

Site Tree Appraisal

Moorfield Care Home 388 Tottington Road, Bury BL8 1TU

‘BS 5837 2012: Trees in Relation to Design, Demolition and Construction – Recommendations’



ROWBOTTOM'S TREE SERVICES LTD

INDEPENDENT ARBORICULTURAL CONSULTANCY

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Head Office: Cheddleton Lodge, West Road, Prestwich, Manchester, M25 3FB.

T: 0161 773 2788

E: bill@rowbottoms-tree-services.co.uk

Web: www.rowbottoms.co.uk

Company Reg No: 4862189

VAT No 184 3636 88

Moorfield Care Home 388 Tottington Road, Bury BL8 1TU:

The following is a pre-development survey and appraisal of trees on and adjacent to the above site.

Its primary purpose being to categorize the trees according to BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations, so that the Local Planning Authority may review the existing trees in association with the proposed development.

The report and associated plans have been produced for the sole purpose: - to accompany the above planning submission.

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1. Introduction:

1.1 This tree survey has been commissioned by Shaheen Developments.

1.2 I have undertaken this tree survey following the guidance and recommendations of; 'BS 5837: 2012 Trees in Relation to Design, Demolition and Construction-Recommendations'.

1.3 **Instruction:** I am instructed by Mr Khan of Shaheen Developments to inspect the significant trees on and adjacent to the site that may be affected by the proposed carparking bay extensions and to provide an arboricultural report to accompany a planning application. The relevant tree information that has been noted and prepared to accompany the planning application is;

- A schedule of the significant trees on and adjacent to the site, to include basic data and an assessment of their condition, (see appendix 3).
- An appraisal of the impact that the proposed parking bay extensions may have on the trees and as a result, the visual amenity of the locale.
- An initial arboricultural method statement (AMS) setting out basic protective requirements and management needs of the trees to be retained and tree works required to facilitate the proposed carpark improvement.

1.4 **Documents and information provided:** Mr Khan provided me with the following documents:

- *SI-XX-DR-A-1001 Existing Site Plan*
- *SI-XX-DR-A-1002 Proposed Site Plan*
- *SI-XX-DR-A-1003 Proposed External Works and Carpark Layout.*

1.5 **Qualification and experience:** I have based this report on my site observations and the provided information, and I have come to conclusions in light of my experience. I have experience and qualifications in arboriculture and list the details in appendix 1.

1.6 **Report scope and limitations:** Construction work often exerts undesirable pressures on existing trees, as do changes in their environment following construction (see appendix 2). This report has been prepared to analyse the impact that the proposed carpark layout may have to the existing site trees. It further advises on protective requirements and appropriate management needs of the trees, should they be retained on the site. The primary purpose of the report is to provide sufficient tree information to allow the Local Planning Authority to review any tree issues associated with the development proposal.

1.6.1 It should be noted that this report takes no account of indirect structural damage that may arise to buildings as a result of tree induced soil volume changes. Such damage can occur to buildings built on shrinkable clay sub-soils and will be more prevalent during prolonged drought conditions. Also, structures built on shrinkable soils following tree removal can suffer heave affects as the soil rehydrates. These issues should be addressed during the design of the proposed carpark development (*National House Building Council-NHBC 2011-part 4.2 building near trees*). Also, this report does not take into account damage to drains and underground services that may be due to tree root activity. If damaged, drains can allow roots to penetrate them. If, however, they are in good repair tree roots have little capacity to access them. A drainage expert could give more advice.

2. Site visit and observations:

2.1 Site visit: I carried out an unaccompanied site visit on 7th February 2024. All my observations were from ground level without detailed investigations and all dimensions were measured using a diameter tape and laser measure, heights were measured using a clinometer. If access was restricted measurements were estimated. The weather at the time of inspection was dry and clear with good visibility.

2.2 Brief site description: 388 Tottington Road is the former Moorfield Care Home. It is a detached building in the Tottington area of the Bury Metropolitan Borough. The grounds are a mix of hardstanding carpark area to the front and grassed communal seating areas to the rear. All shrub and tree growth is generally around the garden perimeters. There are two significant trees on the site, the rest is general shrub and hedgerow growth. Vehicle and pedestrian access to the grounds is off Tottington Road along the west boundary.

