



# St. Mary the Virgin Church, Hook

## Arboricultural Method Statement

*October 2022*

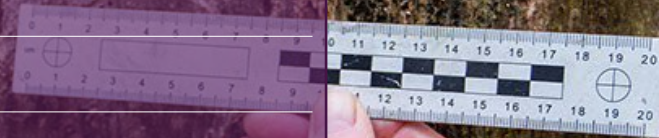




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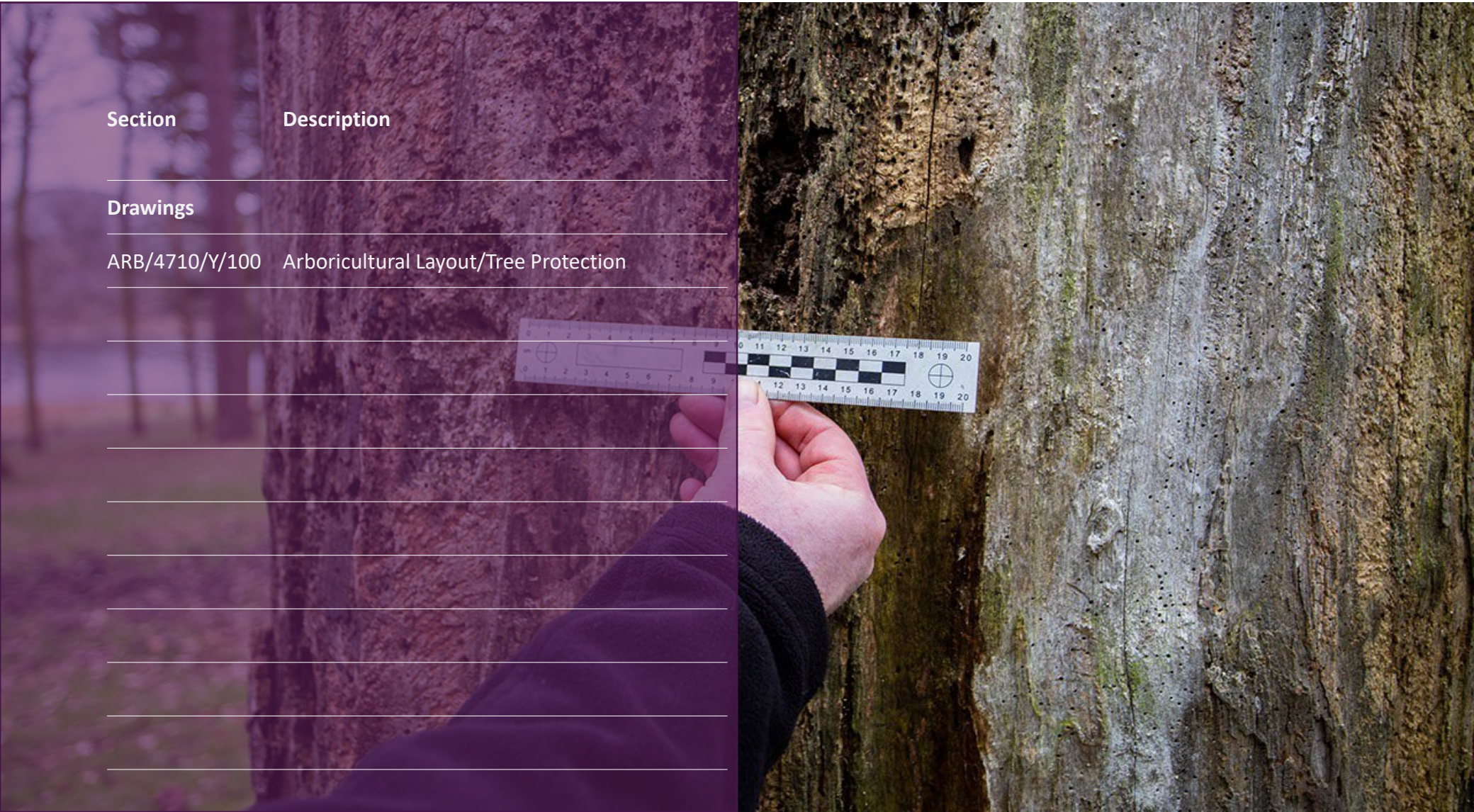
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Section

Description

Drawings

ARB/4710/Y/100 Arboricultural Layout/Tree Protection



## Section 1

### **General**

This Arboricultural Method Statement (AMS) is prepared on behalf of the Parochial Church Council (PCC) of St. Mary the Virgin Church, Hook.

