



**Bridgeway Centre,
Wrexham Industrial Estate,
Wrexham
Tree Constraints Report**

Report Ref: 197/R/100

February 2022

Abridged Version to
support Prior Approval for
Demolition Application
Jan 2024

Bridgeway Centre, Wrexham Industrial Estate
Tree Constraints Report
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1. INTRODUCTION

MDLandscape have been instructed by FI-REM to conduct an arboricultural survey of trees on land at Bridgeway Centre, Wrexham Industrial Estate, Wrexham in the context of potential development. This report details the arboricultural constraints present at the site. Additional trees outside the survey area have been graphically indicated for context. All trees are shown on the Tree Constraints Plans 197-T-050, 100, 101, 102 (Figures 2.0-2.3).

The survey was carried out on 31st January and undertaken in dry, cool conditions. Inspection was carried out from ground level by a qualified Arboriculturist and trees were assessed in accordance with *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*. Further investigation to identify extent of cavities or decay detection may be recommended where appropriate.

A topographical survey was available at the time of survey, drawing reference 9980-T (Figure 3.0) and this was used to verify tree locations. Distances were verified using a laser distance measure. All trees over 75mm stem diameter at 1.5m above highest adjacent ground level within the survey area were surveyed. The trees were plotted as individuals, groups and woodland as appropriate and hedges were plotted to the canopy extents. Scrub planting is also indicated on the Tree Constraints Plan for context.

Measurements were made using clinometers and specialist diameter tapes. Where this was not possible, heights were estimated.

The assessment identifies the trees potentially affected by development and discusses their suitability for retention on site. The assessment also identifies trees that are undesirable to retain because of structural or other defects, trees that can be retained with an acceptable level of risk in their current location and the measures that are required to ensure their long-term retention.

The British Standard recognises many additional factors will ultimately determine changes to the site, for example redevelopment or natural physical changes. Information in this report is presented in order to allow an informed judgement to be made on tree retention and removal and should not be interpreted rigidly.

This report includes the following:

- A schedule of all trees located within, or in close proximity to, the proposed working area (Appendix 1) noting species type, age, height, crown spread, diameter-at-breast-height and condition;
- An assessment of trees, based on *BS 5837:2012* has been undertaken and trees have been categorised into one of four categories: A, B, C or U and illustrated in the Tree Constraints Plan (Figure 2.0-2.3). Locations of the trees are mapped, indicating their category, canopy spread and Root Protection Area;
- The RPA has been adjusted in accordance with *BS5837:2012* 4.6.2, where it is considered existing hard surfaces or barriers may have constrained the rooting area;
- An assessment of arboricultural constraints to current site operations and future proposed development and operations; and
- Advice on the management of trees based on their current condition and location.

2 THE SITE AND SURROUNDINGS



Figure 1.0 Site location - Contains ordnance survey data OS Maps: (ordnancesurvey.co.uk)

The survey area is located on land centred on SJ 37756 49329 at the Bridgeway Centre, De Fford Y Bont / Bridge Road, Wrexham. The site is an industrial estate with established designed planting areas, hedges and mature trees. The mature trees are former field and hedgerow trees in an area historically used for agriculture between Redwither Lane to the north and River Clywedog to the south but which has been a trading estate for at least seventy years¹.

The survey area includes land shown in figure 1.0 and trees and hedges were recorded. The trees surveyed included hawthorn, oak, silver birch, field maple, sycamore, ash, whitebeam, silver bark maple, Western red cedar, crack willow, ornamental and wild cherry, blackthorn, beech, Scot's pine and rowan.

The tree population within the survey area has a moderate amenity and landscape value overall with some areas and individual trees of high value. W1 in particular has high value in the landscape and as wildlife habitat.

A soil survey has not been undertaken, however it is anticipated that the soils are a combination of made ground as a result of previous development and natural soils. An examination of magic.defra.gov.uk website identifies the site soilscape as Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soil. The British Geological Survey website mapapps.bgs.ac.uk suggests superficial deposits of Devensian Diamacton till, overlying bedrock of Chester formation, sandstone, pebbly (gravelly).