2.2.1 Site Aspect and Topography:

- The site entrance is west facing.
- The grounds are generally level with no significantly raised features.

2.2.2 Preliminary Geological Information:

Soil Texture:	Loamy Clay
Soil pH:	Acid
Drainage:	Impeded Drainage
Fertility:	Low
Carbon:	Medium
Drains to:	Stream Network

(Cranfield Soil and Agrifood Institute; Land Information Systems, 2023)

2.2.3: Tree Protection Status: According to the Bury Council online maps, at the time of checking (09/02/2024), the two Lime trees on the site are protected by a Tree Preservation Order (TPO 131). The property is not in a Conservation Area.

2.3 Identification and location of the trees: The locations of the significant trees are illustrated on the Tree Constraints Plan *RTS/07022024/TCP 001* included with this report. All the relevant information on the trees is contained within this report and the provided documents listed in 1.4 above.

2.4 Tree observations: The trees were not climbed; I visually inspected the significant trees from ground level in accordance with visual tree assessment (VTA) techniques and recorded the information on the schedule included at appendix 5. The assessment has been to a level one of the TRAQ assessment criteria.

3 APPRAISAL:

3.1 Relevant references: ‘BS 5837:2012 Trees in Relation to Design, Demolition and Construction-Recommendations’.

3.2 Arboricultural Impact Assessment (AIA): Due to limited vehicle turning space, the proposal is to involve landscape works in order to lengthen the existing parking bays. At this stage I have not been made aware of the need to alter or install new underground drains or other utility services.

3.3 The proposed ground works required to lengthen the parking bays will take place within the calculated root protection areas (RPA) of the mature Lime trees and the mixed hedgerow (H3), however minimal ground alteration will be required. The south east ends of each parking bay are to be lengthened by an average of approximately 1.6 metres. The lengthened section of each bay is to be effected by use of a no dig subbase system (e.g. Ground TRAX Bodpave 40) filled with gravel to allow appropriate rain water drainage. The lengthened parking bay sections will be close to the mixed hedgerow (H3), therefore, some pruning back of the hedgerow will be required. Due to the slight downward slope of the carpark (photo 01), in order to align the newly laid lengthened parking bay sections with the existing bay surface, light skimming of the shrub bed soil surface and building up of the existing parking bay surface will be required. The Bodpave 40 installation method is noted in the Recommendations, section 5 of the report. To avoid damage to the mature trees on the site the existing kerb edge A – B – C (as noted on the tree constraints plan RTS/07022024/TCP 001) together with the existing carpark surface is to remain unaltered.

3.4 No tree works will be required to facilitate the parking bay extensions, save cutting back of the mixed hedgerow (H3), photo 02. General management pruning of the two Lime trees (T1 and T2), however, is recommended to abate nuisance of dead branch fall and low epicormic sucker growth. The tree work recommendations are noted in Table 1 section 5 of the report.

4 CONCLUSIONS:

- 4.1** The proposed carpark extensions, given the minimal ground works required, should have no effect on the existing trees of the site. No major tree works are required to facilitate the bay extension proposals, therefore, there will be no real arboricultural alteration to the visual amenity of the locale.
- 4.2 Other Considerations:** Trees by their very nature have structures that allow bats to shelter or roost in them, more so with moribund and decayed trees. All species of bats are protected by the Wildlife and Countryside Act 1981 (as amended), the Conservation (Natural Habitats) regulations 1994 and the Countryside Act and Rights of Way Act 2000. Also, it is an offence to disturb or destroy nesting birds. Appropriate ecological assessments should be undertaken to avoid contravention of the above.