This document is intended to demonstrate the degree of protection to be undertaken and demonstrate the fact that, in arboricultural terms, the development is sustainable.

This AMS sets out proposed measures to minimise and mitigate construction impact on the trees and targets for the management of the site during the construction phase. The document provides certainty of outcomes, for example details of special engineering within tree Root Protection Areas.

It is intended that the AMS remains under review during the construction of the project. Sequencing of tree protection measures has been programmed with the contractors construction programme. The following text contains a series of considerations that the PCC and their appointed developer will follow whilst working on the project to completion.

## Section 2

<b>Description and Location of Project</b>	
<b>Author:</b>	ACS Consulting, 272 Bath Street, Glasgow G2 4JR.
<b>Project Title:</b>	St. Mary the Virgin Church
<b>Location:</b>	St. Mary the Virgin Church, Hook.
<b>Nature of Project:</b>	Installation of pipeline and concrete plinth.
<b>Contract Period:</b>	TBA.

## Section 3

### **Description of Project**

In simple terms it is an application for: The installation of a pipeline and the construction of concrete plinth for heating installation.

## Section 4

### **Statutory Protections/Planning Conditions/Planning Policy**

The application is subject to the Planning Policies of The East Riding of Yorkshire Council (ERYC). The site is not located in a Conservation Area. There are a number of trees within the site that are the subject of a Tree Preservation Order. Details on the ERYC interactive plan are not precise.



## Section 5

### Tree Survey

The tree data can be found at Appendix A. There is no requirement in BS 5837 to repeat the details of the constraints information save for confirming that the trees were surveyed for species type, age, height, crown spread, diameter-at-breast-height, condition, and their suitability for retention from ground level.

The heights were measured with a digital Hypsometer and the diameters were taken with a diameter tape to give an average stem measurement. Canopy spreads have been measured at the cardinal points or where they significantly extend in other directions.



## Section 6

### Risks to and Impacts on Retained Trees

Overall, the proposed development impact is negligible. The method statement details the installation and working practices. The development retains the site's principal arboreal features.

The proposal is to install a new double bunded oil tank on a concrete plinth with a feed pipe across to the church. The proposals are within the RPA of the site's arboreal specimens. A number of trees are the subject of a Tree Preservation Order. The concrete plinth is located in the southern eastern quadrant of the RPA of T6 Norway maple. The degree of intrusion is considered to be minimal.

The RPA in this area will only comprise fine fibrous roots that are infinitely variable in their distribution and influenced in their location by the graves, hard surfaces and the like. If it is the case that there are roots, the excavation located in the RPA of the trees is not considered to be wholly detrimental to their long-term retention. There are a number of studies on the impact of the root severance. Studies have shown the RPA calculated by the simplistic mathematical formula does not correspond to the wider root system correlations can be drawn with the work by Thomas<sup>1</sup>. At the current site, the impacts would be less than the parameters cited by Peter Thomas.

There is little correlation between the percentage RPA and root impairment or loss. Most RPAs tend to exceed canopy spread suggesting that RPA encroachment understates root loss.

The informal reduction noted in BS5837 – 2012 of 20% may actually equate to a higher percentage loss.

Studies suggest that between 30% and 50% root loss can be tolerated by healthy trees though there may be some slight corresponding die back. It is not possible to redesign the scheme and relocate it elsewhere. The tree genus involved are reasonably tolerant of development impacts.

The soil at the site is noted as being Alluvium - Clay, silt, sand and gravel<sup>2</sup>.

