 2021 by S. Shields, principal consultant Shields Arboricultural Consultancy. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate.

2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2012 'Trees in Relation to Construction'.

2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.

3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.

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3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Site description

4.1 The proposed development is at Lower Berse Farm and is on land designated as the Sustainable Urban Extension to the southwest of the town of Wrexham, close to the village of Bersham. The site, which extends to around 72.85 ha, is currently used for agriculture and comprises a number of fields which are divided by hedgerows. The site has boundaries with the A525, Ruthin Road to the north, sports pitches and an existing residential area to the east, the B5099, Bersham Road to the south and the A483 trunk Road to the west. The B5098, Berse Lane, divides the main part of the site from a smaller area to the southwest. The site adjoins the grounds of Bersham Hall, currently an educational facility, and a number of residential properties on the western section of the south boundary. The farmhouse and farm buildings are to the northwest of the site. The current main access to the site is via Berse Lane.

4.2 The site is reasonably level and even and at an elevation of between 90m -110m AOD. There are a number of PROW crossing the site, including a bridal path that runs east west through the centre section.



4.3 The trees on the site are predominantly in groups or as individuals on field boundaries and within hedgerows, of which there a number on the site. There are also two significant linear groups of trees, one along

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the bridal way and one along a watercourse to the south of the farmhouse, as well as belts of trees along a number of the boundaries and an area of woodland to the southwest corner.

Soils

4.4 Soils vary across the site but are predominantly cultivated brown earths and are reasonably free draining although there are slower draining areas that may experience periodic seasonal waterlogging. Geological maps indicate a glaciofluvial drift of sand and gravel over a sandstone, mudstone and siltstone lithology in the west and east of the site and a glacial till drift over mudstone in the centre section. The highways, watercourse and existing structures would create barriers to root development, although this only impacts a limited number of trees.

*NB. This soil assessment is undertaken in situ using visual and manual techniques and is **only** for the purpose of establishing the influence of site soils on tree growth. The assessment **must not** be relied upon to inform any engineering decisions.*

Development Proposal

5.1 It is proposed to develop the site to provide residential housing along with associated infrastructure, access roads and internal site roading areas of open space and school and community facilities. An illustrative site masterplan has been prepared.



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Tree Survey Methodology

6.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 75mm at 1.5 metres. Measurements have been taken in accordance with the procedures and protocols set out in BS 5837: 2012 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in woodlands or groups only the outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.

6.2 BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality with an estimated life expectancy of at least 40 years.

1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.

2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.

3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated lifespan of at least 20 years.

1 Trees that might be included in a higher category but are downgraded because of impaired condition.

2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.

3 Trees with clearly identifiable conservation or other cultural benefits.

Category C: Trees of low quality with an estimated lifespan of at least 10 years or young trees with a stem diameter below 150mm.

1 Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

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2 Trees present in groups of woodlands, but without this conferring on them significantly greater collective landscape value; and/or tree offering low or only temporary/transient landscape benefits.

3 Trees with no material conservation or other cultural value.

Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons.

The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as U are in a poor condition and should be removed prior to the commencement of work.

NB. Category U trees can have an existing of potential conservation value which it might be desirable to preserve.

6.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications, such as issues with shading or leaf litter that may arise as a result of tree retention.

6.4 To ensure that trees are not adversely affected by the construction works it is necessary to:

a. The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)

b. The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots

c. Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances

d. To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere

e. To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

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The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

6.5 A rise or reduction in soil level can have major implications on the longevity and health of the trees. Minor changes (up to 100mm) can be tolerated in some cases, but is heavily dependent on tree species, condition and growing environment. Existing ground levels within RPAs should be respected as far as is reasonably practicable. The advice of the project arboriculturalist should be sought if level changes are required.

6.6 In addition to the implications that a new development may have for existing trees it is also important to assess any long-term issues or concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree has to cause damage to a structure in the future, any on-going maintenance requirements that may arise and the level of shade that the tree may cast, it is particularly important to consider the effects of shading where trees are to the south of houses and gardens. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over-bearing impact on a property if adequate space is not provided.

6.7 Buffer zones and structural stand-offs are advised for continuous canopy tree groups and woodlands along with trees and woodlands of high value. These zones are influenced by numerous factors beyond the provision of sufficient space for future growth. Depending on the development objectives these can include the provision of a safe falling distance for edge trees, prevention of overshadowing, provision of an ecological buffer zone, prevention of fragmentation of group/woodland compartments, and prevention of direct tree root or habitat damage. Buffer Zones should also be used around veteran trees and ancient woodland sites. Natural Resources Wales Standing Advice for ancient woodland sites states:

‘*A stand-off or protection zone’s purpose is to protect ancient woodland. The size and type of stand-off or protection zone should vary depending on the scale, type and impact of the development.*

The BS 5837 Tree Survey, PEA and/or EcIA assessments should be used to inform the stand-off or protection zone for each individual woodland and veteran and ancient trees. Some zones may only require a root protection area to prevent negative impacts on individual trees or groups of trees, and others are likely to extend further’

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And the following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

'*A buffer zone's purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development'.*

Ancient woodland buffer

'For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you're likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic'.

Ancient and veteran tree buffer

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

6.8 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth makes provides recommendations as to their long-term suitability for retention.

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Arboricultural Assessment

7.1 Full details of the trees surveyed are provided in appendix A. and their relative positions, crown spreads, root protection areas are indicated on the attached plans.

7.2 No checks have been undertaken to establish the status of the trees with regards to Tree Preservation Orders or Conservation Areas, however all the trees may be subject to the Forestry Act (see section 3.1) and some hedges subject to the Hedgerow regulations (see section 3.3). No trees or hedges should be felled, lopped, topped or in otherwise removed or damaged without prior permission from the relevant authority.

7.3 The survey recorded eighty-six individual trees, fifty groups of trees, forty-three hedgerows and two areas of woodland which are categorised as follows:

Category	Quantity
Category A: Trees of high quality with an estimated life expectancy of at least 40 years.	**46**
Category B: Trees of moderate quality with an estimated lifespan of at least 20 years.	**60**
Category C: Trees of low quality with an estimated lifespan of at least 10 years or young trees with a stem diameter below 150mm.	**68**
Category U: Trees in such a condition that their existing value would be lost within 10 years and which should, in the current context be removed for arboricultural reasons. NB. Category U trees can have an existing of potential conservation value which it might be desirable to preserve.	**7**

Arboricultural merits and the significance of the trees in the landscape

7.4 The site is currently set to agricultural uses mainly growing fodder and other arable crops but with areas of pasture. Tree cover at the site is typical of an agricultural landscape, with both individual and groups of trees situated around the boundaries of the site and along hedgerows and watercourses. The most significant arboricultural features on the site are area of restored ancient woodland in the south west section adjacent to Bersham Road and Berse Lane, the linear group of trees and shrubs running east west through the site along the line of the bridleway, a second linear group running along the watercourse to the south east of the farm house and a number of individual large mature specimen trees situated in hedgerows. Also of significance are the groups of trees that provide screening of the site from existing adjacent residential properties particularly those on the south boundary around Bersham Hall and those which provide screening from the highway.

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Canopy Cover and Arboricultural resource Characteristics

7.5 Analysis of canopy cover using National Tree Map www.blueskymapshop.com indicates around 12% - 14% canopy cover across the site.



National Tree Mapping – © Bluesky International Limited

This is significantly below the 20% - 25% that Wrexham Council are aiming for within the city.

7.6 The species and age distribution of the existing resource is limited with around 90% of the tree stock made up of four species, ash, oak, sycamore and hawthorn and 80% of the trees being either mature of over mature with less than 3% semi-mature and no young or newly planted trees.

Pests and Diseases

7.7 Tree pests and diseases are part of a balanced ecosystem and dead, dying and diseased wood is a natural process providing an important contribution to habitat biodiversity. However, in recent years there have been an increasing number of new and serious pests and diseases affecting tree populations across the UK and regular monitoring is essential to check for their presence. Chalara dieback of Ash, Acute/Chronic Oak Decline, Horse Chestnut Bleeding Canker and Phytophthora, are now widely established. These diseases can kill or weaken trees quite rapidly and it will be important to carefully monitor them in order to inform management decisions over the coming years. It will also be important in relation to public safety where dead or dying

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trees are in proximity to road, footpaths and property. Trees with ash die-back and Dutch elm have been identified on the site. In respect of the ash, at the time of the survey the majority of the trees were either in very early stages, class one, or did not show any significant symptoms. This can be expected to change with more trees being affected, however it is only recommended trees are removed when they have more advanced symptoms or if their location would restrict future access for management or so alter land use around the tree as to make retention unviable. Dutch elm diseases is endemic and it is recommended that tree with symptoms are removed as and when these symptoms progress to a stage where the tree is dead or close to dead.

Veteran Trees and Ancient Woodlands

7.8 Trees that are particularly notable as high value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.

An ancient tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life-stage.

Veteran trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

An ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW).

A search of the ancient tree inventory https://ati.woodlandtrust.org.uk/ and the Lle database Lle - Catalogue (gov.wales) indicate that there are no veteran trees recorded on the site, although trees T24 & T44 are identified as Notable and T28 & T172 have some veteran characteristics. There is an area of restored ancient woodland (W4) in the southwest of the site, adjacent to Berse Road.

Policy Considerations

7.9 Section 6.4.24 – 6.4.26 of Planning Policy Wales states that:

'Trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a 123 See Paragraph 6.2.2 of Technical Advice Note 5: Nature Conservation and Planning https://gov.wales/technical-advice-note-tan-5-nature-conservation-and-planning 124 Tree Cover in Wales' towns and cities see https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf valuable wider contribution to landscape character, sense of place, air quality, recreation and local climate

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moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade and shelter, a sustainable energy source and building materials. The particular role, siting and design requirements of urban trees in providing health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking.

'Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.'

'Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory.'

'The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.'