¹ Denbighshire Sheet XXIX.SW, Revised: 1949, Published: 1954, National Library of Scotland

3 STATUTORY DESIGNATIONS

3.1 Tree Preservation Orders & Conservation Area Designations

A inquiry has been made with Wrexham Council to request confirmation of conservation area and TPO status for land and trees at the site. Wrexham Council Arboriculture Officer confirmed on 14.2.2022 the site is not in a conservation area and no trees are currently the subject of a TPO.

Tree Preservation Orders (TPO) conferred by Local Authorities to protect the amenity value of trees as individuals, in a group of trees or woodland. Unauthorised pruning, lopping, topping, felling, uprooting or wilful damage caused to a tree protected by a TPO is prohibited and may incur an unlimited fine and subject to prosecution. Works to trees protected by a TPO or within a Conservation Area, must only be carried out with the written consent of the Local Authority. This may take the form of a successful planning application where the removal of protected trees is clearly stated and agreed in the determination of the application or through a formal application process that requires a six-week notice period. Work must not be carried out within that period without consent. The LPA then has 6 weeks to decide whether the tree should be made the subject of a Tree Preservation Order (TPO). Applicants should contact the Local Authority if they are in any doubts about the procedures.

3.2 Protected Species

Trees and hedges are a potential habitat for nesting birds and roosting habitat for bats, both of which are protected under the *Wildlife and Countryside Act 1981* (as amended) and certain species under the *Conservation of Species and Habitat Regulations 2010*. This makes it an offence to intentionally or recklessly, damage or destroy an active birds' nest.

Several trees within the survey boundary may be suitable habitat for nesting birds and roosting habitat for bats, therefore all trees should be inspected for the absence or presence of nesting bird activity or presence of bats, before removal or major pruning work is carried out. A qualified Ecologist should be appointed to ensure a preliminary ecological assessment is undertaken.

Planning Considerations

In addition to statutory designations and protection, the planning system also confers importance on trees and woodland in the context of potential development. The National Planning Policy Framework states that: *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.*

Tree Felling

When considering felling trees related to development, consents for tree felling may be required under different regimes, even if a planning application is not needed. These regimes include felling licences and Environmental Impact Assessments. The developer is responsible for ensuring that any necessary permissions, consents and permits are in place when required. If tree felling related to development is carried out without the necessary planning permission or felling permission, this may lead to enforcement action.

4 TREE QUALITY CATEGORISATION

Under BS 5837:2012 trees and groups are objectively assigned a quality category designed to quantify their value. Table 1 presents a summary of the categories presented in the British Standard. The full table has been reproduced.

Table 1 Cascade chart for tree quality assessment				
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, immediate, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby or very low quality trees suppressing adjacent trees of better quality NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant or principal trees within an avenue) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)			See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals, or trees occurring in collectives but situated so as to make little visual contribution to the wider locality Trees with material conservation or other cultural value			See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary/transient landscape benefits Trees with no material conservation or other cultural value			See Table 2

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Table 1: Summary of BS 5837:2012 tree quality categorisation criteria

5 TREE POPULATION AND CONDITION

The tree population within the survey area is a mixture of designed planting, mature trees relating to historic field boundaries and hedges. There is a varied age class of trees within the survey area, diversity of species and condition as detailed in the tree survey data sheets in Appendix 1 and as illustrated in the photographic record in Appendix 2. There are a number of mature oak present that are prominent in the landscape, of which four are considered to be category A. Although two of the oak are under pressure from the current land use, it is possible to provide immediate protection of these trees to ensure their longevity and continued contribution.

A total of 32 individual trees were surveyed, 11 groups of trees, one woodland and five hedges as noted in the summary table, Table 2. Five category A trees (four oak and one field maple) and one woodland were recorded. The majority of trees, groups, woodland and hedge features are to the periphery of the built development. Many of the areas of vegetation provide screening of the buildings from roads and maintain habitat connections to the wider area. The majority of planting includes native species, with occasional cultivated specimens present.

The trees are in fair to good condition overall, however no regular arboricultural or woodland management is evident. Planting in G11 has planting accessories still present which should be removed.

	Tree Preservation Order or within Conservation Area	Category	Quantity
Individual trees	To be confirmed	A	5
		B	12
		C	15
		U	0
Groups	To be confirmed	A	0
		B	5
		C	6
		U	0
Woodland	To be confirmed	A	1
		B	0
		C	0
		U	0
Hedges	To be confirmed		5

Table 2 – Summary of survey

A schedule of all trees, groups and hedges present is provided at Appendix 1.

6 DEVELOPMENT ASPECTS AND RECOMMENDATIONS

Trees to the site boundary will provide foraging habitat for both bats and birds. To minimise disturbance to these species, the perimeter planting, should be retained where possible. During development and construction, the rooting system of trees can be potentially affected, with impacts on long term health and stability. Most development activity can have an impact on the future condition and safety of a tree and therefore careful planning and management of tree protection should aim to ensure a continued sustainable tree cover, with minimal stress to existing trees.

6.1 Development and Construction

On this site, barriers to tree root growth are likely to include existing pavements and roads, retaining walls and buried structures if present, therefore the RPA is likely to be confined to existing soils. Where relevant, an adjusted RPA is indicated on the tree constraints plan, in accordance with BS5837:2012 4.6.2 and is represented as a polygon. Tree root growth may also be impeded where ground levels have been increased due to site clearance works or adjacent development. Tree roots may be expected to grow unimpeded where existing soil levels remain undisturbed.

To ensure that the retained trees on site are properly protected during the development phase, the tree rooting zones are calculated and mapped onto the tree constraints plan in accordance with BS5837:2012. The RPA represents the rooting zone which, where possible, should remain undisturbed. The protection of retained trees can therefore be achieved by creating a Construction Exclusion Zone (CEZ) based on the RPAs.

Damage caused by any construction activity such as demolition, soil stripping and excavation needs to be considered at the design stage. Care should be taken to avoid damage to tree roots when existing structures such as tarmac surfaces are removed within the RPA of a tree.

The laying of access roads, driveways, parking areas or any other hard surfaces planned in proximity to retained trees needs to be considered. There are many solutions available to construct hard surfaces over RPAs without causing damage to trees.

Consideration must be given to movement of both vehicle and pedestrian traffic. If possible, traffic should be diverted away from the RPAs. If this is not possible a range of temporary surfaces are available to distribute the weight of traffic and allow the roots to receive moisture and air.

At this site, protection of trees should be by means of tree protection fencing, placed in accordance with the Root Protection Area to form a Construction Exclusion Zone and additional RPA ground protection if required, as shown in Appendix 3.

7 ARBORICULTURAL RECOMMENDATIONS

7.1 Tree Work

All tree surgery work should be carried out by a qualified arboricultural contractor in accordance with BS 3998:2010 Tree work – Recommendations and current and current issued FISA Safety Guides (Forestry Industry Safety Accord).

Where pruning is thought to be necessary, the advice of an experienced Arborist or Arboriculturist should be sought to avoid potential long-term impacts from over pruning or the spread of diseases.

Two trees T18 oak and T28 beech, should be reinspected in summer to assess extent of dieback, monitored and reinspected annually for physical changes. T28 should be monitored for bark changes to both stems, pruning to the crown may be recommended after a reinspection to reduce weight above the stem affected by bark loss and to the stem that is exhibiting signs of buckling.

Redundant stakes, guards and ties should be removed to ensure continued tree establishment is not impeded in group G11 to the south-east of the site.

Refer to the tree survey sheet in Appendix 1 for details of arboricultural recommendations.

Where recommended, trees should be monitored annually or bi-annually for changes in health and condition. All tree work should be undertaken with due regard to ecological constraints and any mitigation requirements.

8 Mitigation Planting & Landscaping

Replacement tree planting should be considered to mitigate for removal of an existing screen or to replace amenity or biodiversity value that may be lost because of tree removal. There are opportunities on site to improve the composition and quality of existing tree groups that would enhance biodiversity and visual amenity.

Native trees and shrubs appropriate to the area are recommended, to be consistent with the vegetation of the locality and for the benefit of biodiversity and site ecology. However, it is appreciated that within the landscape context of the site, ornamental or cultivated species may also be appropriate.

The advice of a qualified Arboriculturist or Landscape Architect should be sought to ensure selection of suitable species and location on site regarding land use, buried services and knowledge of eventual tree height and spread at maturity. The amount, species composition and placement of new trees should be ultimately agreed with the landowner and / or Local Authority as appropriate.

8.1 Ongoing management

Trees are dynamic organisms that are influenced by natural and man-made changes to the environment around them. It is recommended that trees are inspected on an annual or biannual basis, to monitor changes in tree condition and for the presence of or development of potential hazards. Inspections of all retained trees should be undertaken by a qualified Arboriculturist and records of inspection held at the site.

9 SUMMARY

The trees recorded in the survey area were generally found to be in a fair to good condition.

The trees within the site have moderate value in the landscape, with woodland W1 and individual trees. The trees do provide links to wider green infrastructure and habitats. T28 should be resurveyed in Summer 2022 to allow inspection when in leaf. T28 and T18 should be monitored and reinspected annually.

Based on an objective assessment made in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*, the trees surveyed were valued as category B and C individuals and groups.

The tree categorisation method identifies the quality and value of the existing tree stock. It is not meant to be interpreted rigidly but is presented to form a balanced judgement on tree retention and removal.

Tree and group locations, their quality categories and RPA are shown on drawing 197/T/050, 100, 101, 102 Tree Constraints Plans, Figure 2.0-2.3. The RPA should be used as a guide to the most likely position of tree roots necessary for the successful retention of trees. Incursion into this area may reduce the chance of healthy tree survival.

A inquiry has been made with Wrexham Council to request confirmation of conservation area and TPO status for land and trees at the site. Wrexham Council Arboriculture Officer confirmed on 14.2.2022 the site is not in a conservation area and no trees are currently the subject of a TPO.

Mitigation or replacement tree planting is recommended in the event trees are lost because of arboricultural management, health and safety measures or development reasons.

10 APPENDICES

APPENDIX 1 - ARBORICULTURAL SURVEY DATA SHEETS

Abridged to highlight only trees within
Prior Approval application area

The information in the data sheets is correct as of time of survey. Trees are dynamic organisms and their condition can change as a result of changes in their environment, stress factors, physical and man-made conditions.

Tree ref	Species	Height	Stem dia.	Crown spread			Height of crown clearance	Height and direction of lowest branch	Maturity	Condition	Comments on form condition, health and significant defects	BS5837 Tree Quality Category	Radius of RPA	Management recommendations	Estimated remaining contribution	
T - individual G - group W - Woodland H - Hedgerow	Latin name	m	mm	N			m		Young; Middle Age; Mature	Good; Fair; Poor; Veteran		A, B, C, U	m		less than 10yrs, 10-20, 20-40, 40yrs+	
	Common name			W								E				(1,2,3)
				S												
HEDGES																
H1	Crataegus monogyna (hawthorn)	1.5							over 30 years	Good	Single species hedgerow; well maintained; robust; no gaps; occasional occurrence of holly, oak					
H2	Prunus laurocerasus (Cherry laurel)	0.75							young	Fair	Low juvenile hedge plants smothered by bramble and ruderal growth					
H3	Ligustrum vulgare (wild privet)	1.5							up to 30 years	Good	Single species hedgerow; well maintained; robust; no gaps					
H4	Crataegus monogyna (hawthorn)	3							over 30 years	Good	Remnant section of hedgerow; unmanaged; 1.5m wide					
H5	Taxus baccata (yew)	1.5							up to 30 years	Good	Dense, robust growth, well maintained; 2m wide; part of entrance feature with trees for business park					
TREES, GROUPS AND WOODLAND																
T1	Prunus sp. (ornamental cherry)	5	240	3.5	1.7 1.6	3	2	E 1.5	Middle Age	Fair	Bifurcate at 1.5m; asymmetric growth; a tree of low value in the landscape	C1	2.88		<10 years	
T2	Prunus sp. (ornamental cherry)	8	380	5.4	3.6 3.6	6	2	S 2	Early Mature	Good	Upright spreading crown; raised roots in grass; mower damage; a tree of moderate value in the landscape	B2	4.56		20-40 years	
T3	Prunus cerasifera (cherry plum)	6	330	4.4	5 3.2	6	1.8	E 1.8	Early Mature	Good	Upright spreading crown; trifurcate at 2m; epicormic growth typical of species type; raised roots in grass; mower damage; a tree of moderate value in the landscape	B2	3.96		20-40 years	
T4	Acer pseudoplatanus (sycamore)	8	330	3.4	3.4 3	3.4	3	E 2	Early Mature	Good	Upright growth; a stems arising at 2m; narrow growth; a tree of low value in the landscape	C2	3.96		10-20 years	
T5	Betula pendula (silver birch)	8	310	3.9	5 4.6	5	2	E 2	Early Mature	Good	Bifurcate at 2.2m and further branching; pendulous overhanging hedge; a tree of moderate value in the landscape	B2	3.72		20-40 years	

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Tree ref	Species	Height	Stem dia.	Crown spread			Height of crown clearance	Height and direction of lowest branch	Maturity	Condition	Comments on form condition, health and significant defects	BS5837 Tree Quality Category	Radius of RPA	Management recommendations	Estimated remaining contribution
T - individual G - group W - Woodland H - Hedgerow	Latin name	m	mm	N			m		Young; Middle Age; Mature	Good; Fair; Poor; Veteran		A, B, C, U	m		less than 10yrs, 10-20, 20-40, 40yrs+
	Common name			W	E	(1,2,3)									
												S			
T6	Acer pseudoplatanus (sycamore)	7	310	3.8	3.5 3.8	3	2.5	S 1.8	Middle Age	Fair	Multi-branching at 2m; buckling evident to scaffold branch; ivy at base	C2	3.72		10-20 years
T7	Prunus sp. (ornamental cherry)	7	270	5	5 5	3.8	2	S 1.5	Middle Age	Good	Upright growth; previous pruning wounds; epicormic growth; tree of low value in the landscape	C2	3.24		10-20 years
T8	Prunus sp. (ornamental cherry)	5	170	2.5	4 3.1	3.7	1.8	W 1.5	Semi-mature	Good	Upright growth; crossing branches; tree of low quality in the landscape	C1	2.04		<10 years
T9	Quercus robur (English oak)	14	620	6.1	6.5 6.5	6.5	2	E 2.5	Mature	Good	Upright growth; spreading crown; evenly developed branch structure; tree of moderate value in the landscape	B1	7.44		20-40 years
T10	Prunus cerasifera (cherry plum)	4	150	2.5	2.5 2.3	1.4	1.8	W 1.5	Semi-mature	Good	Splits to stem; basal decay; tree of low quality in the landscape	C1	1.8		<10 years
T11	Betula pendula (silver birch)	14	300	3.2	3.2 3.7	2.8	2	S 2	Middle Age	Good	Upright growth; good form and vigour; tree of moderate quality in the landscape	B2	3.6		20-40 years
T12	Acer pseudoplatanus (sycamore)	10	360	2.7	5.1 4.5	4.8	2.5	W 2	Middle Age	Good	Multi-branching at 2m; previous pruning wounds to aspect with road	B2	4.32		20-40 years
T13	Betula pendula (silver birch)	14	410	3.7	5 3.7	5.3	1.5	W 3	Middle Age	Good	Upright growth; damaged leader but recovering; tree of moderate quality in the landscape	B2	4.92		20-40 years
T14	Acer pseudoplatanus (sycamore)	5	140	2.6	2.4 1.7	1.5	1.8	E 1.5	Semi-mature	Good	Upright growth; young tree; tree of low quality in the landscape	C1	1.68		10-20 years
G1	Thuja plicata (Western red cedar)	3		see plan					Middle Age	Good	small group; pruned and maintained to height	C2	see plan		10-20 years
T15	Betula pendula (silver birch)	12	290	5.4	2.9 3.4	2.6	2	S 2.5	Middle Age	Good	Upright growth; bifurcate at 2.5m; asymmetry of crown to west; tree of moderate value in the landscape	B2	3.48		20-40 years
T16	Acer pseudoplatanus (sycamore)	6	230	3.7	3.73.2	3.8	2	S 2.5	Semi-mature	Good	Sparse branching structure; tree of poor form and vigour; low quality in the landscape	C1	2.76		<10 years
T17	Prunus 'Kanzan'	6	330	3.6	5 3	4.5	1.5	S 1.5	Middle Age	Fair	Multi-branching at 1.5m; spreading crown typical of species type; fruiting bodies to upper branches; tree in decline	C2	3.96		<10 years

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Tree ref	Species	Height	Stem dia.	Crown spread			Height of crown clearance	Height and direction of lowest branch	Maturity	Condition	Comments on form condition, health and significant defects	BS5837 Tree Quality Category	Radius of RPA	Management recommendations	Estimated remaining contribution
T - individual G - group W - Woodland H - Hedgerow	Latin name	m	mm	N			m		Young; Middle Age; Mature	Good; Fair; Poor; Veteran		A, B, C, U	m		
	Common name			E								(1,2,3)			
	S														
T18	Quercus robur (English oak)	16	870	4	7.6 5.5	7.8	1.8	E 3	Mature	Fair	Upright form and bifurcate at 3.5m; dieback to crown and epicormic growth; broken limbs; located at edge of road; historic wound to base and branch loss; probable root damage and restricted growth due to hard surface; habitat value; tree of moderate value in the landscape	B3	10.44	Monitor condition and reinspect annually	10-20 years
T19	Thuja plicata (Western red cedar)	16		see plan					Middle Age	Good	small group; partially pruned	C2	see plan		10-20 years
G2	Salix fragilis (crack willow)	7		see plan					Mature	Fair	Previously felled trees now with profuse regrowth from bole	C3	see plan		<10 years
W1	Quercus robur (English oak) Prunus avium (wild cherry) Crataegus monogyna (hawthorn) Salix fragilis (crack willow) Prunus spinosa (blackthorn) Betula pendula (silver birch)	16				see plan			Middle Age Mature	Good	Woodland belt following drain/watercourse adjacent to fence line; varied age structure but with high percentage of mature specimens; forms buffer and screening between development; only surveyed from south edge where access available; high landscape and habitat value	A2	see plan		20-40 years
G3	Betula pendula (silver birch)	8	190; 190	see plan			1.2	W 1.2	Semi-mature	Fair	Two trees in triangular bed within car park; one of poor quality and broken branches; trees of low quality in the landscape; rooting likely impeded by hard surfacing and constrained within kerb area	C1	see plan		10-20 years
T20	Fraxinus excelsior (ash)	12	310; 290	4.8	8.6 6	3.4	1.2	S 1.2	Early Mature	Good	Bifurcate at base with spreading habit; tree of moderate value in the landscape	B2	4.2		20-40 years
T21	Crataegus monogyna (hawthorn)	5		2	2 2	2	1		Mature	Good	End plant of hedge, developing into small tree having been left unmanaged	C2	0		10-20 years
T22	Crataegus monogyna (hawthorn)	6	300	5.3	4.7 4.7	3.3	2	E 1.5	Mature	Good	Multi-stemmed mature tree with six stems arising at base	B2	3.6		20-40 years
G4	Sorbus aria (whitebeam)	4	up to 220	see plan			0.5		Young	Good	Multi-stemmed/feathered small trees within planting bed	C2	see plan		10-20 years
G5	Acer campestre (field maple)	6	ave 240	3.5	3.5 3.5	3.5	1.8		Middle Age	Good	Group of 8 trees within yew hedge as feature to entrance to business park; all of good health, form and vigour; trees of moderate value in the landscape	B1	2.88 each		20-40 years