The feeder pipeline to the church will be excavated using advanced techniques over and above that noted in NJUG 4.2. The soil is noted as being Alluvium - Clay, silt, sand and gravel. Using either Hydro Vacuum & Suction Excavation, Pneumatic Vacuum & Suction Excavation or Clay-Spade Assisted Suction Excavation, the trench can be excavated along the alignment.

The alignment passes through the RPA of a number of trees. Where roots are noted as being less than 25mm in diameter they can be cleanly severed at the excavation face. Roots greater than 25mm will be retained and the feeder pipe passed under or over depending on the depth of the root. The ground will be protected as detailed in the AMS for both the plinth and the pipeline.

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1. Thomas, P., (2014). Trees Their Natural History.

2. BGS Geology Viewer

## Section 7

### Construction Methods and Sequence

A Construction Method Statement and Timetable is to be drafted on the appointment of a construction firm. As noted in BS5837 – 2012 5.5.6 it is sufficient to list a heads of terms summary of the issues requiring more detailed consideration once consent is issued. On this site, those issues are likely to include:

- site construction access;
- the intensity and nature of the construction activity;
- phasing of construction works;
- the space needed for foundation excavations and construction works;
- the location and space needed for all temporary and permanent apparatus and service runs, including, electricity or other communication cables;
- working space for plant, scaffolding and access during works;
- space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete;
- the effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas.

## Section 8

### Conclusions

The development can be achieved with minimal impact to the retained trees using the tree protection methods as detailed.



## Arboricultural Method Statement

### Arboricultural Supervision

The general purpose is to ensure compliance with planning conditions. It is anticipated that arboricultural input is likely to be needed for the following operations:

- Pre-commencement meeting;
- Tree felling and Tree Pruning for access;
- Installation of protective fencing/ground protection measures;
- Installation of concrete plinth;
- Installation of services;
- Removal of protective measures.

All supervisory visits will be logged and a copy of the minutes circulated to all team members including the LPA. A number of the operations named above can be undertaken in a single visit.

The pre-commencement site meeting is to be held before any work is undertaken. All tree protection measures, haul routes, site storage, contractor parking, deliveries, working methods are to be freely discussed and agreed in writing. Initial site visits may be intense to ensure measures are implemented.

General site visits will be undertaken once the site is 'live' at intervals agreed with the team. Our role will be to initially to act in a compliance capacity to ensure the protective measures are fit for purpose and meet or exceed the council's requirements and the tree works are undertaken to the required standard. Once this has been completed, our role will be one of monitoring and 'troubleshooting'.

### Actions

- Pre-commencement site meeting to agree roles, responsibilities and duties in relation to tree protection. Details to be minuted and distributed.
- Appointment of an Arboricultural Clerk of Works (ACoW) to oversee works.

## Arboricultural Method Statement

### Tree Felling/Stump Removal/Tree Pruning

The following precautions are to be taken.

#### Actions

- Trees to be removed shall be felled so as to fall away from tree protection zones and to avoid pulling and breaking of roots of trees to remain. Brush can be chipped into the tree protection zone to a depth of 150 mm.
  - The roots shall be removed by severing the major woody root mass before extraction. This may be accomplished by Hydro Vacuum & Suction Excavation or Compressed Air Displacement and then, cutting through the roots by hand, with a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment.
  - Trees to be removed within the tree protection zone shall be removed by qualified tree contractors.
  - All felled brush and trees shall be removed from the tree protection zone either by hand or with equipment sitting outside the tree protection zone. Extraction shall occur by lifting the material out or by 'skidding' it across the ground.
  - Exposed roots to be kept moist with hessian sacking.
- Site inspections to be reported to the development team and the LPA.
  - Tree pruning to BS3998 – 2010. No deviation from the specification.

## Arboricultural Method Statement

### Construction Exclusion Zone Ground Protection – Site Wide

A number of locations, in particular around Trees T3, T4 and T6, require temporary ground protection. The Construction Exclusion Zone will be protected by plywood boards over a wood chip compressible layer. Adequate protection of trees requires the installation of the correct ground protection .