7.10 The Wrexham Unitary Development Plan Policy EC4 – Hedgerows, Trees and Woodland advises that

'Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.'

This policy should be considered with reference to Local Planning Guidance Note 17 'Trees & Development' Local Planning Guidance Note No 17 - Trees and Development (wrexham.gov.uk).

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7.11 Policy SP15 of the emerging Wrexham Local Development Plan states:

'Development will only be supported where it protects, conserves and enhances the natural environment including:

- *Internationally protected Special Areas of Conservation, Special Protection Areas, and Ramsar Sites,*
- *Nationally protected Sites of Special Scientific Interest and National Nature Reserves;*
- *Protected Species and their habitat;*
- *The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty including recognising the importance it has in contributing to the Outstanding Universal Value and setting of the Pontcysyllte Aqueduct and Canal World Heritage Site;*
- *Local Wildlife Sites including the strategic ecological network on Wrexham Industrial Estate and Regionally Important Geological Sites;*
- *Local Nature Reserves;*
- *Special Landscape Areas recognised for their outstanding local landscape character;*
- *Natural landscape features such as trees, hedges and woodland and the green networks between them which contribute to the quality and diversity of the natural environment and play an important role in mitigating the impact of climate change;*
- *The quality of natural services including water, air and soils*
- *Developing and maintaining Green Infrastructure links; and*
- *Habitats and species of principal importance to Wales.*

and Policy NE3 Trees, Woodlands and Hedgerows states

'Development will only be permitted where it does not cause unacceptable harm to trees, woodlands and hedgerows of significant public amenity, natural or cultural heritage value or those that provide important ecosystem services including mitigating the effects of climate change.

Development affecting all existing and new proposed woodlands should:

i) Support proposals which assist in the respectful and appropriate use and protection of woodlands and boundary edges,

ii) Promote sustainable management to deliver multiple benefits, and

iii) Support the relevant aims and objectives of the Wrexham Tree & Woodland Strategy 2016-2026 and all subsequent amendments.

Avoiding adverse or detrimental impact on trees, woodlands and hedgerows should be the primary objective of any proposal however,

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where adverse effects cannot justifiably be avoided and sustainable integration is not possible then adequate mitigation will be required. In such cases development should include proposals for the planting of new trees, woodlands, and hedgerows within the site, ensuring connectivity between proposed and existing green infrastructure.'

Design Considerations

7.12 The site design should seek to incorporate the category A & B trees into the layout as well as providing adequate space to allow for the sustainable planting of new trees that will be the future arboricultural resource. Overall aiming for a minimum of 20% - 25% canopy cover on the site.

7.13 To achieve this requires that there is a sufficient provision of space to allow for the planting of long-lived, large canopy tree species in locations where they will not impact on residential amenity or other land uses. This should include areas of natural planting to allow for the sustainable planting of, large, long-lived trees in groups and as scattered individuals, to provide habitats and increase biodiversity along with creating landscape features.

7.14 This should be in addition to areas of more formal open space which support specimen trees and shrub groups in a park or communal garden settings. Here the objective is to make tree'ed spaces for people to access and use for relaxation and recreation.

7.15 Opportunities must be provided for planting along roads and in car parking areas, as these trees can absorb pollution and help reduce the impact of extreme weather as well as ensuring that the benefits of green infrastructure reach the heart of the built environment. Street tree planting needs to consider both species choice and position of the trees.

7.16 Planting within private gardens should not be used to provide long-term arboricultural assets as there is very limited scope for significant planting unless gardens are particularly large.

7.17 Where existing trees are retained, they must be a sufficient distance from areas of development to ensure that they can be properly protected to the required standard. This usually means that no development that causes ground disturbance can take place within the RPA and no structures can be erected where they would come into contact with the crowns of a tree.

7.18 Particular care needs to be taken where there are veteran trees and ancient woodlands present. Veteran trees and ancient woodlands are amongst the most valuable and natural assets and are often considered to be irreplaceable. Natural Resources Wales provide standing advice to planning authorities in respect of development affecting ancient woodland Natural Resources Wales / Advice to planning authorities considering proposals affecting ancient woodland and guidance on managing veteran trees and ancient woodland, particularly in relation to development has been prepared by the

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Woodland Trust in the publication 'Planners' Manual for Ancient Woodland and Veteran Trees'. This guidance sets out additional protection measures for uses where veteran trees are present and in summary, advises on the use of semi-natural buffer zones as a means of protection with minimum distances identified as 15 times the diameter of its stem or 5m from the edge of its canopy, if that is greater, around any ancient or veteran tree. In the case of the woodland W4 it is recommended that a buffer zone of a minimum of 15 metres is provided between the woodland and the site.

7.19 Consideration should also be given to the future implications associated with the retention of the trees in the terms of their influence on the new properties. To ensure a harmonious relationship between the trees and the proposed dwellings it is necessary to allow adequate separation so that the trees do not exert an overbearing influence, are so close as to promote worries about tree safety and avoid problems associated with leaf litter and shading. It is advised that buffer zones of around 15 metres are provided around large arboricultural features and significant trees, such as G27.

7.20 It is particularly important to consider the effects of shading where trees are to the south of houses and gardens. The layout should take account of existing retained trees and any new planting, with consideration to their ultimate size and density of the foliage and that garden areas should be designed to meet the normal requirement for direct sunlight for at least part of the day. Building Research Establishment guide to good practice (BR209) Site Layout Planning for Daylight and Sunlight advises that, in order to appear reasonably sunlit a dwelling should have at least one main window wall that faces within 90° of due south and that on this wall, all points on a line 2m above ground level are within 4m of a point which receives at least a quarter of the annual probable sunlight hours. The guide also advises that for gardens to appear adequately sunlit, no more than two-fifths and preferably no more than a quarter should be prevented from receiving any sunlight on 21st March.

7.21 To ensure that trees do not become overbearing or exert a dominating effect on a property it is recommended that no occupied property is sited within a distance from the trunk equivalent to 50% of the mature height of a tree (see appendix A), which should be increased to 60% if the tree is directly to the south of a property. There should also be a distance of at least 1.5 metres from the edge of the crown to the building at the closest point, this must take account of the ultimate spread of the tree. No more than 40% of a garden area should be beneath the crown of a tree, and the remaining area should not be shaded by the tree.

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Arboricultural Impact

Impact	Category A	Category B	Category C	Category U
Tree Removal	25		83, 112, 142, 143, 144, 180	18, 20, 36, 37, 100, 119, 141
Tree Group Removal			15, 111, 113, 115	
Tree Group Part Removal	27b, 27d, 153, 171, 174			
Potential Tree / Group Removal	54, 55	150, 151, 152	G121, 122, 123, 124, 125, 126	
Hedgerow Removal		78, 86, 104	103, 114, 145, 176, 177, 179, 181	
Hedgerow Part Removal		6, 50, 51, 62, 71, 82, 105, 106, 120, 159	137, 149, 156, 164,	
Facilitative Pruning Required	138, 139			
RPA / Buffer Encroachment				

7.21 Under the current masterplan layout the proposed development would require the removal of eight individual trees, one category A and seven category C, four groups of trees, all category C and parts of five groups of trees, all category A. In addition, there is the potential for the loss of a further ten trees, two category A, three category B and five category C and a category C group of trees. The layout would also require that two trees are pruned and there is slight encroachment into the buffer zone around one veteran tree. In terms of hedgerows, the development requires the removal of ten hedgerows, three category B and seven category C and the removal of sections from fourteen hedgerows, ten category b and four category C. It is also advised that the seven category U trees are removed or reduced to habitat stumps.

Sustainability

7.22 In respect of trees, a sustainable development will be one whereby the total number, value or function provided by trees is maintained or increased or where the long-term prospects of the existing tree stock can be substantially improved. Key principles include appropriate tree retention and ensuring that trees are integrated into the new land use in a way that is harmonious. In addition, retaining existing trees, new planting plays a very significant role in the overall sustainability of the site and wider area. This requires the right tree species selection and providing beneficial conditions for healthy tree establishment and regular and appropriate management.

7.23 Although there is some tree loss, this is in the context of an extensive site with eight-six individual trees, fifty groups of trees, forty-three hedgerows and two areas of woodland. In the main, the higher value trees and groups have been incorporated into the site layout and there

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is extensive scope for new planting and for the enhancement of existing assets. Although there will be some impact to the wider environment as a result of the development, the negative effects will be short-term with the potential for significant long-term gain.

Landscaping of the Development

7.24 Landscaping and the planting of trees is an essential element of any sustainable development and provision must be made within the site layout to provide space to plant long lived, large canopy trees for the long-term benefit of the site and surrounding area. There is opportunity for planting adjacent to the existing ancient woodland, along the boundary with the A483, along the edge of the G27, the group along the bridal way, as well as strengthening tree cover of the boundaries of the site and planting in areas of open space. It is recommended that a tree planting scheme identifying suitable planting locations and tree species and prepared in accordance with of BS 8545: 2014 Trees: from nursery to independence in the landscape – Recommendations is prepared and submitted in support of any future application to develop the site.

Arboricultural Operations

Permission to remove any tree must be obtained from the Local Planning Authority and must not be undertaken until a Full Planning Permission has been granted and all pre-commencement conditions have been discharged. In cases where trees are protected by Tree Preservation Orders or Conservation Areas additional consent may be required.

8.1 The proposal will require the removal/pruning of trees/hedgerows and subject to obtaining any required permissions it is recommended that the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site-specific risk assessment must be prepared and operators must work to a health and safety method statement. The use of Arboricultural Association Approved Contractors www.trees.org.uk/find-a-professional/Directory-of-Tree-Surgeons is recommended.

8.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.

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Interim Arboricultural Method Statement

9.1 This arboricultural method statement (AMS) sets out the general details of tree protection measures afforded to the retained trees on and adjacent to the site.