5 RECOMMENDATIONS3)

Arboricultural Method Statement (AMS);

5.1 Prior to any other activity on the site the following arboricultural works should be undertaken.

Table 1 Tree works:

Tree	Tree Work	Priority
T1	Crown clean prune: - prune from the crown dead branches that are greater than 50mm diameter, remove ivy climber from the trunk and prune off epicormic sucker growth from the trunk up to a height of approximately 4 metres.	Prior to any other site works
T2	Crown clean prune: - prune from the crown dead branches that are greater than 50mm diameter and prune off epicormic sucker growth from the trunk up to a height of approximately 4 metres.	Prior to any other site works
H3	Cut back the north west side of the hedgerow (carpark side) to obtain a final north west spread of approximately 300mm. Reduce the hedgerow height to obtain a final height of approximately 3 metres.	Prior to any other site works

5.1.1 All the recommended tree works should be of a standard that is in accordance with BS 3998:2010 Tree Work-Recommendations. All the arboricultural work on this site should be undertaken by an arboricultural contractor who is able to comply with the above BS standard. The arboricultural contractor should hold public liability insurance to a minimum of £5 million and employer's liability insurance as required by law. The arboricultural contractor should be able to show competency by means of relevant certification and health and safety policy. Suitable arboricultural contractors can be sourced from the Arboricultural Association approved contractor list or the Local Planning Authority occasionally has lists of competent contractors. Rowbottom's Tree Services Ltd (arboricultural consultancy) cannot accept any liability where the prescribed work is not carried out in a correct and professional manner in accordance with current good practice.

5.1.2 The advised tree works within this report are recommended in order to facilitate the proposed parking bay extensions. None of these tree works should be undertaken until there has been full approval from the Local Planning Authority.

5.2 After the above tree works have been completed, given that there is an existing hardstanding surface and adequate work space, the parking bay extensions may proceed following the guidance of this AMS. No protective tree fencing or ground protection will be required.

5.3 **Parking bay extension method:** The existing kerb edge to, the south east end of each bay, should be removed using hand held tools only. The ground cover ivy and top 150mm layer of soil (of the shrub bed surface) should be skimmed off. Given that there is a hardstanding surface to work on, this may be done using a mini-digger fitted with a wide bucket. Care, however, should be taken not to damage the trunk bark of the hedgerow shrubs.

5.3.1 The skimmed soil surface, at the site of the parking bay extensions, should then be lined with a porous geotextile membrane. Then following the manufactures instructions, pin down the geo-grid systems (e.g. Ground TRAX Bodpave 40) on top of the geotextile membrane and fill the compartments with graded - 10 to 20mm washed gravel.

- 5.4 Due to the slight slope, the existing carpark bay surface will need to be aligned with the newly laid Bodpave 40 gravel filled grids. This may be effected by chipping the tarmac of the existing carpark bay surface for the required length to achieve an appropriate alignment slope. The tarmac surface should only be chipped and not excavated. Compact the chipped tarmac and then upfill with fresh tarmac to align the two levels.
- 5.5 Fires on the site should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect tree foliage or branches. The potential size of a fire and wind direction should be taken into account when determining its location and it should be attended at all times until safe enough to leave.
- 5.6 Any materials whose accidental spillage would cause damage to a tree (e.g. oil, cement washing and vehicle washings etc.) should be stored and handled well away from the outer edge of its RPA.
- 5.7 All operatives of machinery and heavy plant should be made aware of the protected tree status and ensure that no damage occurs to trees due to careless use of machinery.

6 BIBLIOGRAPHY

6.1 BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations



Mr W. J. Rowbottom. HN Dip ARB

M. Arbor. A

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Appendix 1

Brief qualifications and experience of Mr W. J. Rowbottom.

1. Qualifications:

- Tree surgery craft certificate 1992
- BTEC Higher National Diploma in Arboriculture 2000 (HN Dip Arb).

2. International Society of Arboriculture (ISA):

- Tree Risk Assessment Qualification (TRAQ).
This is a systematic qualification of risks that may be posed by trees within their existing site setting over a given time frame.

3. Continuing professional development: Professional member of the Arboricultural Association.
M Arbor A. Professional member of the Consulting Arborist Society (CAS).

4. Experience: Managed an arboricultural contracting company for 20 years. Practiced arboricultural consultancy since 2010.

Appendix 2

Trees and Construction Sites – General Issues

Trees that have good health and stability are well adapted to their surroundings. Any demolition or construction activity which affects the adaptation of trees to the site could be detrimental to their health, future growth and safety. Trees tend to become less tolerant of change after they have reached maturity or have suffered previous damage or physiological stress. Site design and subsequent management, therefore, should aim to minimize the effect of change.

The part of a tree most susceptible to damage on a construction site is the root system, which, because it is not immediately visible, is frequently ignored. Within a short distance of the trunk, the roots become highly branched, so as to form a network of small diameter woody roots, which can extend radially for a distance much greater than the canopy spread of the tree, except where impeded by unfavourable soil conditions. The growth and development of all roots is influenced by the availability of water, nutrients, oxygen and the penetrability of the soil. Given favourable conditions, the tree's root system tends to develop sufficient volume to provide physical stability for the tree. Typically, however, around 80% of a tree root system is concentrated in the upper 600mm of the soil profile. Due to this relatively shallow depth, the threat to a tree root system on a development site can arise from:

- Root severance or fracture during excavation works
- Compaction of the soil structure, which restricts moisture percolation through the soil profile and gaseous exchange between the surface air and soil atmosphere. Soil compaction can occur as a result of driving heavy plant machinery over the soil surface, repetitive pedestrian footfall and storage of building materials.
- Water logging due to land grade changes
- Toxic contamination due to chemical runoff from construction activities.

Damage to the tree trunk and branches can also occur on development sites if appropriate distances between tree and construction work is not maintained. Such damage, however, is not usually sufficient to kill a tree directly, but can make it unsafe by affecting the dynamics and growth of the tree, or by initiating long term decay. Such damage can also be disfiguring. The attachment of notice boards and cables etc. can all damage trees, as can the use of tree trunks as a winch anchor.

Damage to a tree on a construction site may not at first be noticeably obvious, the full effect of such damage usually taking 3 or 4 years to become evident, at which time the tree may die and/or become unsafe. A tree that has taken decades to reach maturity can be damaged irreparably in a few minutes by actions that might be unwitting, negligent or wilful. The early provision of physical protection of the tree from damage is therefore critical.

Appendix 3

Tree Data (Explanations of):

The data collected and recorded on each tree reflects the recommendations provided in section 4.4.2 of BS 5837:2012 Trees in Relation to Design, Demolition and Construction-recommendations.

Tree number: T (individual tree), G (group of stems or several trees planted together or self-seeded), S (stump of a tree that has been cut at or close to ground level), SH (shrub masses).

Species: Common tree name; *specific name recorded in italics*.

Height: Approximate height of the tree to the nearest metre.

DBH: Stem diameter (recorded in millimetres) measured in accordance with Annex C of the BS 5837:2012.

Crown Spread: A record (to the nearest half metre) of the radial distances between the tree trunk and the end of the further most branches, in the direction of the four cardinal compass points.

Height to Lowest Branch: This parameter estimates the lowest point of the crown above the ground. Minor and dead branches are ignored.

Age: Estimated maturity of the tree; Moribund (at the point of death), Mature (last one third of life expectancy), Early mature (one third to two thirds life expectancy), Young (at less than one third of life expectancy).

Condition: An assessment of tree physiological condition. Good (high vigour and strong growth), fair (average vigour and growth), Poor (low vigour and declining growth).

Category Rating: An assessment to identify the quality and value (in non-fiscal terms) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of a development occurring, (for categorisation criterion see appendix 6).

Observations and Comments: A preliminary observation of the tree's physiological condition, structural form and its suitability to the existing site setting. Basic tree management advice may be recommended.

Appendix 4

Explanatory notes

AIA:	Arboricultural Impact Assessment; an assessment that evaluates the effects that the proposed design may have on the existing site trees and any constraints that the trees pose to the design, and where necessary recommend mitigation measures.
AMS:	Arboricultural Method Statement.
CEZ:	Construction Exclusion Zone; a fenced off area around a tree or group of trees that should remain undisturbed and free from demolition and construction activity.
Crown:	The structural part of the tree above ground level that consists of branches, twigs and foliage.
Included Bark:	Bark that remains (trapped) between branch and trunk or co-dominant stems. Has potential to be a structurally weak union.
Measurements:	All dimensions are estimated unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a *. Less reliable estimated dimensions are indicated with a ‘?’.
RPA:	Root Protection Area; The minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree’s viability, and where the protection of roots and soil structure is treated as a priority. The RPA increases with tree size and is calculated from a measurement of the trunk diameter.
Species:	The tree species identification is based on visual identification. The common English name of what the tree appeared to be is listed first followed by the botanical name in <i>italics</i> . In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigation. Where there is some doubt as to the precise species of the tree, the genus is followed by the abbreviation spp; in order to avoid delay in the production of the report. The species listed for groups and hedges represent the main component and there may be other minor species not listed.
TRAQ:	Tree Risk Assessment Qualification. A tree risk qualification methodology; Level one; is a basic visual assessment of an individual tree or a population of trees near to targets of concern, conducted from a specified perspective, to identify obvious defects or specified conditions. Only defects visible from the perspective from which the assessment is made are expected to be identified.
VTA:	Visual Tree Assessment; a non-invasive method of examining the health and structural condition of individual trees, as advised by Mattheck (1993) and Hazard Evaluation by Matheny and Clark (1993). Guidance is also taken from Lonsdale (1999) Principles of Tree Hazard Assessment and Management.

Appendix 5
Tree Schedule

Tree No	Species	Height (M) * Crown Height above GL	DBH (mm) *	Crown Spread (M) *	Height to Lowest Branch (M) Direction of Lowest Branch	Age Range	Condition	RPA Radius (M)	RPA Square metres	BS 5837 Category Rating	Observations and Comments
T1	Lime <i>Tilia x europaea</i>	<u>16.0</u> 6.0	750	N – 7.5 S – 7.5 E – 7.0 W – 9.0	<u>6.0</u> W	Mature	Good	9.0	254	B1	Tree of good vigour, however, there are sizable dead branches in the crown; Ivy climber is ascending the trunk; Epicormic shoot growth on the trunk.
T2	Lime <i>Tilia x europaea</i>	<u>18.0</u> 3.0	755	N – 6.0 S – 8.0 E – 6.0 W – 9.0	<u>6.0</u> E	Mature	Good	9.0	254	B1	Tree of general good vigour; Minor dead branches in the crown; Epicormic shoot growth on the trunk.
H3	Beech <i>Fagus sylvatica</i> Laurel <i>Prunus laurocerasus</i>	<u>6.0</u> 0.5	150 Average	A linear hedgerow 3.0 metres wide	<u>0.5</u> N	Mature	Good	1.8	10	C2	A mixed linear hedgerow that provides good screening between two properties.

Appendix 6

Tree Quality Assessment and Categorization Criterion

Category U: Trees unsuitable for retention;
Trees which are 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. These trees, however, can have existing or potential conservation value. They could, therefore, be up graded from a U category if issues concerning their safety can be appropriately managed.

Trees to be considered for retention;
Category A: trees of high quality
Have an estimated remaining life expectancy of at least 40 years.

Category B: Trees of moderate quality
Have an estimated remaining life expectancy of at least 20 years.

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

For a tree to qualify under any given category, it should fall within the scope of that categories definition (U, A, B, C).
Trees in categories A to C should then qualify under one or more of three subcategories (1, 2, and 3). The subcategories 1, 2 and 3 are intended to reflect arboricultural and landscape qualities, and cultural values, respectively. These definitions are described below:

Identification on the plan

Dark Red

Light Green

Mid Blue

Grey

Arboricultural Qualities:**Sub-Category A1:**

Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and / or principal trees within an avenue).

Sub-Category B1: Trees that might be included in category A, but have been 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 beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.

Sub-Category C1: Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

Landscape Qualities:

Sub-Category A2: Trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.

Sub-Category B2: 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 as collectives but situated so as to make little visual contribution to the wider locality.

Sub-Category C2: 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 benefits.

Cultural Values:

Sub-Category A3: Trees or woodlands of significant conservation, historical, commercial or other value (e.g. veteran trees or woodland pasture).

Sub-Category B3: Trees with material conservation or other cultural value.

Sub-category C3: Trees with no material conservation or other cultural value.

Photo 01:



Photo 02:

