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**Arboricultural
Report to BS
5837:2012**

Site Address:

1 Ferry Rd East
Barrow-upon-Humber
DN19 7AZ

Issue Date:

17th October 2023

Report No:

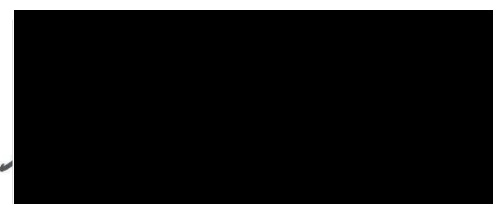
231005

Prepared For:

NWP Building Design
40 Old School Close
Brigg
DN20 8QN

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1. Introduction

1.1. Objective

- 1.1.1. This report is required to provide detailed, independent, arboricultural advice on the trees present in the context of potential development.
- 1.1.2. The purpose of this report is to identify and detail the existing vegetation on site, as well as areas where development and trees or hedges have the potential to conflict. In addition, recommendations will be made based on the current context of the site.

1.2. Terms of Reference

- 1.2.1. We have been commissioned to conduct a tree survey and prepare an arboricultural report for the site. This document and the associated survey adhere to the relevant protocols detailed in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

1.3. Scope

- 1.3.1. This report is compiled in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' and is based on an objective assessment of the existing vegetation.
- 1.3.2. All trees within the survey area with a stem diameter above approximately 75mm are included.
- 1.3.3. Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.
- 1.3.4. Preliminary recommendations are given with a view to the long-term management of sustainable tree cover and to uphold the interests of health and safety.

1.4. Methodology

- 1.4.1. The survey took place on the 5th October 2023. The weather was showery and overcast with light winds.
- 1.4.2. During the survey, all trees were inspected from ground level. Further investigation, such as climbed inspections or decay detection surveys, have not been undertaken but may be recommended where this is considered appropriate.
- 1.4.3. Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. We endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances.
- 1.4.4. In the absence of a topographical survey a Trimble TDC100 has been used to capture northing and easting coordinates for each tree and key site features. As the stated accuracy of the device is 1-2 meters, tree positions should be considered indicative only.

2. Site Description

2.1. Current Site Usage

2.1.1. The site identified for survey are grounds associated with a semi-detached residential property on the outskirts of a large rural village. The site is comprised of disused outdoor amenity space, surrounded by trees and hedges.

2.2. Treescape & Visual Amenity

2.2.1. The surrounding residential area is interspersed with a reasonable number of semi-mature to mature trees. The adjacent agricultural land is almost totally devoid of trees, with only occasionally hedgerow specimens.

2.2.2. Trees T4, T5, T6 and T7 form major green features when viewed from the immediate surrounding area (see Appendix 4). These trees form a significant part of the local treescape, and convey a moderate visual amenity value.

2.2.3. Items T1, H1 and G1 form minor green features when viewed from the immediate surrounding area (see Appendix 4). These trees form a modest part of the local treescape, and conveys a low visual amenity value.

2.2.4. The remaining trees surveyed are either limited size or quality, or are largely hidden from public view. These trees convey little or no visual amenity value.

2.3. Topography and Geology

2.3.1. In general, the site is level and at the time of survey appeared to be well drained.

2.3.2. A desktop investigation was made into site geology using the British Geological Survey's Geology Viewer service. The local geology was defined as superficially till over chalk bedrock.

2.3.3. Till deposits may contain significant clay content as such independent expert advice should be sought to better define site geology. Where significant clay content exists, due consideration must be given in relation to foundation design near retained and removed trees. Failure to do so may lead to subsidence and heave related issues.

2.4. Rooting Conditions

2.4.1. It is acknowledged that root growth is unlikely to follow symmetrical patterns, but will instead favour undeveloped areas that are free from hard-surfacing and subterranean structures. However, given their subterranean nature, it is not possible to accurately predict root architecture. As such the Root Protection Areas of the trees surveyed are shown to be circular and centred on their stems.

3. Legal Designations

3.1. A status investigation was made on 9th October 2023 with North Lincolnshire District Council via their online planning portal. We are informed that there are no Tree Preservation Orders (TPO) in force and that the site is not within a Conservation Area. We do however advise a further status investigation is carried out prior to any tree works. Conducting work without permission to a tree subject to protection is a criminal offence.

- 3.2. Hedges H1 may be offered protection under the Hedgerows Regulations 1997. If clarity on the matter is required, we recommend contacting the local authority. If applicable, the regulations prevent the partial or whole removal of qualifying hedges without prior permission from the local authority.

4. Tree Works in the Current Site Context

4.1. Overview

4.1.1. Within the survey, tree works may have been identified for reasons of public safety, to ensure the long-term health of trees, to ascertain the presence of protected species, or for general maintenance purposes. Such recommendations have been made without regard to any projected layout and should be undertaken irrespective of development. These are summarised in the following sections.

4.1.2. For the full details of all vegetation surveyed and recommendations made, please refer to Appendix 1.

4.2. Tree Removals in the Current Site Context

4.2.1. No trees require removal in the current site context.

4.3. Remedial Tree Works in the Current Site Context

4.3.1. No trees require remedial works in the current site context.

4.4. Further Inspection in the Current Site Context

4.4.1. No trees require further inspection in the current site context. It is however advised that all trees are periodically inspected in the interests of general risk management.

5. Tree Retention & Development Guidance

5.1. Trees have been assigned a Retention Category of either A, B, C, or U. The tree crowns for each category are colour coded on the Constraints Plan. Outline retention guidance, and colour coding for each category, is as follows. Note – The prominence of trees when viewed from public spaces also has a significant bearing on a tree's suitability for removal/retention.

5.1.1. Category A (highlighted in green) – Should be retained in all but the rarest of circumstances where there is exceptional justification. Any such removals should be accompanied by comprehensive replacement planting.

5.1.2. Category B (highlighted in blue) – Should ordinarily be retained unless significant justification for removal exists. Any such removals should be accompanied by significant replacement planting.

5.1.3. Category C (highlighted in grey) – Should not ordinarily pose a constraint to development, and may be removed, apart from in exceptional circumstances. Removals should be accompanied by appropriate replacement planting.

5.1.4. Category U (highlighted in red) – Should ordinarily be removed irrespective of development. Replacement planting may be appropriate in some circumstances.

5.2. Constraints imposed by each tree are highlighted on the Constraints Plan. Development within the constraints of retained trees should be avoided. Details of these constraints, and guidance on what may be considered appropriate development, is as follows;

5.2.1. Root Protection Area [RPA] (shown as a regular polygon centred on the tree's stem) – New development should cover no more than 20% of the currently undeveloped RPA of retained trees.

- Hard-surfacing should be no-dig and permeable
- Foundations should be no-dig
- Service installation and boundary treatments should be trenchless
- Changes in ground level should be avoided

5.2.2. Crowns (colour coded in green, blue, or grey) – Modest crown lifting, crown spread reductions, and height reductions are acceptable. Severe works such as 'lopping' 'topping' and 'pollarding' are inappropriate in all but exceptionally circumstances.

5.2.3. Shading (shown as an arc/sector centred on the tree's stem extending to the NNE) – Positioning of occupied buildings within the shade arc, or below tree crowns, should be avoided. This is especially the case for core areas such as kitchens, dining rooms, living rooms and offices. If applicable, some outdoor amenity space should also remain unaffected by shading.

Appendix 1: Survey Schedule

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Structural Condition	Retention Category	Life Expectancy	Physiological Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T1	Sycamore	Semi-mature	12.5	460			5.5	6	6	6	6.5	Good	B1	>40 yrs	Good	A good developing specimen with a spreading habit.	n/a
T2	Orchard Apple	Early-mature	7	350			4.2	3	3	3	4	Fair / Good	B1/2	20 to 40 yrs	Fair / Good	Stem and primary limbs heavily ivy clad preventing detailed inspection. A reasonable specimen.	n/a
T3	Cherry Laurel	Early-mature	9	180 ⁶			5.3	5	4	4	6	Fair / Good	C2	>40 yrs	Good	Multi stemmed from ground level. Congested crown with slender leaders and a bushy spreading habit.	n/a
T4	Sycamore	Semi-mature	13.5	600 [#]			7.2	7.5	7	6	6.5	Good	B1	>40 yrs	Good	Off-site tree, location prevented detailed inspection. Trifurcated from 3m with adequate unions and adjacent minor bleeds on stem. Congested crown structure with multiple slender leaders. A reasonable specimen.	n/a
T5	Sycamore	Semi-mature	14	700 [#]			8.4	4	5	5	6.5	Fair	C2	>40 yrs	Fair / Good	Off-site tree, location prevented detailed inspection. Multi stemmed from 2m with acute unions. A congested crown with multiple slender leaders, and suppress by neighbouring trees.	n/a

^a denotes average diameter of most significant trees (groups of trees)

⁶ denotes an average stem diameter and the number of stems (individual trees)

[#] denotes estimated measurement

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)			RPA Radius (m)	Crown Spread (m)				Structural Condition	Retention Category	Life Expectancy	Physiological Condition	Comment	Recommendations
				1	2	3		N	E	S	W						
T6	Sycamore	Early-mature	18.5	750#			9.0	7.5	8	10.5	9	Good	A1/2	>40 yrs	Good	Off-site tree, location prevented detailed inspection. A good, well established specimen.	n/a
T7	Common Ash	Semi-mature	16.5	470#			5.6	8	7.5	8	7	Good	B1/2	>40 yrs	Good	Off-site tree, location prevented detailed inspection. A good developing specimen free from notable defects.	n/a
T8	Palm	Semi-mature	5	130			1.6	0.5	0.5	0.5	0.5	Good	C1	10 to 20 yrs	Fair	An unremarkable specimen.	n/a
G1	A Group	Semi-mature	15	350	320	150	6.0	5	5	7	6	Fair	C2	>40 yrs		Boundary group containing ash to E and W, with smaller sycamore in centre. All multi stemmed and slender in form due to growing in close competition. W ash with very sparse foliage likely due to Ash Dieback.	n/a
H1	A Hedgerow		5.5					3	3	3	2	Fair	C2			Unmanaged hedge, predominantly hawthorn with elder, wild plum, young elm, and young sycamore. Ivy clad in places.	n/a

^a denotes average diameter of most significant trees (groups of trees)

⁶ denotes an average stem diameter and the number of stems (individual trees)

denotes estimated measurement

Appendix 2: Retention Categories

Trees Unsuitable for Retention	
<p>Category U</p> <p>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.</p>	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. <p><i>NOTE Category U trees can have existing or potential conservation value, which it might be desirable to preserve; see [BS5837: 2012] 4.5.7</i></p>

Tree to be Considered for retention	1 For Arboricultural Reasons	2 For Landscaping Qualities	3 For Cultural Values, Including Conservation
<p>Category A</p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years.</p>	<p>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).</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).</p>

Tree to be Considered for retention	1 For Arboricultural Reasons	2 For Landscaping Qualities	3 For Cultural Values, Including Conservation
<p>Category B</p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.</p>	<p>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.</p>	<p>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.</p>	<p>Trees with material conservation or other cultural value.</p>
<p>Category C</p> <p>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.</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.</p>	<p>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.</p>	<p>Trees with no material conservation or other cultural value.</p>

Appendix 3: Guidelines & Limitations

Where trees are inspected for the purposes of risk management recommendations are not intended to eliminate all risk but to mitigate obvious risks of an unacceptable level. This approach is considered reasonable and proportionate when facilitating tree owners and managers in meeting their duty of care.

Recommendations made are based on the current site context and upon other usages brought to our attention prior to the survey. Site usage conditions taken into consideration are detailed in this report. Where these are thought to be inaccurate this must be brought to our attention at the soonest opportunity.

We advise that all trees are inspected with a regularity and level of detail appropriate to site usage. It is also recommended that trees are re-inspected following certain events. These include; severe weather events, significant changes in site usage, and changes that affect wind loading on trees (e.g. removal of neighbouring trees, erection/demolition of buildings).

Tree work recommendations must only be undertaken by suitably experienced and qualified contractors. Such service providers must hold appropriate public liability insurance and work to the British Standard BS 3998:2010 Tree work – Recommendations, or other industry best practice guidelines. During tree work operations any notable defects not identified in this report must be brought to our attention at the soonest opportunity.

Appendix 4: Site Images



Image 1 – T1



Image 2 – T2



Image 3 – T3



Image 4 – T4



Image 5 – H1



Image 6 – From left to right; T5, G1, T6, T7, & T8

Appendix 5: Constraints Plan

SCALE : 1 : 200 @ A3
 DATE : 09/10/2023



MAP FILENAME : CP - 231005 LandAt1FerryRdEastDN197AZ

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