9.2 This document should be read in conjunction with the Tree Protection Plan which will be prepared following the release of the final site layout. The TPP indicates the construction exclusion zone (CEZ) that must be maintained around each retained tree. These areas must remain undisturbed during the construction process and must be protected using suitable fencing or ground protection as specified.

9.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.

9.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any construction works or demolition or any arboricultural works. The LPA must be informed in writing once the tree protection measures are installed.

9.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections (see 9.17).

9.6 All measurements are given in metric using standard abbreviations.

Fencing and Ground Protection

9.7 The TPP indicates the position of all protective fences.

9.8 Protective fencing will comprise herras fencing or as agreed with the Local Planning Authority.

9.9 Ground protection is to be provided in the precautionary area (PA) indicated on the TPP and will comprise a proprietary system such as Ground Guard protective plates, for loads up to 40 tonnes, which must extend over the entire PA indicated and be securely fastened in place.

9.10 The protective fencing and ground protection must be inspected on installation and will remain in place until completion of the construction phase and then only removed with the consent of the LPA.

9.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

General Precautions

9.12 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the CEZ. Spills kits, suitable for the type fluids, fuels and chemicals stored on site must be available on site and site operatives must have training in their use.

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9.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.

9.14 Storage and mixing areas, contactor parking and all site huts must be outside the CEZ.

9.15 Access to the work area is via the main site entrance and must not traverse the CEZ.

9.16 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.

9.17 To ensure that all tree protection measures are properly installed and maintained the site shall be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit. All tree protection measures must remain in place until development work is completed and only removed after receiving written confirmation from the LPA.

Schedule of Inspection

1. TBA

9.18 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

Conclusion

10.1 The site masterplan demonstrates that the site can be developed without having a significant impact on the wider arboricultural resource. The site layout accommodates significant trees and groups of trees and ensures that important assets such as notable trees, ancient semi-natural woodland and veteran trees are provided with appropriate buffer zones. The proposed development of the site also provides the opportunity to provide significant levels of new tree planting that will mitigate the impact of ash dieback and provide future trees that will benefit the wider area and improve canopy cover levels in line with the objectives of Wrexham County Borough Council.

S.J.A. Shields

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Revision C

18th July 2024

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Arboricultural Assessment

Ref. No.	Species	Top Height	Stem Dia mm	N	E	S	W	CC	Age	Rem Cont.	Cat.	RPA m^2	Notes	AIA
W1	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Quercus robur (Common Oak)	14	400 (max) 250 (avg)	3.5	3.5	3.5	3.5	0	SM	40+	A2	72	**Condition: G** **Sensitivity: M** **Notes:** Small area of woodland. Ash element has potential to contract ash die-back which will limit life expectancy and long-term retention.	Area of developing woodland that has the potential to become more significant in the landscape. Will be retained and protected to the required standard under the current site layout.
G2	Acer platanoides (Norway Maple) Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Quercus robur (Common Oak) Ulmus glabra (Wych Elm) Fagus sylvatica (Beech)	13	350 (max) 200 (avg)	3	3	3	3	0	EM	40+	A2	55	**Condition: F** **Sensitivity: M** **Notes:** Linear group of trees along edge of field between site and A483 trunk road. Would benefit from additional enrichment planting. Ash element affected by ash	Provides important screening of the site from highway. Will be retained and protected to the required standard under the current site layout. Consider removing ash element and replacing with

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													die-back and elm will contract DED which will limit life expectancy and long-term retention.	alternative species.
G3	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash), Fagus sylvatica (Beech) Acer pseudoplatanus (Sycamore) Quercus robur (Common Oak)	16	400 (max) 250 (avg)	4	4	4	4	0	EM	20+	A2	72	**Condition: F** **Sensitivity: M** **Notes:** High proportion of ash (see advice for G2).	As G2
W4	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Crataegus monogyna (Hawthorn) Ulmus glabra (Wych Elm) Salix caprea (Goat Willow)	20	850 (max) 400 (avg)	5	5	5	5	0	M	40+	A2	327	**Condition: G** **Sensitivity: H** **Notes:** Lowland mixed broadleaf woodland. Identified as Ancient Woodland Site on the Natural Resources Wales Ancient	Very significant area of woodland with high amenity and conservation value and must be retained and incorporated into the site layout. Under that current site layout the northern section of the woodland is

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	Quercus robur (Common Oak)												Woodland Inventory Lle - Catalogue (gov.wales) High proportion of ash and ash die-back is evident on a number of trees.	adjacent to the built part of the development, with an area of informal open space to the south. A buffer zone of between 8m and 20m has been provided between the woodland and the development area. Will be retained and protected to the required standard under the current site layout.
T5	Quercus robur (Common Oak)	12	500	4	4.5	5.3	4.2	3	M	20+	B2	113	**Condition: G** **Sensitivity: H** **Notes:**	Reasonably significant feature in landscape with potential to contribute to site landscaping in the long-term. Will be retained and protected to the required standard under the current site layout.

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H6	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Sambucus nigra (Elder) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	Reasonably significant feature in landscape. Small sections will require removal to provide site access but the majority of H6 will be retained and protected to the required standard under the current site layout.
T7	Quercus robur (Common Oak)	17	600	2.5	5.7	7.5	5.1	4	M	20+	C2	160	**Condition: F/P** **Sensitivity: H** **Notes:** Ivy on tree. Cavity on stem. Major bark wounding on stem. Unbalanced crown shape.	Reasonably prominent tree on roadside, downgraded because of condition. Will be retained and protected to the required standard under the current site layout.
T8	Acer pseudoplatanus (Sycamore)	18	740	6.5	6.4	7.4	7	3	M	20+	B2	248	**Condition: G** **Sensitivity: M** **Notes:** Ivy on tree.	Reasonably significant tree in the landscape. Will be retained and protected to the required standard under the current site layout.

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T9	Quercus robur (Common Oak)	6	610	5	3.4	5.8	3	3	OM	10+	C3	168	**Condition: P** **Sensitivity: VH** **Notes:** Low vitality. Decay present on stem. Major bark wounding on stem.	Reasonably significant feature in landscape, but with limited life expectancy. Will be retained and protected to the required standard under the current site layout.
T10	Quercus robur (Common Oak)	18	850	7.4	5.6	9.8	9.9	2.5	M	40+	A2	327	**Condition: G** **Sensitivity: H** **Notes:**	Prominent tree that makes a significant contribution to the local landscape and amenity of the area. Will be retained and protected to the required standard under the current site layout.
T11	Acer pseudoplatanus (Sycamore)	18	620	7	6.5	7.9	6.8	3	M	40+	A2	174	**Condition: G** **Sensitivity: M** **Notes:**	As T10
H12	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Ulmus glabra (Wych Elm)	2	50					0	M	20+	A3	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet	Will be retained and protected to the required standard under the current site layout.

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	Acer pseudoplatanus (Sycamore)												the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	
T13	Quercus robur (Common Oak)	20	1250	10.3	9.5	8.5	8.9	4	OM	40+	A2	707	**Condition: G** **Sensitivity: H** **Notes:**	As T10
T14	Quercus robur (Common Oak)	19	1120	11.2	8.2	13	10.2	3	OM	40+	A2	568	**Condition: G** **Sensitivity: H** **Notes:**	As T10
G15	Crataegus monogyna (Hawthorn) Ulmus glabra (Wych Elm)	14	200 (max)					0	M	10+	C2	18	**Condition: G** **Sensitivity: L** **Notes:** Overgrown from hedge.	A minor feature with limited value as part of the background landscape. Will be removed to facilitate landscaping.
H16	Crataegus monogyna (Hawthorn) Acer pseudoplatanus (Sycamore) Ilex aquifolium (Holly)	6	150					0	M	20+	C2	10	**Condition: F** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered	A minor feature with limited value as part of the background landscape. Will be retained and protected to the required standard

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													important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	under the current site layout.
T17	Quercus robur (Common Oak)	14	510	4	5.2	5.1	3.6	3	M	20+	C2	118	**Condition: F** **Sensitivity: M** **Notes:**	A minor specimen with limited value as part of the background landscape. Will be retained and protected to the required standard under the current site layout.
T18	Fraxinus excelsior (Ash)	22	1,500	7	10	11	13	5	OM	<10	U	707	**Condition: P** **Sensitivity:** **Notes:** Low vitality. Declining. Ivy on tree. Decay present on stem. Fungal brackets visible on stem. Cavity on stem. Major bark wounding on stem. Dieback in crown. Low bud/leaf density. Broken	Removal on arboricultural grounds is recommended.

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													branches in crown. Major deadwood in crown. Risk of ash die-back.	
G19	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Crataegus monogyna (Hawthorn)	16	350 (max) 200 (avg)	3	3	3	3	0	M	20+	C2	55	**Condition: F** **Sensitivity: M** **Notes:** Linear group grown out from old hedgerow. Risk of ash die-back.	A minor feature with limited value as part of the background landscape. Will be retained and protected to the required standard under the current site layout.
T20	Fraxinus excelsior (Ash)	18	800	6.4	7	9.8	7	3	OM	<10	U	290	**Condition: P** **Sensitivity: M** **Notes:** As T18	As T18
G21	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Fraxinus excelsior (Ash)	14	250 (max) 200 (avg)	2	2	2	2	0	M	20+	B2	28	**Condition: G** **Sensitivity: M** **Notes:** Linear group from old hedgerow. Risk of ash die-back.	Reasonably significant feature in landscape, provides screening between site and existing dwelling. Will be retained and protected to the required standard under the current site layout.

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H22	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Ulmus glabra (Wych Elm)	1.8	50					0	M	20+	B3	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H12
G23	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Ilex aquifolium (Holly)	20	700 (max) 550 (avg)	5	5	5	5	3	M	40+	A2	222	**Condition: G** **Sensitivity: M** **Notes:** Risk of ash die-back.	Significant component in the landscape, provides screening between the site and the existing dwelling. Will be retained and protected to the required standard under the current site layout.
T24	Quercus robur (Common Oak)	20	1,500	7.4	6.4	9.6	6.9	2	OM/ V	40+	A3	707 (1590)	**Condition: G** **Sensitivity: VH** **Notes:** Notable Tree. Tree has a number of veteran	Very significant tree in terms of its arboricultural qualities, landscape and conservation value. Links into

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													characteristics (see appendix B).	G27. Will be retained and protected to the required standard under the current site layout.
T25	Acer pseudoplatanus (Sycamore)	18	400	7.1	6.2	5.8	7.8	3	M	40+	A2	72	**Condition: G** **Sensitivity: M** **Notes:**	Prominent tree that makes a significant contribution to the local landscape and amenity of the area. Will be removed under current site layout to facilitate main site access road. Any loss of amenity will be compensated through new planting forming part of the development.
T26	Acer pseudoplatanus (Sycamore)	18	520	7	6.5	7.9	6.8	3	M	40+	A2	122	**Condition: G** **Sensitivity: M** **Notes:**	As T10
G27a	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash)	18	700 (max) 550 (avg)	5	5	5	5	3	M	40+	A2 A3	707	**Condition: G** **Sensitivity: H** **Notes:** Western section	Substantial feature in the landscape, with high conservation value as wildlife

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	Ilex aquifolium (Holly)												of linear group G27 which runs through the centre of the site alongside the bridal way. This section comprises double hedgerow and high canopy tree. Provides a wildlife corridor with links to hedgerows through the site. Risk of ash die-back.	corridor and should be retained and incorporated into the site layout. A buffer zone of approximately 20 metres has been provided along the length.
G27b	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Ilex aquifolium (Holly)	18	700 (max) 550 (avg)	5	5	5	5	3	M	40+	A2 A3	707	**Condition: G** **Sensitivity: H** **Notes:** Western central section of linear group G27 which runs through the centre of the site alongside the bridal way. This section comprises double hedgerow and	Substantial feature in the landscape, with high conservation value as wildlife corridor and should be retained and incorporated into the site layout. A buffer zone of approximately 20 metres has been provided along the length. A small section,

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													high canopy tree. Provides a wildlife corridor with links to hedgerows through the site. Risk of ash die-back.	around 25m length will be removed under current site layout to facilitate main site access road. Any loss of amenity will be compensated through new planting forming part of the development.
G27c	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Ilex aquifolium (Holly)	18	700 (max) 550 (avg)	5	5	5	5	3	M	40+	A2 A3	707	**Condition: G** **Sensitivity: H** **Notes:** Eastern central section of linear group G27 which runs through the centre of the site alongside the bridal way. This section comprises double hedgerow and high canopy tree. Provides a wildlife corridor with links to hedgerows through the site.	As G27a

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													Some dead elm within group. Risk of ash die-back.	
G27d	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash) Ilex aquifolium (Holly)	18	700 (max) 550 (avg)	5	5	5	5	3	M	40+	A2 A3	707	**Condition: G** **Sensitivity: H** **Notes:** Eastern section of linear group G27 which runs through the centre of the site alongside the bridal way. This section comprises double hedgerow and high canopy tree. Provides a wildlife corridor with links to hedgerows through the site. Risk of ash die-back.	As G27b
T28	Quercus robur (Common Oak)	14	1500	5.3	4.1	5.7	3.2	3	V	40+	A3	707	**Condition: F** **Sensitivity: VH** **Notes:** Tree has veteran tree characteristics	High value arboricultural asset. Site access road approximately 18 metres to the

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													(see appendix B).	south slightly encroaches into veteran tree buffer zone on one side only. Given past land use of field and the undisturbed land on the other three sides of the tree it is considered that the tree will tolerate this. Will be retained and protected to the required standard under the current site layout.
H29	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Ulmus glabra (Wych Elm)	1.5	50					0	M	40+	A3	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	Significant feature in the landscape as the hedgerow defines the boundary of the site with the road. On land to the south of site that is to be retained as open space and not developed. Will not be impacted by the development and will be retained

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														and protected to the required standard under the current site layout.
H30	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Ulmus glabra (Wych Elm)	1.5	50					0	M	40+	A3	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H29
G31	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	7	250 (max)	4	4	4	4	1	M	10+	C2	28	**Condition: G** **Sensitivity: L** **Notes:**	On land to the south of site that is to be retained as open space and not developed. Will not be impacted by the development and will be retained and protected to the required standard under the current site layout.

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G32	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn)	16	500 (max)	5	5	5	5	2	M	20+	C2	113	**Condition: G** **Sensitivity: L** **Notes:**	As G31
G33	Acer pseudoplatanus (Sycamore) Quercus robur (Common Oak) Crataegus monogyna (Hawthorn)	16	600 (max) 350 (avg)	5	5	5	8	4	M	40+	A2	163	**Condition: G** **Sensitivity: M** **Notes:**	As G31
H34	Crataegus monogyna (Hawthorn) Acer pseudoplatanus (Sycamore) Ilex aquifolium (Holly) Prunus spinosa (Blackthorn)	2	50	2	2	2	2	0	M	40+	A3	1	**Condition: G** **Sensitivity: L** **Notes:** Understory hedge	As H29
G35	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash)	18	650 (max) 450 (avg)	6.5	5	5	5	2	M	40+	A2	191	**Condition:** **Sensitivity:** **Notes:** Risk of ash die-back.	As G31
T36	Fraxinus excelsior (Ash)	18	840	6.8	5.2	5	4.3	5	OM	<10	U	319	**Condition: P** **Sensitivity: L** **Notes:**	As T18

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													Low vitality. Declining. Decay present on stem. Cavity on stem. Risk of ash die-back.	
T37	Fraxinus excelsior (Ash)	12	640	7.2	2.6	7	6	4	OM	<10	U	185	**Condition: P** **Sensitivity: L** **Notes:** Old pollard. Decay present on stem. Cavity on stem. Broken branches in crown. Major deadwood in crown. Risk of ash die-back.	As T18
T38	Fraxinus excelsior (Ash)	18	650	7.4	7	7	7	4	M	20+	B2	191	**Condition: F** **Sensitivity: M** **Notes:** Risk of ash die-back. Consider removing as part of long-term management of the site.	On land to the south of site that is to be retained as open space and not developed. Will not be impacted by the development and will be retained and protected to the required standard under

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														the current site layout.
H39	Fagus sylvatica (Beech)	3	50					0	M	40+	A2	1	**Condition: G** **Sensitivity: L** **Notes:** Boundary hedge providing screening with adjacent property.	Significant feature in the landscape as the hedgerow defines the boundary of the site with adjacent property. On land to the south of site that is to be retained as open space and not developed. Will not be impacted by the development and will be retained and protected to the required standard under the current site layout.
G40	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	13	400 (max) 250 (avg)	2	2	2	2	0	M	20+	B2	72	**Condition: G** **Sensitivity: L** **Notes:**	As G31
T41	Quercus robur (Common Oak)	16	780	2.7	7	8.9	4.1	3	M	40+	B2	275	**Condition: F** **Sensitivity: H**	On land to the south of site that is to be retained as open space

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													Notes: Unbalanced crown shape. Crown distorted due to group pressure.	and not developed. Will not be impacted by the development and will be retained and protected to the required standard under the current site layout.
T42	Fraxinus excelsior (Ash)	18	840	6.9	6	6.3	4.2	2.5	M	10+	C2	319	**Condition: F** **Sensitivity: M** **Notes:** Ivy on tree. Dieback in crown. Risk of ash die-back.	As T41
T43	Crataegus monogyna (Hawthorn)	9	160 180 150 170 160	3.6	4.5	5.1	2.9	1.5	M	20+	C2	61	**Condition: F** **Sensitivity: L** **Notes:** Multi stem tree. Ivy on tree.	As T41
T44	Quercus robur (Common Oak)	20	1000	5.9	9.8	9.8	7.2	3	OM	20+	B2	452	**Condition: F** **Sensitivity: H** **Notes:** Notable Tree. Tree has a number of veteran characteristics (see appendix B). Ivy on tree.	As T24

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													Cavity on stem. Dieback in crown. Broken branches in crown.	
T45	Quercus robur (Common Oak)	16	520	4.4	8.4	3.6	5.1	4	M	20+	B2	122	**Condition: G** **Sensitivity: H** **Notes:**	As T41
T46	Acer pseudoplatanus (Sycamore)	17	810	4.2	7.8	6.5	6.1	2.5	M	20+	B2	297	**Condition: G** **Sensitivity: M** **Notes:**	As T41
T47	Acer pseudoplatanus (Sycamore)	14	350	6	6	5.1	4	1.5	EM	20+	B2	55	**Condition: G** **Sensitivity: M** **Notes:**	As T41
G48	Fraxinus excelsior (Ash)	14	500 (max) 400 (avg)	5	5	6.1	5	1	M	10+	C2	113	**Condition: G** **Sensitivity: M** **Notes:** Group of trees predominantly in adjacent garden. Risk of ash die-back.	As G31
G49	Acer pseudoplatanus (Sycamore) Fraxinus excelsior (Ash)	18	740 (max) 650 (avg)	7.7	7.7	9.8	7.7	2	M	20+	B2	248	**Condition: G** **Sensitivity: M** **Notes:** Risk of ash die-back.	As G31

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H50	Acer campestre (Field Maple) Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50	2.5	2.5	2.5	2.5	0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H6
T51	Quercus robur (Common Oak)	16	1000	6.3	6.4	6.3	7.8	2	OM	40+	A3	452	**Condition: F** **Sensitivity: H** **Notes:** Tree has a number of veteran characteristics (see appendix B).	Very significant tree in terms of its arboricultural qualities, landscape and conservation value. Will be retained and protected to the required standard under the current site layout.
G52	Crataegus monogyna (Hawthorn)	6	200	4	4	4	4	1	M	20+	C1	18	**Condition: G** **Sensitivity: L** **Notes:**	As G19

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H53	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Sambucus nigra (Elder)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:**	As H6
T54	Quercus robur (Common Oak)	18	830	9.5	9.5	9.5	9.5	3	OM	20+	B2	312	**Condition: F** **Sensitivity: H** **Notes:** Dieback in crown. Major deadwood in crown.	Reasonably significant in the landscape, but downgraded because of condition and life expectancy. Some encroachment into RPA by development area. Viability of retention will depend on final site layout.
T55	Quercus robur (Common Oak)	16	840	6.5	8.4	7	8.9	2	M	20+	B2	319	**Condition: F** **Sensitivity: M** **Notes:** Dieback in crown. Major deadwood in crown.	As T54
H56	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:**	As H29

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	Sambucus nigra (Elder)													
T57	Quercus robur (Common Oak)	17	1250	10.4	11.7	12.4	11.3	2.5	M	40+	A2	707	**Condition: G** **Sensitivity: M** **Notes:**	As T41
G58	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Acer pseudoplatanus (Sycamore)	14	250	3	3	3	3	0	M	20+	C2	28	**Condition: F** **Sensitivity: M** **Notes:** Risk of ash die-back.	As G31
H59	Crataegus monogyna (Hawthorn) Corylus avellana (Hazel), Ilex aquifolium (Holly), Sambucus nigra (Elder)	1.5	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H29
G60	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	12	350	4.5	4.5	4.5	4.5	2.5	EM	40+	C2	55	**Condition: G** **Sensitivity: L** **Notes:**	As G31

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	Quercus robur (Common Oak)													
G61	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Fraxinus excelsior (Ash)	16	500	7.9	7.9	7.9	7.9	0	M	40+	A2	113	**Condition: G** **Sensitivity: M** **Notes:** Risk of ash die-back.	As G31
H62	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H6
T63	Fraxinus excelsior (Ash)	22	1050	9	7.9	11	10.3	2.5	OM	10+	B2	499	**Condition: F** **Sensitivity: H** **Notes:** Risk of ash die-back.	As T41
G64	Crataegus monogyna (Hawthorn)	10	200	6	6	6	6	1	M	20+	C2	18	**Condition: F** **Sensitivity: M**	As G31

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	Ilex aquifolium (Holly)												**Notes:** Outgrown hedge.	
G65	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	10	200	6	6	6	6	1	M	20+	C2	18	**Condition:** **Sensitivity:** **Notes:** Outgrown hedge.	As G31
H66	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H29
G67	Acer pseudoplatanus (Sycamore) Ilex aquifolium (Holly) Crataegus monogyna (Hawthorn)	18	500	6	6	6	6	0	M	40+	A2	113	**Condition: G** **Sensitivity: M** **Notes:** Linear group.	As G31
G68	Crataegus monogyna (Hawthorn)	9	200	4	4	4	4	0	M	20+	C2	18	**Condition: G** **Sensitivity: L**	As G31

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	Prunus domestica (Damson), Sambucus nigra (Elder)												**Notes:**	
H69	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H29
H70	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H29

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H71	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Prunus spinosa (Blackthorn)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H6
G72	Acer campestre (Field Maple) Prunus avium (Wild Cherry) Prunus spinosa (Blackthorn)	11	250	4	4	4	4	0	M	20+	C2	28	**Condition: F** **Sensitivity: L** **Notes:**	As G19
T73	Fraxinus excelsior (Ash)	15	220 260	5.2	4.7	5.4	5.6	4	EM	10+	C1	53	**Condition: F** **Sensitivity: M** **Notes:** Risk of ash die-back.	T17
G74	Acer campestre (Field Maple) Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Prunus spinosa (Blackthorn)	12	350	4	4	4	4	0	M	20+	B2	55	**Condition: G** **Sensitivity: L** **Notes:**	As G21

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	Quercus robur (Common Oak)													
T75	Ulmus glabra (Wych Elm)	15	300	4.5	3.5	0	3.2	4	EM	10+	C2	41	**Condition: F** **Sensitivity: L** **Notes:** High potential to contract DED.	As T17
T76	Quercus robur (Common Oak)	18	740	6.5	7.4	8.2	7.9	3.5	M	40+	A2	248	**Condition: G** **Sensitivity: H** **Notes:**	As T10
G77	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	10	200	3	3	3	3	0	M	20+	C1	18	**Condition: G** **Sensitivity: L** **Notes:**	As G19
H78	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	Will be removed to facilitate the development of the land. Any loss of amenity to be compensated through new planting as part of the landscaping of the site.
T79	Quercus robur (Common Oak)	17	720	6.5	7.2	7.3	6.7	3	M	40+	A3	235	**Condition: G** **Sensitivity: H**	As T10

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													Notes:	
T80	Quercus robur (Common Oak)	10	360	0	4.7	5.7	0	3	EM	10+	C2	59	**Condition: F** **Sensitivity: H** **Notes:** Poor shape & form. Low vitality, suppressed by T79.	As T17
T81	Quercus robur (Common Oak)	15	710	7.1	7.2	7	5.4	3	M	40+	A2	228	**Condition: G** **Sensitivity: H** **Notes:**	As T10
H82	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	2	50					0	M	20+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H6
T83	Crataegus monogyna (Hawthorn)	10	280 190 220	3.4	2.3	3.6	3.7	0	M	20+	C1	74	**Condition: F** **Sensitivity: L**	Will be removed to facilitate the development of the land. Any loss of amenity to

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													Notes: Multi-stem tree.	be compensated through new planting as part of the landscaping of the site.
T84	Quercus robur (Common Oak)	17	800	6.9	6	7	4.3	2	M	40+	A2	290	**Condition: G** **Sensitivity: H** **Notes:**	As T10
G85	Crataegus monogyna (Hawthorn) Acer campestre (Field Maple)	9	300	4	4	4	4	0	M	20+	B2	41	**Condition: G** **Sensitivity: L** **Notes:**	As G21
H86	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	Will be removed to facilitate the development of the land. Any loss of amenity to be compensated through new planting as part of the landscaping of the site.
T87	Fraxinus excelsior (Ash)	16	330 340 360 390	5.7	5.9	7	6.7	4	M	20+	B2	229	**Condition: F** **Sensitivity: H**	As T8

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													Notes: Multi stem tree. Risk of ash die-back.	
T88	Crataegus monogyna (Hawthorn)	5	300	3	3	3	3	0	M	10+	C1	41	**Condition: F** **Sensitivity: L** **Notes:**	As T17
H89	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H29
H90	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of	As H29

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													the Hedgerow Regulations.	
T91	Acer pseudoplatanus (Sycamore)	18	1180	9	7.4	10	10.7	1.5	OM	40+	A2	630	**Condition: F** **Sensitivity: H** **Notes:**	As T10
G92	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Fagus sylvatica (Beech) Fraxinus excelsior (Ash)	16	500	4	4	4	4	0	EM	20+	B2	113	**Condition: G** **Sensitivity: L** **Notes:** Part of linear group around the northwest boundary of the site. Ash element at risk from ash die-back.	Provides important screening of the site from highway and should be retained and incorporated into the site layout. Will be retained and protected to the required standard under the current site layout.
G93	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn)	14	300	4	4	4	4	0	EM	20+	B2	41	**Condition: G** **Sensitivity: L** **Notes:**	As G92
T94	Acer pseudoplatanus (Sycamore)	12	350	5	4.3	5.2	4.1	1	EM	20+	C2	55	**Condition: G** **Sensitivity: L** **Notes:**	As T17
G95	Acer pseudoplatanus (Sycamore)	11	250	3	3	3	3	0	SM	20+	C2	28	**Condition: G** **Sensitivity: L**	Falls within area of land reserved for future

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													Notes:	highway improvement. Retention will be determined by exact design and site layout. Any loss of amenity to be compensated through new planting as part of highway improvement project.
T96	Acer pseudoplatanus (Sycamore)	17	520	5.9	3.6	5.2	5.7	1.5	M	40+	B2	122	**Condition: G** **Sensitivity: L** **Notes:**	As G95
G97	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn)	15	300	4	4	4	4	1	EM	20+	B2	41	**Condition: G** **Sensitivity: L** **Notes:**	As G95
G98	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash)	15	300	4	4	4	4	1	EM	20+	B2	41	**Condition: G** **Sensitivity: L** **Notes:** Risk of ash die-back.	As G95
T99	Acer pseudoplatanus (Sycamore)	16	220 250 310	4.2	5.3	5.5	4	0.5	EM	20+	C1	132	**Condition: G** **Sensitivity: L**	As G95

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			290										**Notes:**	
T100	Ulmus glabra (Wych Elm)	12	350	0	0	0	0	2	OM	<10	U	55	**Condition: D** **Sensitivity:** **Notes:**	As G95
T101	Acer pseudoplatanus (Sycamore)	16	250 320	4.6	2	4.5	5.1	0.5	EM	20+	C1	75	**Condition: G** **Sensitivity: L** **Notes:** Suppressed by T102	As G95
T102	Fagus sylvatica (Beech)	18	600	6.7	5.2	6.8	5.3	0.5	M	40+	A2	163	**Condition: G** **Sensitivity: H** **Notes:**	As G95
H103	Crataegus monogyna (Hawthorn)	2	50					0	M	40+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H86
H104	Crataegus monogyna (Hawthorn)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L**	As H86

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	Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)												**Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	
H105	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H6
H106	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered	As H6

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													important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	
G107	Crataegus monogyna (Hawthorn) Quercus robur (Common Oak) Ilex aquifolium (Holly)	14	250	3	3	3	3	0	M	20+	C3	28	**Condition: G** **Sensitivity: M** **Notes:** Part of linear group.	As G95
T108	Acer pseudoplatanus (Sycamore)	16	520	6.7	4.7	6.5	6	1	M	20+	B2	122	**Condition: G** **Sensitivity: M** **Notes:**	As G95
G109	Acer pseudoplatanus (Sycamore) Quercus robur (Common Oak)	18	550	9.5	4	8.2	7.5	1.5	M	20+	B2	137	**Condition: G** **Sensitivity: M** **Notes:**	As G21
T110	Fraxinus excelsior (Ash)	19	750	11	9.1	9.6	8.6	3	OM	10+	B2	255	**Condition: F** **Sensitivity: H** **Notes:** Risk of ash die-back. Consider removal as part of site management.	As T8
G111	Corylus avellana (Hazel)	6	50	4	4	4	4	0	M	20+	C2	1	**Condition: G** **Sensitivity: L**	As G15

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	Crataegus monogyna (Hawthorn)												**Notes:**	
T112	Acer pseudoplatanus (Sycamore)	16	600	6	7.7	5.7	4	2	M	10+	C1	163	**Condition: F** **Sensitivity: M** **Notes:** Declining. Decay present on stem. Major bark wounding on stem.	As T83
G113	Crataegus monogyna (Hawthorn)	5	250	3	3	3	3	0	M	20+	C2	28	**Condition: G** **Sensitivity: L** **Notes:**	As G15
H114	Crataegus monogyna (Hawthorn)	1.5	50	2	2	2	2	0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H86
G115	Corylus avellana (Hazel)	7	300	3	3	3	3	0	M	20+	C2	41	**Condition: G** **Sensitivity: L**	As G15

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	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)												**Notes:** Part of linear group.	
G116	Crataegus monogyna (Hawthorn)	5	250	3	3	3	3	0	M	20+	C2	28	**Condition: G** **Sensitivity: L** **Notes:**	As G19
T117	Quercus robur (Common Oak)	16	1120	8.5	9.8	10.7	9.6	1.5	OM	40+	A3	568	**Condition: G** **Sensitivity: VH** **Notes:** Tree has some veteran characteristics (see appendix B).	As T24
G118	Crataegus monogyna (Hawthorn)	5	250	3	3	3	3	0	M	20+	C2	28	**Condition: G** **Sensitivity: L** **Notes:**	As G19
T119	Ulmus glabra (Wych Elm)	12	200 220	0	0	0	0	5	OM	<10	U	40	**Condition: D** **Sensitivity:** **Notes:**	Removal recommended.
H120	Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly) Acer campestre (Field Maple)	2	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet	Within local centre area, retention will be determined by exact design and site layout. Potential for loss,

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	Ulmus glabra (Wych Elm)												the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	which would be compensated through new planting.
G121	Corylus avellana (Hazel) Crataegus monogyna (Hawthorn) Ilex aquifolium (Holly)	7	300	3	3	3	3	0	M	20+	C2	41	**Condition: F** **Sensitivity: M** **Notes:**	As H120
T122	Fraxinus excelsior (Ash)	14	550	5	5	5	5	3	M	10+	C2	137	**Condition: F** **Sensitivity: M** **Notes:** Risk of ash die-back.	As H120
T123	Pyrus (Pear)	10	350	3	3	3	3	1.5	OM	10+	C1	55	**Condition: F** **Sensitivity: M** **Notes:**	As H120
T124	Fraxinus excelsior (Ash)	11	340	3.7	2	6.6	5.6	1.7	M	10+	C2	52	**Condition: F** **Sensitivity: M** **Notes:** Risk of ash die-back.	As H120
T125	Fraxinus excelsior (Ash)	18	700	9	9	9	9	0.5	M	20+	B2	222	**Condition: G** **Sensitivity: M** **Notes:** Risk of ash die-back.	As H120

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T126	Pyrus (Pear)	9	500	5	5	5	5	2	OM	20+	C1	113	**Condition: F** **Sensitivity: M** **Notes:**	As H120
G127	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Malus (Apple)	12	250	3	3	3	3	0.5	EM	20+	C2	28	**Condition: G** **Sensitivity: M** **Notes:** Risk of ash die-back.	As G95
G128	Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash)	10	250	3	3	3	3	0	EM	20+	C1	28	**Condition: F** **Sensitivity: M** **Notes:**	As G95
G129	Fraxinus excelsior (Ash) Crataegus monogyna (Hawthorn) Acer pseudoplatanus (Sycamore)	12	400 (max) 250 (avg)	4	4	4	4	0	EM	40+	C2	72	**Condition: G** **Sensitivity: M** **Notes:** Risk of ash die-back.	As G95
T130	Quercus robur (Common Oak)	6	150	2.5	2.5	2.5	2.5	0.5	SM	40+	C2	10	**Condition: G** **Sensitivity: M** **Notes:**	As G95
G131	Acer campestre (Field Maple)	14	350 (max)	4	4	4	4	0	M	20+	B2	55	**Condition: G**	As G95

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	Fagus sylvatica (Beech) Prunus avium (Wild Cherry) Acer pseudoplatanus (Sycamore) Betula pendula (Silver Birch)		200 (avg)									**Sensitivity: M** **Notes:**	
H132	Crataegus monogyna (Hawthorn) Corylus avellana (Hazel) Ilex aquifolium (Holly) Ulmus glabra (Wych Elm)	1.2	50					0	M	40+	A3	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	Significant landscape feature comprising part of G27a. Will be retained under the current site layout.
H133	Crataegus monogyna (Hawthorn) Corylus avellana (Hazel) Ilex aquifolium (Holly)	1.2	50					0	M	40+	A3	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of	As H132

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													the Hedgerow Regulations.	
G134	Crataegus monogyna (Hawthorn)	6	330	3	3	3	3	1	OM	10+	C2	49	**Condition: G** **Sensitivity: M** **Notes:**	G19
T135	Acer campestre (Field Maple)	12	490	5.5	3.2	5.4	3.8	3	OM	20+	B3	109	**Condition: F** **Sensitivity: M** **Notes:** Cavity on stem. Major bark wounding on stem.	As T8
T136	Fraxinus excelsior (Ash)	17	820	6.9	7.3	9.5	7.4	2.5	OM	10+	B3	304	**Condition:** **Sensitivity:** **Notes:** Risk of ash die-back.	As T8
H137	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H86

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T138	Quercus robur (Common Oak)	17	860	2.5	7	6.8	9.6	4	M	40+	A2	335	**Condition: F** **Sensitivity: H** **Notes:** Fungal brackets visible on stem. Dieback in crown. Crown distorted due to group pressure.	As T10, but provide buffer area around tree because of condition. May require tree surgery.
T139	Quercus robur (Common Oak)	17	730	6.7	7	2.5	9.5	2	M	20+	A3	241	**Condition: F** **Sensitivity: H** **Notes:** Dieback in crown. Broken branches in crown. Major deadwood in crown.	As T138
T140	Quercus robur (Common Oak)	18	910	8	7	10.7	7.6	3	M	40+	A3	375	**Condition: F** **Sensitivity: H** **Notes:**	As T10
T141	Crataegus monogyna (Hawthorn)	8	280 220 320	4.1	6.9	2	3.8	1	OM	<10	U	104	**Condition: P** **Sensitivity:** **Notes:**	Recommend removal.
T142	Crataegus monogyna (Hawthorn)	7	300	4.2	3.4	3.7	2.8	2	OM	10+	C3	41	**Condition: F** **Sensitivity: H**	As T83

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													Notes: Declining.	
T143	Crataegus monogyna (Hawthorn)	7	300	4.2	3.4	3.7	2.8	2	OM	10+	C3	41	**Condition: F** **Sensitivity: H** **Notes:**	As T83
T144	Crataegus monogyna (Hawthorn)	7	300	4.2	3.4	3.7	2.8	2	OM	10+	C3	41	**Condition: F** **Sensitivity: H** **Notes:**	As T83
H145	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H86
T146	Acer pseudoplatanus (Sycamore)	18	1560	7.9	3.3	5.1	5.6	3	OM	10+	A3	707	**Condition: P** **Sensitivity: H** **Notes:** Decay present on stem. Fungal brackets visible on stem. Cavity on stem.	Significant in terms of habitat. Will be retained and remedial work undertaken as required.

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													Unbalanced crown shape. Tree is in a hazardous condition and requires tree surgery. Tree has veteran characteristic (see appendix B)	
T147	Crataegus monogyna (Hawthorn)	6	260 280	4.8	3.1	3.4	3.2	2	M	10+	C1	66	**Condition: G** **Sensitivity: L** **Notes:**	As T17
T148	Acer pseudoplatanus (Sycamore)	18	1060	8.1	8.7	9.2	9.1	3	OM	40+	A2	508	**Condition: G** **Sensitivity: M** **Notes:**	As T10
H149	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Fraxinus excelsior (Ash) Ilex aquifolium (Holly) Ulmus glabra (Wych Elm)	2.5	50					0	M	20+	C2	1	**Condition: F** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H6

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													Risk of ash die-back.	
T150	Tilia X europaea (Common Lime)	10	300 500 220 260	4.6	5.4	5.5	5.2	1	EM	20+	B1	206	**Condition: G** **Sensitivity: L** **Notes:** Multi-stem tree. Poor form.	On land adjacent to south boundary. Has potential to become more significant as it develops. Will not be directly impacted by the development and can be retained and protected to the required standard, however may require removal for visibility splay.
T151	Tilia X europaea (Common Lime)	11	360	4.8	3.9	4.4	4.5	1	EM	40+	B1	59	**Condition: G** **Sensitivity: L** **Notes:**	As T150
T152	Tilia X europaea (Common Lime)	10	290	3.6	2.8	3.2	3	3	EM	40+	B1	38	**Condition: G** **Sensitivity: L** **Notes:**	As T150
G153	Aesculus hippocastanum (Horse Chestnut) Malus (Apple) Tilia X europaea (Common Lime)	15	510	4	4	4	4	1	EM	40+	A2	118	**Condition: G** **Sensitivity: L** **Notes:**	Significant group of trees on land adjacent to south boundary. Has potential to become more

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														significant as it develops. Part of group will be impacted by new access road. Remainder will be retained and protected to the required standard.
G154	Aesculus hippocastanum (Horse Chestnut) Tilia X europaea (Common Lime)	14	360	4	4	4	4	0	EM	40+	B2	59	**Condition: G** **Sensitivity: L** **Notes:**	As G21
G155	Aesculus hippocastanum (Horse Chestnut)	12	360 290	4	4	4	4	2	EM	20+	B2	96	**Condition: F** **Sensitivity: M** **Notes:** Some indication of bleeding canker.	As G21
H156	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel)	2.5	50					0	M	20+	C2	1	**Condition: F** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of	As H6

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													the Hedgerow Regulations.	
H157	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel) Acer campestre (Field Maple)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H16
T158	Quercus robur (Common Oak)	7	190 150 100	3.4	2.8	3.3	2.7	3	SM	20+	C2	31	**Condition: G** **Sensitivity: M** **Notes:**	As T17
H159	Acer campestre (Field Maple) Corylus avellana (Hazel) Crataegus monogyna (Hawthorn) Sambucus nigra (Elder)	6	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of	As H6

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													the Hedgerow Regulations.	
T160	Acer pseudoplatanus (Sycamore)	19	1200	6.7	7.8	8.8	8	3.5	M	40+	A2	652	**Condition: F** **Sensitivity: M** **Notes:** Decay on stem.	As T10
T161	Acer pseudoplatanus (Sycamore)	14	300	4.6	4.9	4.4	4.6	5	EM	40+	B2	41	**Condition: G** **Sensitivity: L** **Notes:**	As T8
T162	Acer campestre (Field Maple)	14	310	3.9	5.1	7.2	5	4	M	20+	B2	43	**Condition: G** **Sensitivity: L** **Notes:**	As T8
G163	Acer campestre (Field Maple) Ulmus glabra (Wych Elm)	3	200	3	3	3	3	0	SM	10+	C1	18	**Condition: F** **Sensitivity: L** **Notes:**	As G21
H164	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel) Acer campestre (Field Maple) Ilex aquifolium (Holly)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of	As H6

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													the Hedgerow Regulations.	
T165	Quercus robur (Common Oak)	16	800	7.4	8.2	6.5	8	4	M	40+	A2	290	**Condition: G** **Sensitivity: H** **Notes:**	As T10
T166	Quercus robur (Common Oak)	15	710	7	7.3	6.8	7.2	4	M	20+	B2	228	**Condition: G** **Sensitivity: VH** **Notes:** Declining condition.	As T8
H167	Corylus avellana (Hazel) Ilex aquifolium (Holly) Acer campestre (Field Maple) Prunus spinosa (Blackthorn) Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Ulmus glabra (Wych Elm)	5	50					0	M	40+	B2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow may meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H16
T168	Fraxinus excelsior (Ash)	15	760	7	4.2	6	6.2	4	OM	10+	C2	261	**Condition: F/P** **Sensitivity: H** **Notes:** Low vitality. Ivy on tree. Decay	As T17

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													present on stem. Broken branches in crown. Major deadwood in crown. Risk of ash die-back.	
T169	Prunus avium (Wild Cherry)	14	270 120	3.2	4.6	5.6	4	5	EM	20+	C2	39	**Condition: G** **Sensitivity: M** **Notes:**	As T17
T170	Quercus robur (Common Oak)	15	800	7	6.5	8.7	9.7	2	M	40+	A2	290	**Condition: F** **Sensitivity: H** **Notes:**	As T10
G171	Acer pseudoplatanus (Sycamore) Crataegus monogyna (Hawthorn) Corylus avellana (Hazel) Ilex aquifolium (Holly) Sambucus nigra (Elder)	12	300	4	4	4	4	0	M	40+	B2	41	**Condition: G** **Sensitivity: L** **Notes:** Overgrown hedge.	Section of G171 will be removed to facilitate the access road with the remainder being retained and protected to the required standard.
T172	Alnus glutinosa (Common Alder)	7	710	2.6	3.1	3	4.5	0	V	10+	A3	228	**Condition: P** **Sensitivity: VH** **Notes:** Notable tree with veteran characteristics	Provides important habitat. Will be retained and protected to the required standard under

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													(see appendix B). In poor structural and physiological condition.	the current site layout.
G173	Crataegus monogyna (Hawthorn) Salix caprea (Goat Willow) Sambucus nigra (Elder) Ulmus glabra (Wych Elm) Fraxinus excelsior (Ash) Corylus avellana (Hazel)	14	500 (max) 350 (avg)	5	5	5	5	0	M	40+	B2	113	**Condition: G** **Sensitivity: L** **Notes:** Risk of ash die-back.	Linear group of trees and shrubs along water course. Provides a significant landscape feature with high conservation value. Will be retained and protected to the required standard under the current site layout.
G174	Alnus glutinosa (Common Alder) Crataegus monogyna (Hawthorn) Fraxinus excelsior (Ash) Quercus robur (Common Oak)	18	800	6	6	6	6	0	M	40+	A2	290	**Condition: G** **Sensitivity: L** **Notes:** Risk of ash die-back.	Large group / small woodland adjacent to watercourse. Provides a very significant landscape feature. Section of G173 will be removed to facilitate the access road with the remainder being retained and protected to

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													the required standard.
H175	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel) Acer campestre (Field Maple) Ilex aquifolium (Holly)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H16
H176	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel) Acer campestre (Field Maple) Ilex aquifolium (Holly)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H86

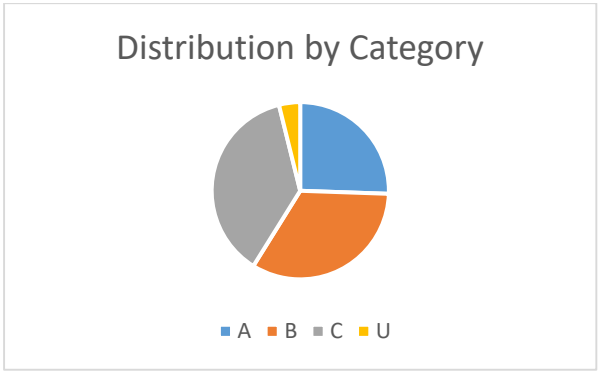
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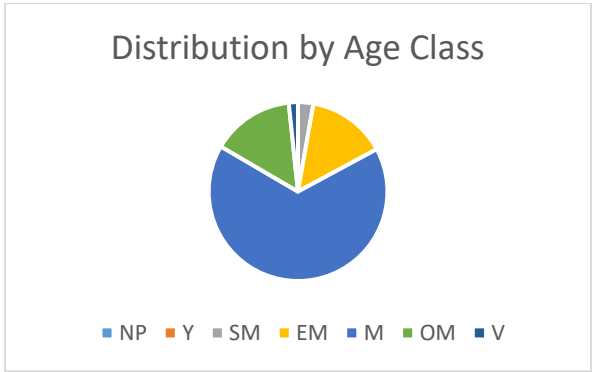
H177	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel) Acer campestre (Field Maple) Ilex aquifolium (Holly)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of the Hedgerow Regulations.	As H86
T178	Quercus robur (Common Oak)	15	360	7.4	9.7	8.5	6.9	2.5	M	20+	A2	59	**Condition: F** **Sensitivity: H** **Notes:** Minor die-back in crown	As T10
H179	Crataegus monogyna (Hawthorn) Sambucus nigra (Elder) Corylus avellana (Hazel) Acer campestre (Field Maple) Ilex aquifolium (Holly)	2.5	50					0	M	20+	C2	1	**Condition: G** **Sensitivity: L** **Notes:** Native species hedge. The hedgerow does not meet the criteria to be considered important under sections 6, 7 & 8 of part two of	As H86

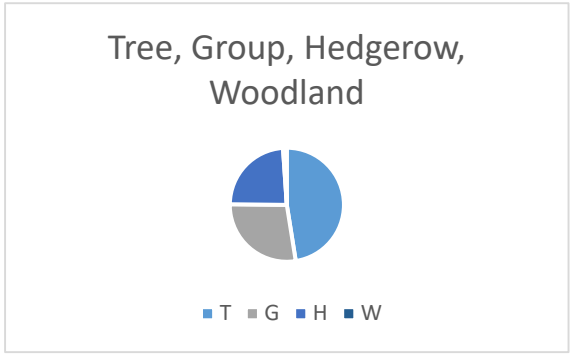
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													the Hedgerow Regulations.	
T180	Ulmus glabra (Wych Elm)	10	280 220	5.7	3.8	3.9	4	2	EM	10+	C1	57	**Condition: F** **Sensitivity: L** **Notes:** High potential to contract DED.	As T83
H181	Ilex aquifolium (Holly)	8	250	4	4	4	4	0	M	10+	C1	28	**Condition: G** **Sensitivity: L** **Notes:** short section of overgrown hedge.	As H78

Distribution of Trees by Category and Age Class & Asset Category







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Ultimate Height of Main Trees

Oak 20m **Ash 20m** **Sycamore 22m**

Notes

BS 5837: 2012 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & U.

Category A: Trees of high quality with an estimated life expectancy of at least 40 years.

1 Trees that are particularly good examples of their species, or essential components of groups or formal arboricultural features.
2 Trees, groups or woodlands that provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance.
3 Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated lifespan of at least 20 years

1 Trees that might be included in a higher category but are downgraded because of impaired condition.
2 Trees present in numbers, usually as groups of woodlands that form distinctive landscape features.
3 Trees with clearly identifiable conservation or other cultural benefits.

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Category C: Trees of low quality with an estimated lifespan of at least 10 years or young trees with a stem diameter below 150mm.

