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Arboricultural Report and Impact Assessment to BS 5837:2012

Site Address:
3 Ferriby Road
Barton Upon Humber
DN18 5LE

Issue Date:
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Report No:
220223

Prepared For:
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Prepared By:
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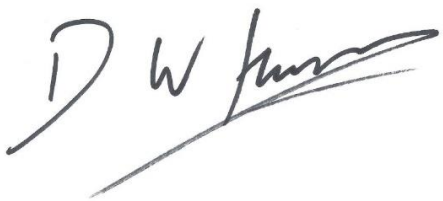


Contents

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. The report is to include an Arboricultural Impact Assessment based on the design proposal provided. 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.

1.2.2. The Arboricultural Impact Assessment has been formulated in line with the design proposal detailed in drawing ref. 1371.01 Rev B. The tree constraints have been superimposed onto this drawing to create the Tree Protection Plan, which can be found at in the appendices.

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 22nd February 2022. The weather was dry and overcast with moderate 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 area identified for survey is a disused agricultural site consisting of farm buildings, areas of hard-surfacing and two modest sized green spaces.

2.2. **Treescape & Visual Amenity**

2.2.1. The surrounding residential area is interspersed with a reasonable number of semi-mature to mature trees.

2.2.2. Tree T1 is a prominent green feature when viewed from Ferriby Road and Holydyke. The tree is a good specimen of significant size and conveys a high visual amenity value.

2.2.3. The group of trees G1 is a notable green feature when viewed from Ferriby Road, Holydyke and the immediate surrounding area. The group contains specimens of significant size and reasonably quality. These trees convey a moderate visual amenity value.

2.2.4. Tree T2 is a poor specimen, is hidden entirely from public view and conveys no visual amenity value.

2.3. **Topography and Geology**

2.3.1. Generally speaking, 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 iGeology application. 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 in close proximity to trees. Failure to do so may lead to subsidence and heave related issues.

2.4. **Rooting Conditions**

2.4.1. In areas likely to be affected by tree rooting the site is free from subterranean structures and significant changes in ground level. As such the Root Protection Areas of all trees surveyed is assumed to be symmetrical and centred on the trees' stems.

3. Tree Status

3.1. A status investigation was made on 23rd February 2022 with North Lincolnshire District Council via their online planning portal.

3.1.1. We are informed that the site is within a Conservation Area. Such status offers protection to all woody plants with a stem diameter of 75mm and above when measured at 1.5m above ground level (exceptions apply). Prior to works being carried out on such trees, the local authority must be given at least six weeks' notice to allow them to consider whether the proposed works are appropriate. The removal of dead branches from a living tree is permitted without prior notice or consent.

3.1.2. We are informed that there are no Tree Preservation Orders (TPO) in force. As TPOs can be issued at short notice we advise a further status investigation is carried out prior to any tree works. Conducting work without permission to a tree subject to a TPO is a criminal offence.

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 the trees 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. To provide adequate clearance from adjacent structures and infrastructure, T1 will require pruning as detailed in Appendix 1. The works are for the most part minor, however some moderate sized cuts are required to create adequate clearance from overhead wires.

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. Arboricultural Impact Assessment & Method Statement

5.1. Development Proposal

5.1.1. The proposal for the site involves the conversion of the existing buildings for residential use.

5.1.2. This Arboricultural Impact Assessment is based on drawing no. 1371.01 Rev B, which forms the basis for the Tree Protection Plan that accompanies this report.

5.2. Tree Removals for Development

5.2.1. To allow for the relandscaping of the grounds it will be necessary to remove T2. As the tree is a poor specimen of modest size its removal will result in no loss of amenity value. Two new trees have been specified close to the location of T2 and will help mitigate any loss associated with its removal.

5.3. Remedial Tree Works and Pruning for Development

5.3.1. To provide adequate working space around the existing barn, T1 will require pruning as specified in Appendix 1. The works are minor in nature and will result in no lasting harm to the tree.

5.4. **Further Investigations Related to Development**

5.4.1. No further investigations related to development are required.

5.5. **Tree Protection Measures**

5.5.1. To avoid undue harm to retained trees, appropriate tree protection measures must be employed. Such measures include, but may not be limited to, protective fencing and ground protection. The installation of tree protection must be the first job on site following the approved tree works. The protection must conform to BS5837:2012 and enclose the entire Root Protection Area (RPA) and crown of retained trees, unless otherwise stated in this document or in an associated Arboricultural Method Statement.

5.5.2. Areas subject to tree protection must not be breached by construction traffic/activity, unless stated otherwise in this document or in an associated Arboricultural Method Statement. Where such incursions are deemed unavoidable further tree protection measures and/or specialist construction techniques may be required. These must conform to BS5837:2012. In the even such incursions are thought to be necessary the project arboriculturist must first be consulted.

5.5.3. The position of protective fencing and ground protection are detailed on the Tree Protection Plan. The specifications for the construction of the protective fencing can be found in Appendix 3.

5.5.4. In this instance protective fencing will not be required around G1. The entire RPA of the group is situated on a steep bank that will prohibit the area's use for storage and will prevent development access.

5.6. **Construction Access & New Hard-surfacing**

5.6.1. To facilitate development, access will be necessary within the RPA of T1. Such access is likely to result in soil compaction and potential contamination that may result in the compromised condition and early loss of the tree.

5.6.2. To prevent such harm to T1 temporary ground protection must be laid. This must be installed after any tree works but before any materials or machinery are brought onto site and before any demolition, development or stripping of soil commences. The Tree Protection Plan (TPP) at Appendix 5 shows the position of the Ground Protection.

5.6.3. The ground protection must consist of a 75mm layer of wood chip covered with scaffold boards/heavy-duty ply-board pinned/pegged in place to prevent movement. Alternatively, where scaffolding is to be erected, a suspended walkway will provide adequate ground protection. This will be achieved by constructing a framework of scaffold poles attached to the main scaffolding. Scaffold boards will be then placed over the framework and utilised as a walkway. Only pedestrian development access is permitted within the RPA of the tree.

5.6.4. Installation of ground protection is to take place without vehicles entering the RPA. Once installed, the ground protection will remain in place until the final landscaping phase. Removal of the ground protection will similarly take place without vehicles entering the RPA.

5.7. **Demolition**

5.7.1. In the event the existing building within the RPA of T1 has to be demolished, associated works may result in soil compact and/or root damage to the tree. To minimise such hard any demolition works must be carried-out as detailed below.

5.7.2. Self-propelled machinery may be used to demolish the above ground portion of the structure, as well as any associated hard surfacing, provided the machinery operates from outside the RPA. The removal of any foundations/subterranean structures within the RPA must only be carried-out with manually portable tools and equipment.

5.8. **Foundations**

5.8.1. The footprint of the building to be renovated infringes upon the RPA of T1 by approximately 8%. Given the presence of the existing building rooting activity in this area is likely to be very limited.

5.8.2. In the event existing foundations require underpinning, or if new foundations are required, the associated excavations could result in significant harm to tree roots beyond the footprint of the building. To prevent such harm any ground works must be completed as detailed below.

5.8.3. All excavations within the RPA are to be completed with manually portable tools and equipment. Any roots encountered must be cut back to the boundaries of the excavation using appropriate and suitably sharp hand tools (e.g. hand saws or bypass secateurs).

5.8.4. Prior to the pouring of foundations within the RPA, excavations must be lined to prevent the leaching of cement into the surrounding ground. This lining must comprise of 1200ga damp proof membrane. To prevents leaks and overspill the membrane must be adequately sealed and extend comfortable above the maximum fill line. Adequate precautions should be taken to prevent damage to the membrane prior to and during the pouring of the cement.

5.9. **Services & Utilities**

5.9.1. All underground draining services have been routed outside and away from the RPA. The routing of other services is not available at present. Any such services must be diverted away from the RPA and crowns of retained trees. If the routing of services in these areas is deemed unavoidable the project arboriculturist must first be consulted.

5.10. **Landscaping**

5.10.1. Increases or decreases in ground level within the RPA can be extremely detrimental to trees and must be avoided. In the even such changes are necessary the project arboriculturist must first be consulted.

5.10.2. Continuous trenching techniques within the RPA can be extremely detrimental to trees and must be avoided. Where boundary infrastructure is required, fencing supported on intermittent post is acceptable provided all reasonable efforts are made to avoid harm to adjacent trees.

5.10.3. Hard surfacing intended for pedestrian use, that is not detailed on the plans provided, must not exceed 20% of the undeveloped RPA of any tree and must not be laid closer than 0.5m to tree stems or surface roots. The surfacing must be permeable and installed using the ‘no-dig’ method as detailed in BS5837:2012. Any hard surfacing intended for use by vehicles must be included on the design proposal for consideration during the planning phase.

Appendix 1: Survey Schedule

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)	RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
						N	E	S	W						
T1	Common Walnut	Semi-mature	12.5	640	7.7	6	7.5	7.5	8.5	A1/3	>40 yrs	Good	Good	Base and lower stem free from notable defects. Single stemmed to full height. Numerous lateral branches all with adequate main unions. Small number of pruning wounds and branch tears with limited decay at present. Crown height over site 2.25m.	**Current Recommendation:** Prune to give 0.5m clearance from overhead wires. Requiring one cut of 120mm diameter and others up to 100mm diameter. Prune to give 2m clearance from dwelling to W, cuts not to exceed 80mm diameter. **Development Recommendation:** Prune to give 2m clearance from outbuilding to SE, cuts not to exceed 80mm diameter.
T2	Common Ash	Semi-mature	5	210	2.5	2	2	2.5	1.5	C1/2	10 to 20 yrs	Good	Fair	Previously topped at 1.5m now with medium regrowth. Standing in close proximity to adjacent wall. A poor specimen.	**Development Recommendation:** Remove
G1	A Group	Semi-mature	15	500[a]	6.0	8	6	6	6	B2	>40 yrs	Good	Good	Predominately semi mature ash with understory of hawthorn, young ash and young sycamore. Situated on a step bank.	

[a] denotes average diameter of most significant stems (groups of trees)

Appendix 2: Retention Categories

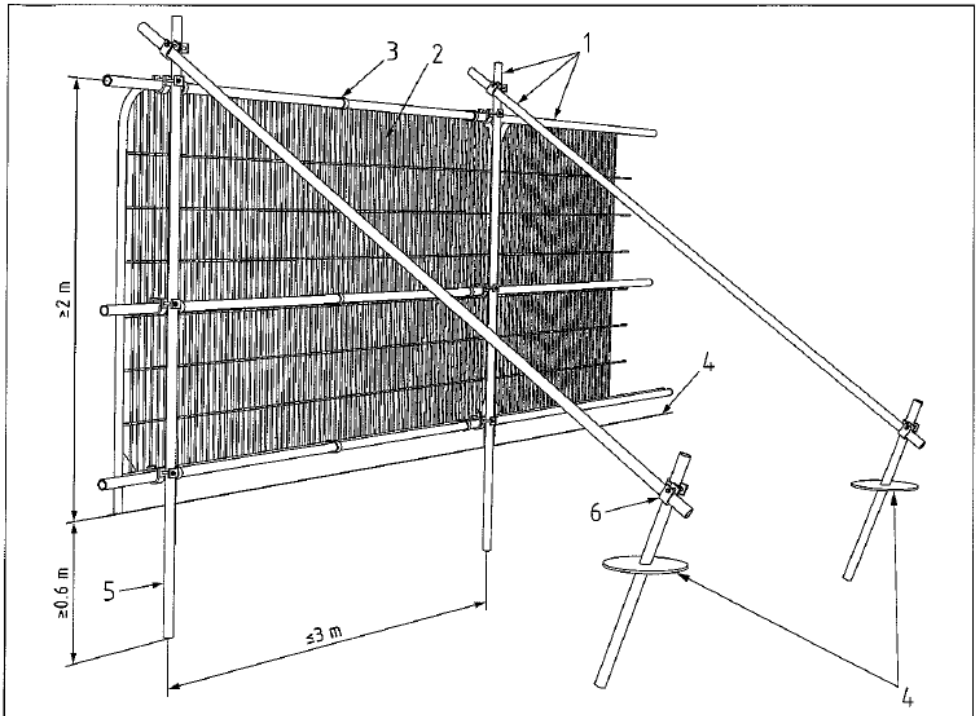
Trees Unsuitable for Retention	
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to 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. *NOTE Category U trees can have existing or potential conservation value, which it might be desirable to preserve; see [BS5837: 2012]* ***4.5.7***

Tree to be Considered for retention	1 For Arboricultural Reasons	2 For Landscaping Qualities	3 For Cultural Values, Including Conservation
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 and/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).

Tree to be Considered for retention	1 For Arboricultural Reasons	2 For Landscaping Qualities	3 For Cultural Values, Including Conservation
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 as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.
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.

Appendix 3: Tree Protection Fencing

Figure 1. Default Specification for Protective Barrier



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

Figure 2. Example Signage for Protective Fencing

Appendix 4: 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 provides 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.

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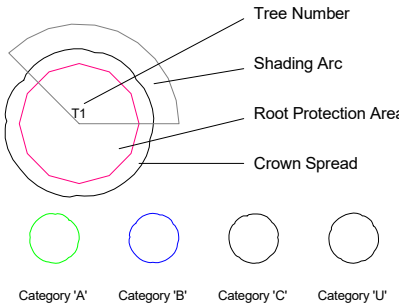
Appendix 5: Tree Protection Plan

SCALE : 1 : 500 @ A4

DATE : 25/02/2022

MAP FILENAME : TPP - 220223 DovecoteFmHolydykeDN185LE

N



0 30m

- Ground Protection - Pedestrian
- Foundations in RPA
- Drainage Services
- Removed Tree
- Protective Fencing