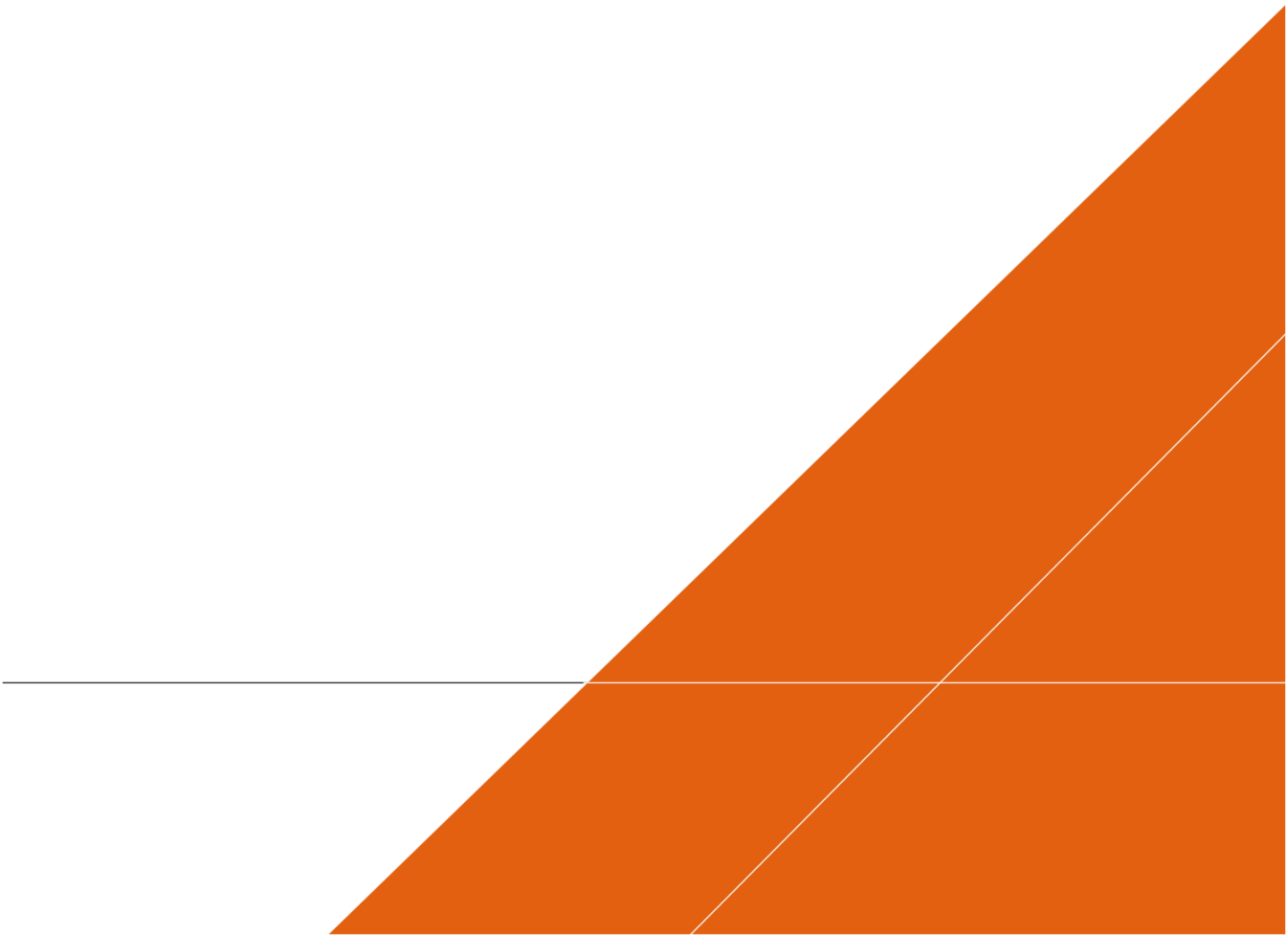
ARCADIS WORKING ON BEHALF OF SURREY

MURRAY ROAD - RECOGNITION OF ANCIENT VETERAN AND NOTABLE (RAVEN2) TREE ASSESSMENT

A320 HIF Scheme – North of Woking

10053900-ARC-EGN-J10-TR-EC-00001



A320 HIF Scheme – North of Woking

Murray Road - Recognition of Ancient Veteran and Notable (RAVEN2) Tree Assessment

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1 INTRODUCTION

1.1 Overview

1.1.1 This report, provided by Arcadis Consulting (UK) Ltd, presents the results of an assessment of trees undertaken on Murray Road with respect to the A320 Ottershaw junction improvements forming part of the HIF Scheme – North of Woking using the Recognition of Ancient, Veteran and Notable Trees Second Edition (RAVEN 2) methodology (FLAC 2023). This assessment was conducted in response to assertions that trees present on the site and potentially impacted by the proposals are 'veteran trees' and therefore the scheme was not compliant with National Planning Policy Framework (NPPF) guidance.

1.2 Tree Survey Location

1.2.1 The trees in question are located on the north side of Murray Road, in Ottershaw, Surrey, 50m east of the Murray Road car park, centred on Ordnance Survey (OS) Grid Reference TQ 02435 63974 and around the post code KT16 0HN.

1.2.2 An aerial screen shot illustrating the trees ID reference numbers in relation to the survey schedule, canopy and stem locations (green outlines) is presented in Figure 1-1 below.



Figure 1-1 Location of assessed trees

2 METHODOLOGY

2.1 Desk Study

2.1.1 A check for catalogued Ancient and Veteran trees using the Woodland Trust Ancient Tree Inventory (Woodland Trust 2023a) was completed for trees on Murray Road. The results of this check are provided in Section 4 of this report.

2.2 Site Survey

2.2.1 A walkover survey was undertaken by Principal Arboricultural Consultant James Potts BSc (Hons) MArborA with Health and Safety second surveyor Graduate Ecologist Isabel Leggett BSc (Hons) on 13 November 2023.

2.2.2 Trees were assessed from ground level from accessible locations, i.e. pavement and highway verge. Observations were conducted utilising the "Visual Tree Assessment" (VTA) system as outlined in The Body Language of Trees, A Handbook for Failure Analysis Research for Amenity Trees No.4 (Mattheck and Breloer, 1994)

2.2.3 The maximum crown spread of each tree was measured from the centre of the trunk to the tips of the live lateral branches taken at four compass points (N-E-S-W) using a ground tape where safe and practical to do so. Crown spread measurements were taken in metres.

2.2.4 The height of trees was recorded in meters using a clinometer. The tree locations were plotted using a mobile GPS device against topographical survey Reference: *10053900-ARC-VTO-ZZZ-M2-CE-00003.*

2.2.5 The stem diameter of the trees was recorded at 1.5m above ground level or following Annex C of BS5837:2012, using a rounded-down diameter tape and recorded in millimetres. It should be noted that at the time of the original Arboricultural Survey, stem diameters of the trees were estimated for health and safety reasons and due to the presence of dense vegetation. As such measured stem diameters within this assessment are greater than the values estimated within the 2021 Arboricultural report.

2.3 Recognition of Ancient, Veteran and Notable Trees Second Edition (RAVEN 2)

2.3.1 Using the data collected during the site survey, an assessment using RAVEN 2 was conducted. An extract of this is presented in Appendix A.

2.3.2 The RAVEN 2 methodology was utilised for this assessment for the purposes of transparency, repeatability and lack of ambiguity surrounding its results.

2.3.3 It is considered appropriate for use in this context when assessing trees in relation to planning and construction with reference to their protection under the NPPF.

2.3.4 On the RAVEN 2 methodology:

"RAVEN 2 has been developed by FLAC Principal Julian Forbes-Laird, following the outcome of the Brislington Meadows Inquiry, in which JFL appeared for Bristol City Council.

RAVEN 2 is consistent with the definition of veteran trees in the NPPF and is only intended to be used within this planning context." (FLAC 2023)

2.3.5 The RAVEN 2 methodology classifies trees as Ancient, Veteran or Notable using age, size and the presence of characteristic veteran features as criteria in a five-step assessment. Methodologies conduced for each step of the assessment are detailed below:

- Step One – Age Assessment: Estimations of tree age to support the assessment were calculated using the John White methodology (Forestry Commission 1998) with the assumption of 'Poor ground and/or some exposure' to account for the presence of the highway in close proximity to the trees. Calculated ages were assessed against species guidance for typical age ranges of veteran trees (Woodland Trust 2023b).
- Step Two – Size Assessment: Measured stem diameters were converted to girth and assessed against Figure 1.3 of Ancient and other veteran trees: further guidance on management (Lonsdale, ATF 2013) (See Figure 2-1).
- Step Three - Condition Assessment: Primary Features: Trees were visually assessed for the presence of primary features as detailed below. At least two of the following should be present (or refer to Step Four):
    - Extensive Decay;
    - Extensive Hollowing;
    - Senescence;
    - Retrenchment.
- Step Four - Condition Assessment: Secondary Features: Trees were visually assessed for the presence of secondary features as detailed below. If no primary features are present, a tree requires six secondary features to qualify. If only one primary feature is present, a tree requires three secondary features to qualify:
    - Large Quantity of dead wood present in crown (>150mm dia);
    - Major storm damage (breakout wounds, broken spars .300mm dia);
    - Habitat spaces: decay holes and/ or crevices/ branch splits sheltered from direct rainfall;
    - Arial rooting;
    - Sap runs / slime flux;
    - Water pools;
    - Bark loss (Exceeding 400cm2);
    - Fungi (especially notable or protected species);
    - Other epiphytic plants, including ferns & significant presence of lichens or mosses.
- Step Five – Recognition Guide: Trees were assigned a classification of Ancient, Veteran, Notable or N/A based on their scoring in steps one to four criteria along with the criteria below:
    - Ancient: Veteran tree with extremely large girth: age likely > 50% of estimated species maximum (E.g. pedunculate oak, 2m stem dia, average site: ca. 460 years old, ca. 50% of species max);
    - Veteran: Relatively old & very large for species and qualifies under either Step Three or Step Four;
    - Notable: Trees approaching veteran status under Steps One or Two;
    - N/A: Trees did not meet criteria under Steps One and Two.

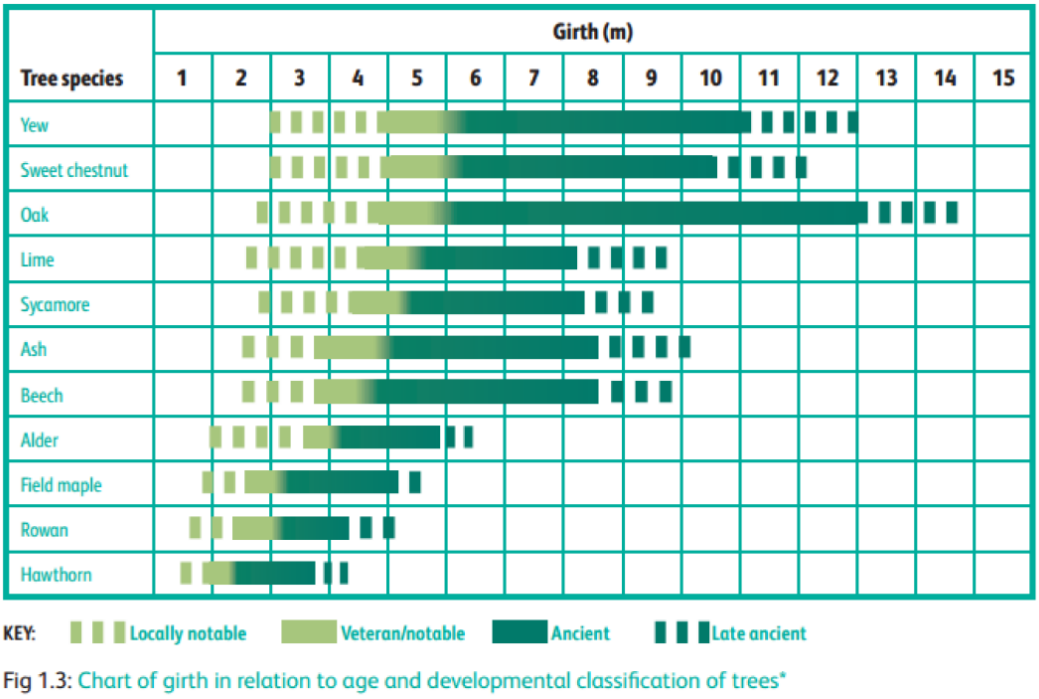


Fig 1.3: Chart of girth in relation to age and developmental classification of trees*

Figure 2-1 Chart for tree girth in relation to Notable, Veteran and Ancient tree classification

3 SUMMARY OF FINDINGS

3.1 Site Survey

3.1.1 Three trees on Murray Road were assessed for their suitability for classification as Veteran Trees under the RAVEN 2 Methodology and were classified as follows:

- Ancient Trees: No trees were classified as falling within this category.
- Veteran Trees: No trees were classified as falling within this category.
- Notable Trees: One tree (T393) was classified as falling within this category.
- N/A/ Unclassified: Two trees (T388 and T391) were not classified as ancient, veteran or notable under the methodology.

3.1.2 As such, none of the trees assessed would classify as ancient or veteran under the definition presented by the NPPF.

3.1.3 Furthermore, no trees are considered to classify as veteran under the Natural England / Forestry Commission joint standing guidance, the woodland trust ancient tree guide or the definition of a veteran tree within the scope of VETcert in the UK details of which are presented in Section 5 of this report.

3.1.4 Full details of the survey data and site observations are presented within the Schedule of Trees in Appendix B and Photographs of assessed trees are presented in Appendix C.

3.2 Desk Study

3.2.1 One tree on Murray Road (T393) appears on the Woodland Trust Ancient Tree Inventory (Woodland Trust 2023) as displayed in Figure 3-1 below. It was recorded in 2021 and has been verified as a 'Notable Tree' but not attributed the 'Veteran Tree' classification.

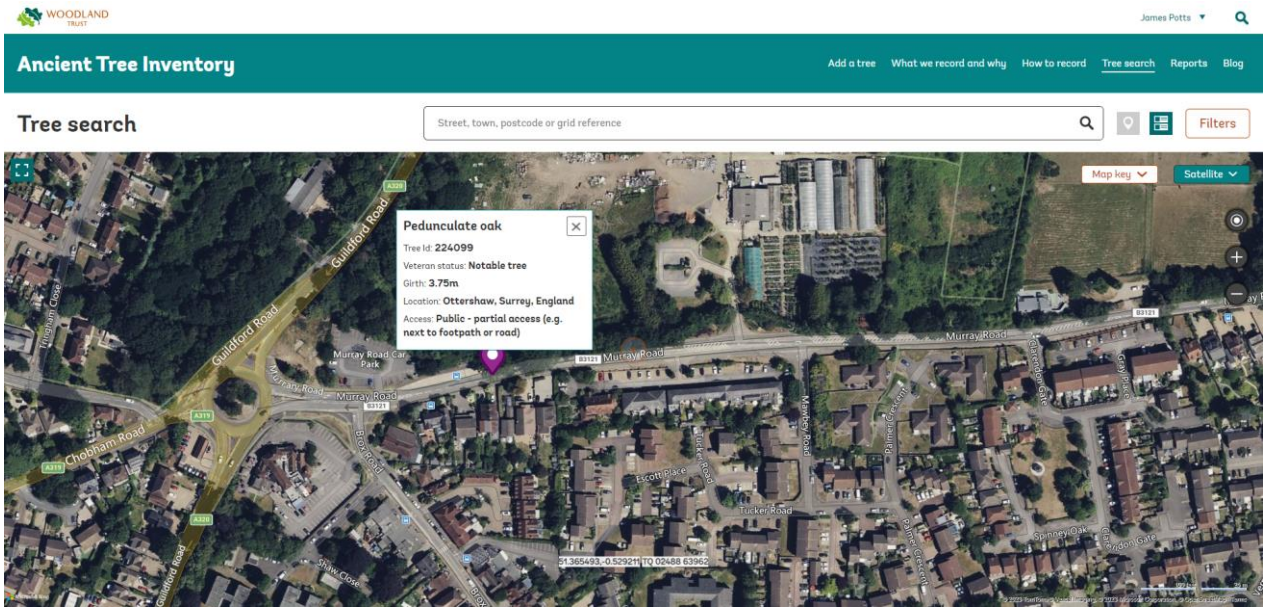


Figure 3-1 Woodland Trust Ancient Tree Inventory

4 RELEVANT GUIDANCE

4.1 NPPF

4.1.1 The NPPF defines ancient and veteran trees as:

"A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage." (NPPF 2023)

4.1.2 Under the RAVEN 2 methodology, no trees included in this assessment are considered to match the NPPF definition of a veteran tree.

4.2 Natural England and Forestry Commission Standing Guidance

4.2.1 Natural England and the Forestry Commission joint standing guidance on the government website defines veteran trees as:

"A veteran tree may not be very old, but it has significant decay features, such as branch death and hollowing. These features contribute to its exceptional biodiversity, cultural and heritage value.

All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient or veteran will vary by species because each species ages at a different rate." (Natural England and Forestry Commission 2022)

4.2.2 No trees included in this assessment have the 'significant decay features' necessary to qualify as veteran trees under this definition.

4.3 Woodland Trust Ancient tree guide 4: What are ancient, veteran and other trees of special interest?

4.3.1 Woodland Trust Guidance note (Woodland Trust 2008) describes key habitat features of a veteran tree as the following:

"Key habitat features of a veteran tree:

Evidence of decay processes, such as hollowing in the trunk, fruit bodies of fungi known to cause wood decay and cavities or rot holes (eg where limbs have broken off or bark is damaged).

Significant amounts of dead wood: many dead limbs or branches (larger than 20cm in diameter) in the crown or fallen." (Woodland Trust 2008)

4.3.2 No trees included in this assessment have the decay features or significant amounts of deadwood necessary to match this description.

4.4 Definition of a veteran tree Within the scope of VETcert: UK

4.4.1 The VETcert qualification scheme for managing veteran trees defines veteran trees within the UK as follows:

"Veteran trees have significant decay or hollowing in the trunk or major limbs, or have large dead branches. The value of the veteran characteristics increases with the quality or quantity of decaying wood. Veteran trees that are in the life stage beyond maturity can be categorised as ancient trees." (VETcert 2019)

4.4.2 No trees included in this assessment have the significant decay, hollowing or large dead branches necessary to match this description.

5 CONCLUSIONS

5.1.1 Three trees on Murray Road were assessed for their suitability for classification as Veteran Trees under the RAVEN 2 Methodology and were classified as follows:

- Ancient Trees: No trees were classified as falling within this category.
- Veteran Trees: No trees were classified as falling within this category.
- Notable Trees: One tree (T393) was classified as falling within this category.
- N/A/ Unclassified: Two trees (T388 and T391) were not classified as ancient, veteran or notable under the methodology.

5.1.2 The RAVEN 2 methodology was utilised for this assessment for the purposes of transparency, repeatability and lack of ambiguity surrounding its results. It is considered appropriate for use in this context when assessing trees in relation to planning and construction with reference to their definition and protection status under the NPPF.

5.1.3 In addition, one tree on Murray Road (T393) appears on the Woodland Trust Ancient Tree Inventory (Woodland Trust 2023) and has been verified as a ‘Notable Tree’ but not attributed the ‘Veteran Tree’ classification.

5.1.4 To conclude, none of the trees assessed are considered to meet the criteria for classification as Ancient or Veteran Trees under the definitions presented in this report and should therefore not be considered as ‘irreplaceable habitats’ as under section 180c of the NPPF (NPPF 2023).

6 REFERENCES

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APPENDIX A – RECOGNITION OF ANCIENT, VETERAN AND NOTABLE TREES (RAVEN) SECOND EDITION



Recognition of Ancient, Veteran & Notable Trees –
R A V E N 2

Step One - Age Assessment

Tree should be old relative to others of the same species
Compute age using White Method (use proxy species if necessary): min. 25% of species age required

Step Two - Size Assessment

Tree has very large girth for species*
Refer to *Ancient and other veteran trees: further guidance on management* (Lonsdale, ATF 2013) at Fig. 1.3: *Chart of girth in relation to age and developmental classification of trees*

*e.g. 4.7m for pedunculate oak (1500mm stem dia.)

Step Three - Condition Assessment: Primary Features

At least two of the following should be present (or refer to Step Four)

- ☐ Extensive decay (especially brown rot or exposed stem heartwood in relevant species), 400cm²
- ☐ Extensive hollowing
- ☐ Senescence
- ☐ Retrenchment

Step Four - Condition Assessment: Secondary Features

If no primary features are present, tree requires six secondary features to qualify
If only one primary feature is present, tree requires three secondary features to qualify

- ☐ Large quantity of dead wood in crown, 150mm dia.+
- ☐ Major storm damage, e.g. breakout wounds, broken spars 30cm dia.+
- ☐ Habitat spaces: decay holes and/ or crevices/ branch splits sheltered from direct rainfall
- ☐ Aerial rooting
- ☐ Sap run/ slime flux
- ☐ Water pool
- ☐ Bark loss (exceeding 400cm²) inc. due to lightning strike
- ☐ Fungi (especially notable or protected species)
- ☐ Other epiphytic plants, including ferns & significant presence of lichens or mosses

Step Five - Recognition Guide

☐ **ANCIENT**
Veteran tree with extremely large girth: age likely > 50% of estimated species maximum
E.g. pedunculate oak, 2m stem dia, average site: ca. 460 years old, ca. 50% of species max

☐ **VETERAN**
Relatively old & very large for species and qualifies under either Step Three or Step Four

☐ **NOTABLE**
Trees approaching veteran status under Steps One or Two

IF A TARGET IS PRESENT, ASSESS RISK USING *THREATS*

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APPENDIX B – SCHEDULE OF TREES AND RAVEN 2 ASSESSMENT

Client: Surrey **County Council**
Survey date**: 13 November 2023**

Project: **A320 – Ottershaw Roundabout**
Surveyor**: James Potts BSc (Hons) MArborA**

Table B1 Tree Schedule

Tree ID	Species	Height (m)	Stem diameter (mm)	Branch spread (m)				Height of crown clearance (m)	Age class	Estimated Remaining Contribution (ERC) Years	Comments	Step One: Age Assessment	Step Two: Size Assessment	Step Four: Primary Features	Step Four: Secondary Features	Step Five: Classification
				N	E	S	W									
T388	Peduncule Oak (*Quercus robur)*	18	1300	9	10	8	9	6m over road	M	40+	Upper crown dieback/retrenchment, ivy cladding. Moderate deadwood up to 80mm diameter in crown.	256 Passed	<1500mm Stem dia Not Passed	Retrenchment 1x feature	Other epiphytic plants (Ivy) 1x feature	N/A
T391	Peduncule Oak (*Quercus robur*)	16	1250	9	9	8	9	6m over road	M	40+	Minor dieback, normal crown density, stem free of ivy, crown lifted over road, fully occluded pruning wounds.	241 Passed	<1500mm Stem dia Not Passed	0x features	0x features	N/A
T393	Peduncule Oak (*Quercus robur*)	16	1520	9	8	7	8	6m over road	M	40+	Heavily pruned, retrenching crown, epicormic / secondary lower crown on major scaffold limbs, Stem Ivy clad, Moderate deadwood up to 80mm diameter.	328 Passed	>1500mm Stem dia Passed	Retrenchment 1x feature	Other epiphytic plants (Ivy) 1x feature	Notable

APPENDIX C – PHOTOGRAPHS

Tree ID.	Description	Photograph
T388	Pedunculate Oak: Upper crown die-back /retrenchment, ivy cladding. Moderate deadwood up to 80mm diameter in crown.	

Tree ID.	Description	Photograph
T391	Pedunculate Oak: Minor dieback, normal crown density, stem clear of ivy, crown lifted over road, fully occluded pruning wounds.	

Tree ID.	Description	Photograph
T393	Pedunculate Oak: Heavily pruned, retrenching crown, epicormic / secondary lower crown on major scaffold limbs, Stem Ivy clad, Moderate deadwood up to 80mm diameter.	