Category U: Trees in such a condition that they cannot realistically be retained as living in the context of the current land use for longer than 10 years. *NB. Category U trees can have an existing of potential conservation value which it might be desirable to preserve.*

Crown Spreads for trees in groups are shown based on the average tree within the group. The overall crown spread is indicated on the Tree Constraints Plan

Key

Tag No	Identification number for tree	**Species**	Species of tree
Top Height	Estimated height of tree	**Stem Dia.**	Diameter of stem at 1.5 metres
Stems	Number of stems	**N, E, S, W**	Crown spread at compass points
CC	Crown Clearance	**FSB**	Direction of first significant branch
Rem. Cont	Remaining safe life expectancy in years	**RPA**	Root protection area in m^2
Cat.	BS Category (see above)	**AIA**	Arboricultural Implication Assessment
Age	**Y -** Young Trees		
	SM Semi Mature		

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	EM	Early Mature
	M	Mature
	OM	Late Mature exceeds normal life expectancy for species
	V	Veteran Tree
Condition	**Good**	Relatively free from defects and / or major pests and diseases
	Fair	Some defects, which could be addressed through tree surgery or minor pests or early symptoms of diseases
	Poor	Substantial defects or terminal decline
	Dead	Dead

Sustainable Urban Extension Ruthin Road, Wrexham

Scale 1: 1,500

Centred on 331,407m, 349,744m, OS National Grid (53° 01' 02.20" N 3° 01' 28.13" W)

METRES 0 50 100 200 300 400 500 600 800 METRES

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Tree & Woodland Management Solutions

Tree Constraints Plan

Overview

Land at

Lower Berse Farm

Ruthin Road

Wrexham

KEY

- Cat A Tree
- Cat B Tree
- Cat C Tree
- Cat U Tree
- Canopy
- Woodland
- RPA
- RPA Cat C
- Hedgerow

Drawing No: RRW/TCP/08/21/00

Drawn By: S. Shields

Scale: 1:1500 @ A0

Date: 6th August 2021

Revision:

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Scale 1: 500

Centred on 331,269m, 352,152m OS National Grid. | 53° 02' 56.10"N 3° 07' 29.62"W |

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METRES 10 0 10 20 METRES

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Tree & Woodland Management Solutions

Tree Constraints Plan

Land at
Lower Berse Farm
Ruthin Road
Wrexham

KEY

- Cat A Tree
- Cat B Tree
- Cat C Tree
- Cat U Tree
- Canopy
- Woodland
- RPA
- RPA Cat C
- Hedgerow

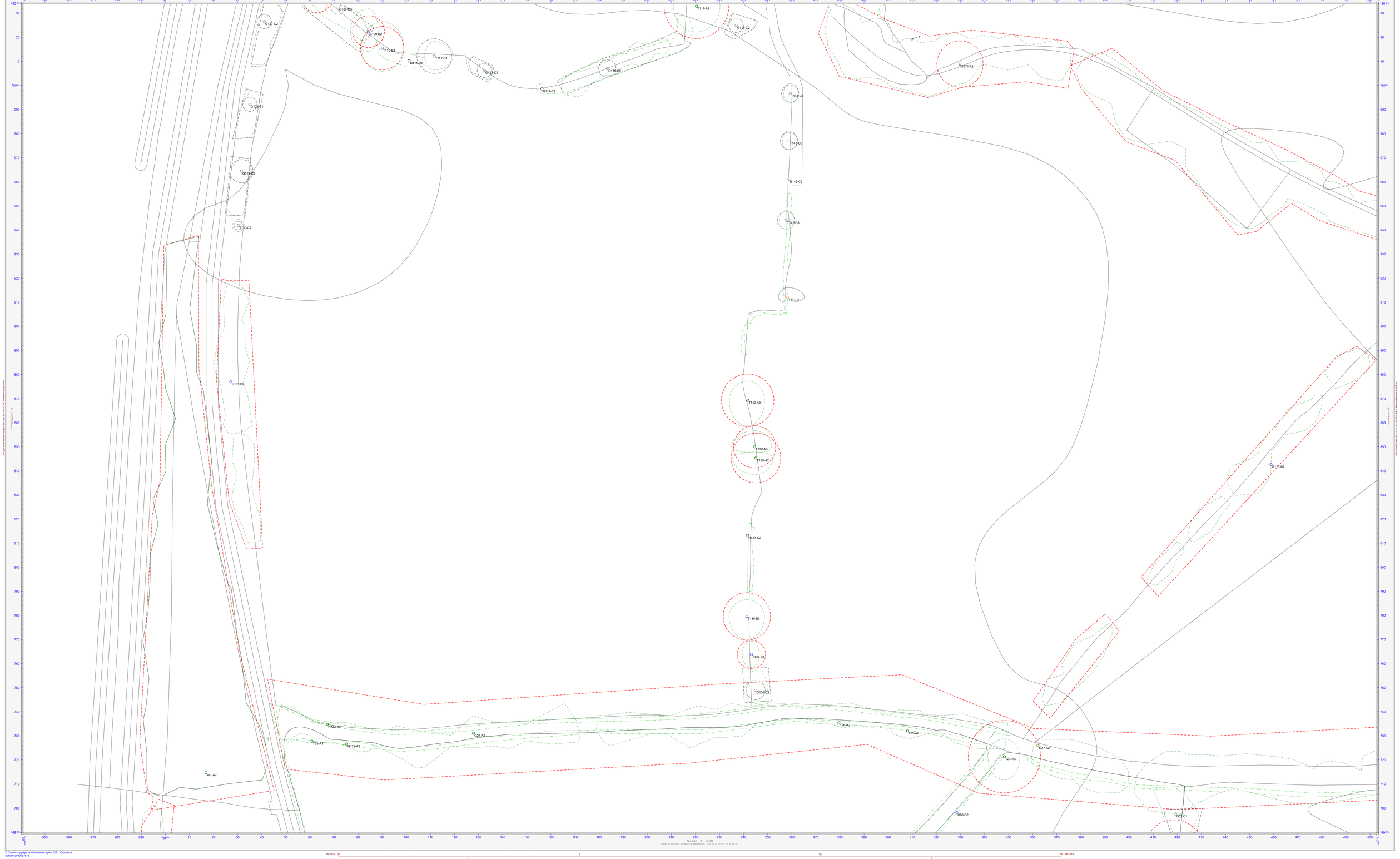
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Tree & Woodland Management Solutions

Tree Constraints Plan

Land at
Lower Berse Farm
Ruthin Road
Wrexham

KEY

- Cat A Tree
- Cat B Tree
- Cat C Tree
- Cat U Tree
- Canopy
- Woodland
- RPA
- RPA Cat C
- Hedgerow

Drawing No: RRW/TCP/08/21/02
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Centred on 331,354m, 345,567m OK National Grid - 3°07'40.83"W, 9°31'37.02"W, 1

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METRES 100 0 100 200 METRES

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Tree & Woodland Management Solutions

Tree Constraints Plan

Land at

Lower Berse Farm

Ruthin Road

Wrexham

KEY

- Cat A Tree
- Cat B Tree
- Cat C Tree
- Cat U Tree
- Canopy
- Woodland
- RPA
- RPA Cat C
- Hedgerow

Drawing No: RRW/TCP/08/21/03

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Revision:

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Watercourse
Public Right of Way (P
Public Right of Way (P
Public Right of Way (P

Proposed

Residential Developme dwellings (38.10ha)
2FE Primary School S
Local Centre with poss public house and comm viability(1.46ha)
Land Reserved for Pot Scheme (2.54ha exclu
Telecom Mast Exclusio
Spine Road with Tree and Swale
Secondary Road/Shar
Emergency Access
Walking Route
Walking and Cycling R
Public Open Space (15
Strategic Open Space
Drainage Attenuation (
Tree Planting
Hedgerow Planting
Neighbourhood Equipp
Multi Use Games Area
Locally Equipped Area
Local Area for Play (LA

1	Residential development up to 1,450 dwellings
2	Two site access points onto the A525 Ruthin Road
3	Two site access points onto Bersham Road
4	Main access roads suitable for buses with active travel walking and cycling routes, tree avenue planting and landscape verges w
5	Site for a primary school up to 2FE located close to the existing high school
6	Local centre reflecting historic courtyard layout with Lower Berse Farmhouse and associated buildings of heritage value retained
7	Development blocks to front onto existing and proposed roads and open space to create active frontages
8	Development overlooking Ruthin Road and set back to create a green frontage to the road
9	Development to sensitively integrate with Bersham Conservation Area and create a rural character along Bersham Road and Be
10	Variations in density and building heights to be used to create different character areas with lower density development to the so the Conservation Area and rural character
11	Development set back from the existing dwelling Bryn-moel at the site centre
12	East-west green corridor and active travel route along the PRoW Bridleway with buffers to development and central open space
13	Northeast southwest green link and active travel route along PRoW connecting Bersham to Wrexham and providing a wildlife cor
14	Retention of the existing watercourse as a wildlife corridor and feature providing a green link through the northern part of the site
15	Retention of existing landscape features to create a strong landscape framework, including important hedgerows, veteran trees,
16	Drainage attenuation basins integrated at low parts of the site and along primary roads as swales
17	Land to the south of the site retained as a strategic green space and Green Wedge to Bersham
18	Series of distinctive and attractive green spaces through the development to create a sense of place and legibility with play provi PRoW Bridleway at the centre of the site
19	Ancient Woodland adjacent Berse Lane protected and sensitively integrated with development with public access restricted
20	Access to the western development parcel from Berse Lane or if feasible from development on the east side of Berse Lane. Con access/interconnectivity between development if Berse Lane closed and becomes a Greenway; or provide emergency access ar
21	Potential to close Berse Lane and Holmestead Lane to vehicles and create Greenways as active travel walking and cycling route

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Tree Constraints Plan
Overlay
Land at
Berse Farm
Ruthin Road
Wrexham

Key

Tree Cat A
Cat B Tree
Cat C Tree
Tree Cat U
Woodland
Tree Canopy Spread
Woodland
RPA
RPA Cat C

Drawing No: RRW/TCP/11/22/01
Drawn By: S. Shields
Scale: 1:1500 @ A0
Date: 18th July 2024
Revision: C

Do not scale from this drawing all dimensions to be checked on site
Drawing is colour coded and a monochrome copy should not be relied upon

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This map contains data from the follow ing sources;
The Environmental Partnership
Natural Resources Wales
Wrexham County Borough Council