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Tree ref	Species	Height	Stem dia.	Crown spread			Height of crown clearance	Height and direction of lowest branch	Maturity	Condition	Comments on form condition, health and significant defects	BS5837 Tree Quality Category	Radius of RPA	Management recommendations	Estimated remaining contribution
T - individual G - group W - Woodland H - Hedgerow	Latin name	m	mm	N			m		Young; Middle Age; Mature	Good; Fair; Poor; Veteran		A, B, C, U	m		
	Common name			W								(1,2,3)			
				S											
T23	Sorbus aria (whitebeam)	4	160	2	2	2	1.8	W 2	Semi-mature	Fair	Lacking in vigour and poor form; tree of low value in the landscape	C1	1.92		10-20 years
G6	Sorbus aria (whitebeam)	4	100-200	see plan			1.5		Semi-mature	Fair	Trees of variable form and vigour but forming feature planting to roadside; of moderate value in the landscape	B2	see plan		10-20 years
T24	Fraxinus excelsior (ash)	3	75	1.5	1.5	1.5	0		Young	Good	Multi-stemmed of good vigour; potential to develop into tree of moderate value in the landscape	C2	0.9		10-20 years
T25	Betula pendula (silver birch)	4	100	1	1	1	0		Young	Good	Single stemmed, feathered, good form and vigour; potential to develop into tree of moderate value in the landscape	C2	1.2		20-40 years
T26	Betula pendula (silver birch)	8	290	2	2.2	2.3	2	N 1.5	Early Mature	Good	Bifurcate at 1.7m but strong apical dominance; tree of moderate value in the landscape	B2	3.48		20-40 years
G7	Acer saccharinum 'Laciniata' (Silver maple)	8	320; 280	see plan			1.8	E 2	Middle Age	Good	Open spreading crown; good form and vigour; pruning wound to western of the two with woundwood present and healing; trees of moderate value in the landscape	B1			20-40 years
G8	Betula pendula (silver birch)	10	ave 250	see plan			2		Early Mature	Good	Group of three trees with ivy and shrubs to base; trees of low value in the landscape	C2			10-20 years
G9	Betula pendula (silver birch)	14	up to 450	see plan			2		Mature	Good	Group of five trees with good spacing within grassed area but used for informal car parking; one individual multi-stemmed at base with 6 stems arising; moderate value in the landscape	B1			20-40 years
T27	Quercus robur (English oak)	14	540	5.2	7.7	6.1	3	S 4	Mature	Good	Single stem spreading crown; healthy bud development; good form and vigour; covers and services present w3ithin 2m of tree stem; tree of high value in the landscape	A2	6.48		40 years +
T28	Fagus sylvatica (beech)	14	560	7.3	8.5	5.1	1.2	W 2	Mature	Fair	Growing on boundary with wall at base; buried root flare, ground level changed; bifurcate at 1.8m; co-dominant stems with U-shaped tension fork and potential buckling to one stem and has major bark loss to circumference on the other; no cracks evident; descending branches; some root girdling; tree of moderate value in the landscape	C2	6.72	Monitor condition and reinspect annually; re-inspect in spring/summer 2022 to assess whether dieback is present above bark damage and inspect annually for changes in bark appearance, buckling to other stem; provisionally categorised as C2	10-20 years

Bridgeway Centre, Wrexham Industrial Estate

Tree ref	Species	Height	Stem dia.	Crown spread			Height of crown clearance	Height and direction of lowest branch	Maturity	Condition	Comments on form condition, health and significant defects	BS5837 Tree Quality Category	Radius of RPA	Management recommendations	Estimated remaining contribution
T - individual G - group W - Woodland H - Hedgerow	Latin name	m	mm	N			m		Young; Middle Age; Mature	Good; Fair; Poor; Veteran		A, B, C, U	m		
	Common name			E								(1,2,3)			
	S														
T29	Quercus robur (English oak)	18	1070	9	9	10.2	3	E 2	Mature	Good	Single stem spreading crown; healthy bud development; good form and vigour; significant prominent tree; under pressure due to land use, car park and garage facility; minor damage to root flare and minor die back and dead wood in canopy as is typical of species profile; potential veteran tree status; tree of high value in the landscape; potential veteran tree	A3	12.84		40 years +
T30	Quercus robur (English oak)	18	960	9.5	8.5	10.4	3	S 2.5	Mature	Good	Upright with spreading crown extending over adjacent buildings; low scaffold branch; ivy present; under pressure due to land use, car park and garage facility; minor die back and dead wood in canopy as is typical of species profile; tree of high value in the landscape; potential to develop into veteran tree	A3	11.52		40 years +
G10	Acer pseudoplatanus (sycamore) Crataegus monogyna (hawthorn)	8		see plan					Semi-mature	Good	Dense group of hawthorn and sycamore; no access for detailed inspection	C2	-		10-20 years
T31	Quercus robur (English oak)	8	450	4.2	6.2	5.9	1	not recorded	Middle Age	Good	Single stem with upright habit; good form and vigour; low branching and spreading crown; tree of high value in the landscape	A2	5.4		40 years +
T32	Acer campestre (field maple)	8	600	4.7	6.2	6.2	1	not recorded	Middle Age	Good	Multi-stemmed at base with spreading habit and good form and vigour; tree of high value in the landscape	A2	7.2		40 years +
G11	Fraxinus excelsior (ash) Pinus sylvestris (Scots pine) Corylus avellana (hazel) Prunus spinosa (blackthorn)	4	under 100	see plan						Good	Group including T31, T32; one oak and two young ash, juvenile Scot's pine with leader pruned out with stakes and cross bars; scrub; group of low value in the landscape	C2	see plan	Remove redundant planting accessories	10-20 years
G12	Quercus robur (English oak) Fraxinus excelsior (ash) Pinus sylvestris (Scots pine) Corylus avellana (hazel) Sorbus aucuparia (rowan) Acer campestre (field maple) Cornus sanguinea (dogwood)	10	up to 440	see plan					Middle Age	Good	Screening value; group of moderate value in the landscape	B2	see plan		20-40 years