### Actions

- The following applies to plywood (other systems follow a similar installation procedure).
- Existing grass/turf to remain.
- A wood chip compressible layer is to be spread across the working area to create a level working surface to a depth of 150 mm.
- Plywood boards laid over. This surface will be retained through the works to form a working surface.
- Once the works are complete, the woodchip can be left as a soil ameliorant.





## Arboricultural Method Statement

### Foundation Excavation – Concrete Plinth

#### Targets

- The works area is to be marked out.
- Any hard surface broken out by hand working;
- Using either Hydro Vacuum & Suction Excavation, Pneumatic Vacuum & Suction Excavation or Clay-Spade Assisted Suction Excavation, the foundation will be excavated.
- In all cases: Roots <25mm Ø are to be cut at the excavation face with secateurs. Roots >25mm Ø are to be assessed by the Arboricultural Consultant. Findings and decision on root retention/severance to be reported to the LPA.
- Exposed roots to be kept moist with hessian sacking/terram.
- The foundation pit to be lined with a visqueen liner.
- Site inspections to be reported to the development team and the LPA.



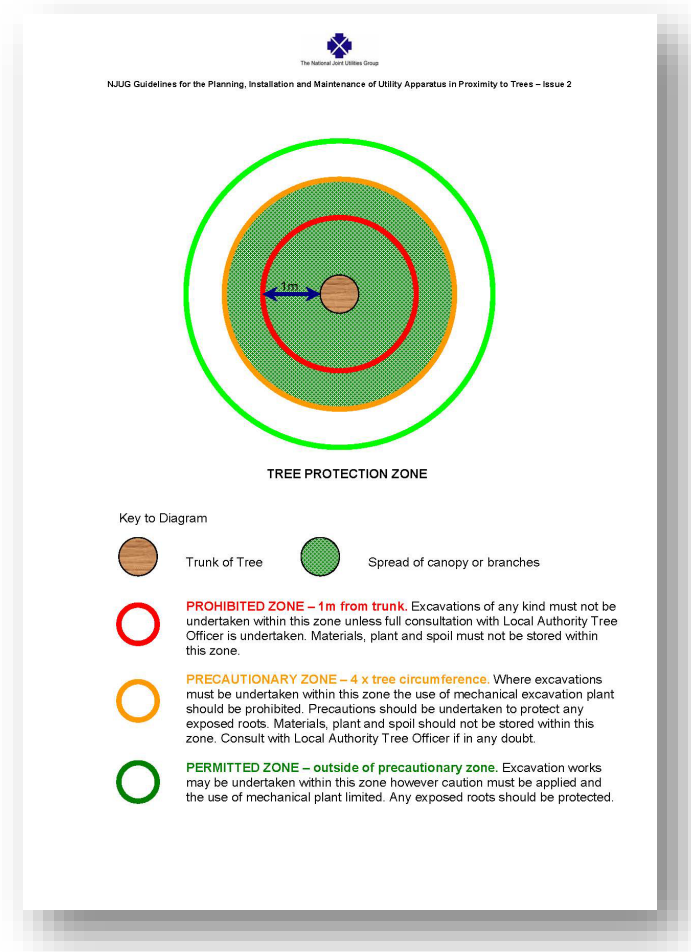
## Arboricultural Method Statement

### Services - NJUG 4.2

Work area to be marked out in accordance with NJUG 4.2.

### Actions

- The precautionary area is to be identified.
- Suitable method of service installation to be identified this may include Hydro Vacuum & Suction Excavation, Pneumatic Vacuum & Suction Excavation or Clay-Spade Assisted Suction Excavation.
- In all cases: Roots <25mm Ø are to be cut at the excavation face with secateurs. Roots >25mm Ø are to be assessed by the Arboricultural Consultant. Findings and decision on root retention/severance to be reported to the LPA.
- Exposed roots to be kept moist with hessian sacking/terram.
- Location and adequacy signed off by the ACoW and the LPA advised.
- Works to be monitored by ACoW.



## Arboricultural Method Statement

### General Precautions

The retention of trees requires a number of general precautions to be taken. Compliance is to be maintained on site by the ACoW. The site visits are detailed at criterion 1 – Timing of Works.

### Actions

- Spoil from the foundation pits or other excavations shall not be placed within the Construction Exclusion Zone.
- No materials, equipment, spoil or washout water may be deposited, stored or parked within the Root Protection Area/ Construction Exclusion Zone.
- On-site inspections to be undertaken by the Arboricultural Clerk of Works with the Arboricultural Consultant visiting during critical operations. The aim of the visits is to maintain on-going liaison with all personnel involved in the site development, Local Planning Authority and its Tree Officer.
- Any defects requiring rectification shall be notified to the Contractor/Site Manager/Arboricultural Consultant and the client.
- A site logbook for tree protection measures is kept to record all stages of the development from the erection of the protective fencing, right through to the completion of the project. This will be made available to the Arboricultural Consultant and the Local Planning Authority, if required, to show evidence of continuous site monitoring.

### Protection and Emergency Procedure/Contacts

Adherence to the method statement, appointments of the ACoW and Arboricultural Consultant and their involvement, at the critical demolition and construction phases, should negate any incident. The contact page details those personnel who should be contacted if an incident involving a retained tree should take place.

### Actions

- Spill kit available.
- On site fuels to be located away from RPA/CEZ and contained in a bunded tank at 110% capacity.
- All incidents involving trees to be reported by telephone and email.
- Bunded storage of oil/fuels.
- Refuelling points for machinery at distance to the RPA.
- Use of drop trays under plant/machinery overnight.
- Availability of spill kits on site – and training of site staff in their use.
- No excavation during periods of heavy rain.
- Regular maintenance and inspection of plant – engines and hydraulic systems.



## Arboricultural Method Statement



### Contact List

Title	Name	Address	Telephone	Email
Arboricultural Consultant (Development)	I Murat	ACS, Booths Park, Chelford Road, Knutsford WA16 8GS	01565 755422	irm@acsconsulting.co.uk
Arboricultural Clerk of Works (ACoW)	TBA			
Site Agent	TBA			
Design/Architect	Tom Crooks	Tom Crooks Architecture Ltd.	01433 440 466	info@tomcrooksarchitecture.co.uk
Project Manager	TBA			
Arboricultural Consultant (Council)	TBA			

# Appendix A

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## Contents

Tree Data

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**KEY**

<p>Age</p>	<p>Y – Young: Out-planted trees that have not yet established  SM – Semi-mature: Established trees up to 1/3 of expected height and crown  EM – Early mature: Between 1/3 and 2/3 of expected height and crown  M – Mature: Between 2/3 and full expected height and crown  FM – Fully mature: Full expected height and crown  OM – Over mature: Crown beginning to break-up and decrease in size  S – Senescent: Crown in advanced stage of break-up</p>
<p>Physiological Condition</p>	<p>Good – Very few defects a reasonable long life expectancy depending on age class  Fair – Some defects giving the tree a shortened life expectancy  Poor – Limited life with major problems</p>
<p>Structural Condition</p>	<p>Good – Very few defects  Fair – Some defects rectifiable with minor tree surgery  Poor – Significant defects rectifiable with major tree surgery or felling</p>
<p>#</p>	<p>Estimated dimensions.</p>
<p>(a)</p>	<p>Average stem diameter across a group of trees.</p>
<p>*</p>	<p>Tree subject to TPO.</p>

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria			Identification on Plan
<p><b>Category U</b></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"> <li>• 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 U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).</li> <li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.</li> <li>• 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.</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value which might be desirable to preserve; see 4.5.7</i></p>			RED
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation.</b>	
<b>Trees To Be Considered For Retention</b>				
<p><b>Category A</b></p> <p><b>Trees of high quality</b> with an estimated remaining life expectancy of at least 40 years</p>	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dormant 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)	GREEN
<p><b>Category B</b></p> <p><b>Trees of moderate quality</b> with an estimated remaining life expectancy of at least 20 years.</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.	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.	BLUE
<p><b>Category C</b></p> <p><b>Trees of low quality</b> with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.</p>	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 benefits	GREY



Tree Ref No.	Species	Height M	Stem Diameter MM	Branch Spread M				Height of Crown Clearance M	Clear Branch Height M	Age Class	Physiological Condition	Structural Condition	Comments/Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading
				N	E	S	W								
1	Beech	30+	1330	12	11	15	12	2	5	FM/V	Good	Good	Significant specimen. Twin stemmed. Dead wood and storm damage - typical of age. A tree of high quality and value in the landscape.  <b>Work</b> Crown clean.	40+	A1/2
2	Holly	15	310	2	2	4	2	2	3	EM	Good	Good	Suppressed by adjacent beech. A tree of moderate quality and value in the landscape.	20+	B1/2
3	Yew	16	465, 470, 370	5	6	6	4.5	2	2	M	Good	Good	Tri-stemmed. A tree of moderate quality and value in the landscape.	20+	B1/2
4	Holly	4	a 100	1	2	2	2	2	2	Y	Good	Fair/Poor	Appears to be epicormic growth on a decaying stump. A tree of low quality and value in the landscape.	10+	C1/2
5	Yew	12	350, 400	5	1	6	5	2 (S)	2 (S)	M	Good	Good	Twin stemmed. A tree of moderate quality and value in the landscape.	20+	B1/2

Tree Ref No.	Species	Height M	Stem Diameter MM	Branch Spread M				Height of Crown Clearance M	Clear Branch Height M	Age Class	Physiological Condition	Structural Condition	Comments/Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading
				N	E	S	W								
6	Norway Maple	35+	1580	10	7	12	13.5	2	3	FM/V	Good	Good	Multi-stemmed at 4-5m - typical of species. Large fruiting body of Ganoderma on the north western buttress roots. Appears to be restricted to that section – there are no other fruiting bodies emerging. The tree has put on quite good adaptive growth in response. A tree of high quality and value in the landscape.	40+	A1/2
7	Beech	5	120	2	2	2	2	0	0	Y	Good	Good	A tree of high quality and value in the landscape.	40+	A1/2
8	Lime	20+	860	4	#6	4	4	2	2	M	Good	Good	Located adjacent to the wall – slight deflection to the wall. Ivy has been cut and is withering. A tree of high quality and value in the landscape.	40+	A1/2
9	Yew	10	330	3	2	2	4	2	2	EM	Good	Fair	Large stem injury with decay and good wound wood. Slight lean. A tree of low quality and value in the landscape.	10+	C1/2
10	Norway Maple	5	120	3	0.5	0	4	2	2	Y	Good	Good	Influenced in development by adjacent veteran Norway maple. A tree of low quality and value in the landscape.	10+	C1/2

Tree Ref No.	Species	Height M	Stem Diameter MM	Branch Spread M				Height of Crown Clearance M	Clear Branch Height M	Age Class	Physiological Condition	Structural Condition	Comments/Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading
				N	E	S	W								
11	Horse-chestnut	12	310	5	4	3	4	2	2	SM	Good	Good	Guignardia leaf blotch. Tri-stemmed at 2.5m with partly included stem unions. A tree of low quality and value in the landscape.	10+	C1/2
12	Yew	5	200, 250	3	3	3	2	2	2	SM/EM	Good	Good	Twin stemmed. A tree of moderate quality and value in the landscape.	20+	B1/2
13	Holly	10	300, 275	4	3	4	4	2	2	M	Good	Good	Topped with regenerative growth from topping points. Located on a raised area. A tree of low quality and value in the landscape.	10+	C1/2
14	Ash	15	330	5	3	5	5	2	2	SM/EM	Good	Good	Twin stemmed at 2m – reasonably good union. Dead wood. Possible Chalara Ash Dieback. A tree of moderate quality and value in the landscape.	20+	B1/2
15	Holly	15	300, 230, 250	3	3	3	3	3	3	EM	Fair	Fair	Tri-stemmed at 1m. Dieback. A tree of low quality and value in the landscape.	10+	C1/2

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