APPENDIX 2 – PHOTOGRAPHIC RECORD

Abridged to exclude trees within Prior
Approval application boundary



T1-T5 inclusive, H1



T12-T15 inclusive, G1



T8-T11 inclusive, H1



T16, T17, H1



T18, T19



W1



H2



T20



G3



H3



G5, H5



G7, T26



T28, T29



T31, T32, G11, G12



T28 bark loss



G12, G9



T28 bark loss



T28 tension fork, buckling



T29



T30



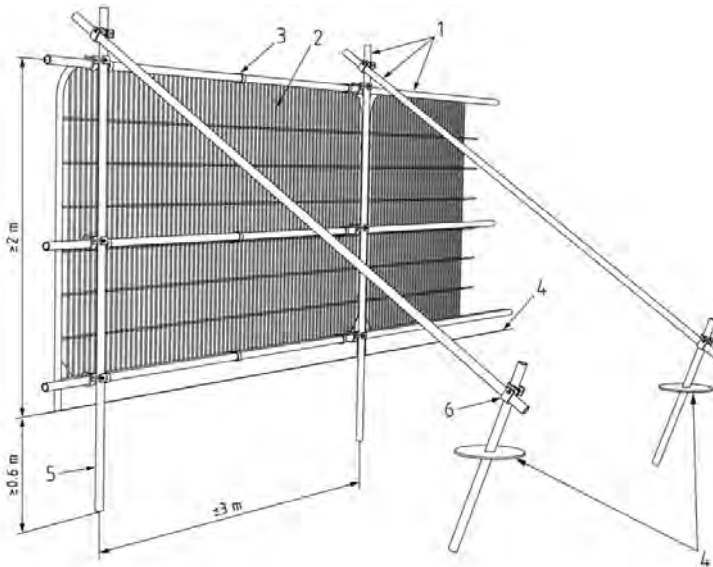
T31, T32



G12

APPENDIX 3 – EXAMPLES OF TREE PROTECTION SYSTEMS

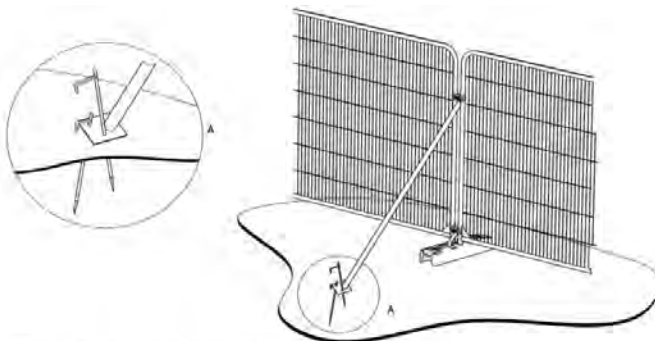
(Extracts taken from BS5837: (2012), “Trees in relation design, demolition and construction – Recommendations”.)



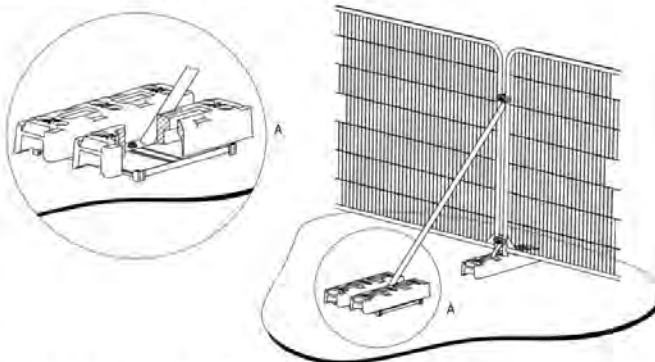
Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

Default specification for protective barrier



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray