A47 Wansford to Sutton Dualling

Scheme Number: TR010039

Volume 6
6.3 Environmental Statement Appendices
Appendix 7.6 – Arboricultural Impact Assessment

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

March 2022

Deadline 4

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A47 Wansford to Sutton Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT APPENDICES
Appendix 7.6 Arboricultural Impact Assessment

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010039
Application Document Reference	TR010039/APP/6.3
Author:	A47 Wansford to Sutton Project Team, National Highways

Version	Date	Status of Version
Rev 0	July 2021	Application Issue
Rev 1	March 2022	Deadline 3
Rev 1	March 2022	Deadline 4 – New cover only

Arboricultural Impact Assessment
A47 – Wansford

Date: June 2021

Submitted to:

Sweco

Prepared by:

RSK ADAS Ltd
11D Park House
Milton Park
Abingdon
OX14 4RS

Tel. no: 01235 355635

Contents

Appendices

Quality Assurance

Author	Checked	Approved
Ruth Tothill *BSc (Hons), MArborA* Arboricultural Consultant	Catherine Stent *BSc (Hons), MArborA* Senior Arboricultural Consultant	Ian Braddock *BSc (Hons), MICFor* Associate Director - Arboriculture

Disclaimer

RSK ADAS Ltd (ADAS) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and ADAS. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by ADAS for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of ADAS and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

Version History

Version	Date	Amendment
INITIAL	September 2020	Initial Report
A	March 2021	Survey area expanded
B	April 2021	TPO information updated
C	April 2021	Amended Layout

Version	Date	Amendment
D	June 2021	Amended Layout

1 Executive Summary

ADAS has been commissioned by Sweco, to assess the impact of design proposals for the A47 Wansford to Sutton Dualling (the proposed scheme), which includes a redesign of the road layout including new fencing and drainage proposals. For the purpose of this report, reference to 'the site' means land encompassed by the development consent order (DCO) shown on the Site Plan contained in **Appendix 1**.

The preliminary survey was carried out by Mott MacDonald in the summer of 2018, with an additional survey undertaken by ADAS in July 2020, and February 2021 in line with the requirements of 'BS5837:2012 Trees in Relation to Construction: Recommendations' (BS5837:2012).

The tree surveys identified a total of 240 tree features including 151 individual trees, 75 groups of trees and 14 hedgerows which have the potential to be impacted by the proposed scheme.

In line with the recommendations contained within Table 1 of BS5837:2012, of these, 18 tree features including 15 individual trees and three groups of trees were awarded a high quality A grade. Eighty seven tree features, including 59 individual trees and 27 groups of trees and one hedgerow were awarded a moderate quality B grade. 128 tree features, including 71 individual trees, 44 tree groups and 13 hedgerows were awarded a low quality C grade. Six individual trees and one tree group were awarded a very low U grade, meaning the trees would be unsuitable for long term retention.

The location of the trees and their categories are shown on the Arboricultural Impact Assessment Plan (AIA) contained in **Appendix 2**.

Based on the current proposals, 31 individual trees, 18 groups of trees and two hedgerows will require complete removal in order to facilitate the proposed scheme. In addition, 27 tree groups and two hedgerows will require partial removal. Some special construction techniques are required to ensure other trees can be retained during the course of the works.

A search of Peterborough City Council's online mapping system on 22nd March 2021 revealed that no trees surveyed are within a Conservation Area (CA). A copy of the results of this search has been included in **Appendix 3**. An enquiry was sent to Peterborough City Council, on 18th September 2020, to determine whether any trees within or close to the works boundary are subject to a Tree Preservation Order (TPO). A response was not received until 23rd March 2021. Several trees are protected by TPO and details are provided within this report.

2 Introduction

2.1 The Author

This document has been prepared by an ADAS arboricultural consultant who is a professional member of the Arboricultural Association, has a BSc (Hons) in Arboriculture and Urban Forestry, and also has 11 years of experience within the arboricultural industry.

2.2 Client Instruction

This report was commissioned by Sweco on 6th May 2020 and is pertinent to the scheme known as 'A47 Wansford to Sutton Dualling'.

2.3 Purpose of Report

The purpose of this document is to provide an evaluation of the effects of the proposed re-design of the road layout on the existing trees on and adjacent to the site. Where necessary it will also provide recommendations to mitigate the loss or negative impact on the vegetation that the proposals may cause.

2.4 Tree Survey Methodology

An initial tree survey to establish the tree constraints on the site, was carried out by Mott MacDonald on the 1st and 2nd August 2018. ADAS have not verified the accuracy of this data.

A further survey, to capture trees not included in the original survey, was carried out by ADAS on 13th July 2020 and 2nd February 2021. The combined results of the surveys are contained in **Appendix 4**.

The information shown in **Table 1** below, was recorded as part of the tree survey.

Table 1: Tree Survey Schedule heading descriptions

Column Heading	Description
Tree Ref No.	All individual trees and groups of trees have been given a unique reference number. ▪ T = Individual Tree ▪ G = Group of trees ▪ H = Hedgerow
Species	The English common name has been used (Scientific names included in brackets for some tree features).
Height (m)	Where possible tree heights are measured using a laser. In some instances, such as in close groups of trees, one height may be measured and other nearby trees estimated from this height. Measurements are provided in metres.
Stem Diameter (mm)	S_n represents the stem number. Measurements are provided in millimetres at 1.5m above ground level for single stemmed trees.
Branch Spread (m)	Measured in metres to the four cardinal compass points (N, E, S, W).
Crown Clearance	(1) Height in metres of the first significant branch, and the direction of growth. (2) Height in metres of lowest part of crown.

Life Stage	The stage at which the tree is within its lifecycle (Y = young, SM = semi-mature, EM = early-mature, M = mature, OM = over mature, V = veteran)
General Observations	Any relevant observations are recorded, with particular reference to structural and/or physiological condition.
Preliminary Management Recommendations	Recommendations are made where management work is required for reasons of health and safety or sound arboricultural management.
Estimated Remaining Contribution (years)	An estimation of how long the feature will contribute to its surroundings. This is recorded in bands of either <10 years, 10+ years, 20+ years and 40+ years.
Tree Quality Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C). Details of this grading system can be found in **Appendix 5.**
Root Protection Area	Calculated as prescribed in section 4.6 of BS5837:2012, provided as an area (m^2) and a radius from the tree's stem (m). Further guidance on RPAs is provided in **Appendix 6**.

2.5 Assumptions and Limitations

The AIA contained in **Appendix 2** has been developed from the tree survey and tree location plan produced by Mott MacDonald in August 2018, along with the new data collected by ADAS in July 2020 and February 2021. ADAS has not verified the accuracy of the data collected by Mott MacDonald. Therefore it is recommended that tree locations are verified on site prior to any works being undertaken.

This report is only intended for use by the person(s) or company named on the front cover.

This report is not a full hazard or risk assessment of trees, and should not be used as such.

Trees are living organisms and are constantly adapting to their ever changing environment. No tree is completely safe and there is no guarantee that problems or deficiencies may not arise in the future, which have not been identified in this report. Therefore this report is only valid for a period of 1 year from the date of the initial site inspection.

2.6 Legislation

2.6.1 Tree Preservation Orders and Conservation Areas

Local Planning Authorities (LPAs) have the power to preserve selected trees and woodlands through the making of TPOs. Similarly, special provision is provided to trees located within CAs which are not the subject of a TPO. The LPAs powers to do this are provided by the following Act of Parliament and its associated regulations:

- Town and Country Planning Act 1990
- Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) (Amendment) (England) Regulations 2008
- Town and Country Planning (Trees) (Amendment) (England) Regulations 2012

The principal effect of a TPO is to prohibit the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees without first obtaining the consent of the relevant Local Authority.

Where works to trees within a CA are proposed, six weeks notification must first be given to the relevant Local Authority.

Unauthorised works to trees either protected by a TPO or those that are located within a CA, could result in an unlimited fine.

A search of Peterborough City Council's online mapping system on 22nd March 2021 revealed that no trees surveyed are within a Conservation Area (CA). An enquiry was sent to Peterborough City Council, on 18th September 2020, to determine whether any trees within or close to the works boundary are subject to a Tree Preservation Order (TPO). A response was not received until 23rd March 2021. Several trees are protected by TPO. These are: G58, T80, T82, T84, T95 – T101, T104, T105, T108, T110-T135, G203, G204.

Of these protected trees, T105 and T110 will be felled to facilitate the development proposals.

A copy of the results of this search has been included in **Appendix 3**.

2.6.2 Wildlife Legislation

European protected species such as bats, dormice and great crested newts are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. Other species that may be affected by tree works include breeding birds, badgers and reptiles which are protected under the Wildlife and Countryside Act 1981 (as amended). The design process should ensure protected species are considered during any redevelopment work. Tree work and the timing of tree work should be carefully considered.

2.7 Site Description

The Scheme is located just over 8km west of Peterborough, at the interchange between the A47 and the A1 Great North Road, and includes a redesign of the road layout including new fencing and drainage proposals.

Adjacent to the junction, to the south-west, is the village of Wansford.

The majority of the nearby land is open arable fields with occasional woodland and residential properties.

The majority of trees surveyed were along the edges of the existing A47 and A1, whose main purpose is to screen noise and absorb pollution. These trees are generally of moderate landscape value but with moderate to low arboricultural value. There were a few more significant groups and woodlands included in the survey which contribute to the green infrastructure of the area.

There were 18 Category A (high retention value) tree features surveyed on site, most of which were mature common oaks and sycamores. These were mainly open grown trees in farmland and hedgerows.

3 Arboricultural Impact Assessment

3.1 Overview

The tree stock has been assessed under the following categories and the findings summarised in **Table 2**:

- Trees proposed for removal. This includes trees:
    - that are under the footprint of the proposed development
    - whose RPAs are heavily affected by the development
    - that are to be removed for reasons of sound arboricultural management.
- Retained trees that are at risk of damage through disturbance of RPAs or require extra protection due to their proximity to proposed work areas
- Retained trees which are unaffected by the development proposals

Table 2: Arboricultural Impact Assessment

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T1	Poplar	B	No	No	Fell – under footprint of new carriageway
T2	Poplar	B	No	No	Fell – under footprint of new carriageway
T3	Horse Chestnut	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G4	Poplar	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012.
G7	Beech	A	No	No	Fell – under footprint of new carriageway
G8	Mixed broadleaves and conifers	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012.
G9	Mixed broadleaves and conifers	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012.
G10	Mixed broadleaves and conifers	A	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G11	Mixed broadleaves and conifers	C	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G12	Mixed broadleaves and conifers	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G13	Mixed broadleaves and conifers	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
G14	Mixed broadleaves	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
T15	Pedunculate Oak	B	No	No	Fell – under footprint of construction
G16	Ash	C	No	No	Fell – under footprint of construction
T17	Pedunculate Oak	A	No	No	Fell – under footprint of construction
T18	Pedunculate Oak	A	No	No	Fell – under footprint of construction
T19	Willow	B	No	No	Retain and protect with temporary barrier in accordance with BS5837:2012. Special construction measures needed – Earthworks in RPA.
T20	Pedunculate Oak	A	No	No	Fell – under footprint of construction
G21	Poplar	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T22	Poplar	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T23	Poplar	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G24	Scots pine, Larch, Sycamore	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G25	Silver Birch, Ash, Sycamore	C	No	No	Fell – under footprint of construction
G26	Leyland cypress	C	No	No	Fell – under footprint of construction
T27	Ash	C	No	No	Fell – under footprint of construction
T28	Ash	C	No	No	Fell – under footprint of construction
T29	Ash	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T30	Willow	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T31	Ash	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T32	Ash	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T33	Willow	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T35	Ash	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G36	Ash, Sycamore	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
T37	Red Oak	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G38	Field Maple	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G39	Ash	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G40	Ash, Hawthorn	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T41	Sycamore	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G42	Mixed broadleaves	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G43	Willow	C	No	No	Fell – under footprint of construction
T44	Sycamore	C	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G45	Leyland Cypress	B	No	No	Fell – under footprint of construction
G46	Ash, Poplar	B	No	No	Fell – under footprint of construction
G47	Elm	U	No	No	Fell – under footprint of construction
G48	Ash	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G58	Lime	B	Yes	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
G59	Silver Birch, Field Maple, Willow	C	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
G60	Mixed broadleaves	B	No	No	Fell – under footprint of construction
G61	Mixed broadleaves	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G62	Mixed broadleaves	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G70	Lime, Oak, Field Maple	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G71	Willow, Elder	C	No	No	Fell – under footprint of construction
G72	Ash	C	No	No	Fell – under footprint of construction
T73	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T74	Ash	C	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T75	Ash	B	No	No	Unaffected - Retain and protect with temporary barrier in accordance with BS5837:2012
T76	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T77	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T78	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T79	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T80	Ash	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T81	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T82	Ash	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T83	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T84	Ash	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T86	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G87	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G88	Cherry	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T89	Cypress (Macrocarpa)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G90	Mixed broadleaves and conifers	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G91	Oak	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T91	Silver Birch	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G92	Sycamore	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G94	Oak, Ash, Larch	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T95	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T96	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T97	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T98	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T99	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T100	Sycamore	B	Yes	No	Fell – under footprint of construction
T101	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T102	Oak	C	No	No	Fell – under footprint of construction
T103	Blackthorn	C	No	No	Fell – under footprint of construction

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T104	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T105	Sycamore	C	Yes	No	Fell – under footprint of construction
T106	Hawthorn	C	No	No	Fell – under footprint of construction
T107	Hawthorn	C	No	No	Fell – under footprint of construction
T108	Sycamore	U	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T109	Turkey Oak	B	No	No	Fell – under footprint of construction
T110	Sycamore	C	Yes	No	Fell – under footprint of construction
T111	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T112	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T113	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T114	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T115	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T116	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T117	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T118	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T119	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T120	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T121	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T122	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T123	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T124	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T125	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T126	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T127	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T128	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T129	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T130	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T131	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T132	Sycamore	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T133	Sycamore	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T134	Sycamore	B	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T135	Elm	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T136	Sycamore	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T137	Sycamore	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T138	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T139	Sycamore	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T140	Ash	C	No	No	Fell – under footprint of construction
T141	Ash	C	No	No	Fell – under footprint of construction
T142	Oak	C	No	No	Fell – under footprint of construction
T143	Ash	C	No	No	Fell – under footprint of construction
T144	Oak	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T145	Ash	U	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T146	Ash	U	No	No	Fell – under footprint of construction
T147	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T148	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T149	Laburnum	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T150	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T151	Ash	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T152	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T153	Laurel	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T154	Prunus	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T155	Scots Pine	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T156	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T157	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T158	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T159	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T160	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T161	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T162	Lime	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T163	Scots Pine	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T164	Sycamore	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T165	Lime	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T166	Lime	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T167	Ash	U	No	No	Fell – under footprint of construction
T168	Ash	B	No	No	Fell – under footprint of construction
T169	Prunus	C	No	No	Fell – under footprint of construction
T170	Ash	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T171	Beech	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T172	Beech	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T173	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T174	Field Maple	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T175	Field Maple	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T176	Prunus	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T177	Sycamore	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T178	Leyland cypress	C	No	No	Fell – under footprint of construction
T179	Leyland Cypress	C	No	No	Fell – under footprint of construction
T180	Oak	B	No	No	Fell – under footprint of construction
T181	Beech (Fagus sylvatica)	B	No	No	Fell – under footprint of construction
T182	Beech (Fagus sylvatica)	B	No	No	Fell – under footprint of construction
T183	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T184	Crack willow (Salix fragilis)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T185	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T186	Field maple (Acer campestre)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T187	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T188	Hornbeam (Carpinus betulus)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T189	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T190	Ash (Fraxinus excelsior)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T191	Ash (Fraxinus excelsior)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T192	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
T193	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T194	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T195	Beech (Fagus sylvatica)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T196	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T197	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T198	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T199	Beech (Fagus sylvatica)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T200	Beech (Fagus sylvatica)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T201	Hawthorn species (Crataegus spp)	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T202	Ash (Fraxinus excelsior)	A	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T203	Hawthorn species (Crataegus spp)	C	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T204	Pedunculate/common oak (Quercus robur)	A	Yes	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T205	Ash (Fraxinus excelsior)	U	No	No	Fell – very low quality tree
T206	Ash (Fraxinus excelsior)	U	No	No	Fell – very low quality tree
T207	Beech (Fagus sylvatica)	B	No	No	Fell – under footprint of construction
T208	Common lime (Tilia europaea)	A	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
T209	Pedunculate/common oak (Quercus robur)	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G181	Mixed broadleaves	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
G182	Mixed broadleaves	C	No	No	Fell – under footprint of construction
G183	Black Pine	B	No	No	Fell – under footprint of construction
G184	Ash	C	No	No	Fell – under footprint of construction
G185	Field Maple	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G186	Blackthorn	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G187	Mixed broadleaves	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G188	Mixed broadleaves	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G189	Hawthorn	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G190	Blackthorn	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G191	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G192	Ash	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G193	Sycamore	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G194	Mixed broadleaves	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G195	Mixed broadleaves	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G196	Laurel	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G197	Laurel	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G198	Hawthorn	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G199	Mixed broadleaves	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
G200	Mixed broadleaves	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G201	Mixed broadleaves	B	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G202	Mixed broadleaves	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G203	Mixed broadleaves	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G204	Mixed broadleaves	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G205	Hawthorn	C	No	No	Fell – under footprint of construction
G206	Mixed broadleaves	A	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G207	Mixed conifers	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G208	Mixed broadleaves	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G209	Oak	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
G210	Mixed conifers	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G211	Ash	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G212	Leyland cypress	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G213	Leyland cypress	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G214	Beech	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
G215	Leyland cypress	C	No	No	Fell – under footprint of construction
G216	Leyland cypress	C	No	No	Fell – under footprint of construction
G217	Mixed broadleaves	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012

Tree ref	Species	BS5837 category	TPO	CA	Impact and Recommended Actions
H1	Mixed hedgerow	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
H2	Mixed hedgerow	C	No	No	Fell – under footprint of construction
H3	Mixed hedgerow	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H4	Mixed hedgerow	C	No	No	Fell section in conflict with scheme and protect remainder with temporary barriers in accordance with BS5837:2012
H5	Mixed hedgerow	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H6	Hawthorn	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H7	Hawthorn	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H8	Hawthorn	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H9	Hawthorn	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H10	Field Maple	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H11	Hawthorn	C	No	No	Fell – under footprint of construction
H12	Hornbeam	B	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H13	Laurel	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012
H14	Hawthorn	C	No	No	Unaffected – Retain and protect with temporary barrier in accordance with BS837:2012

3.2 Tree Removal

Based on the current proposals, 31 individual trees, 18 groups of trees and two hedgerows will require complete removal in order to facilitate the scheme – see **Table 3**. In addition, 27 tree groups and two hedgerows will require partial removal – see **Table 4**. Some special construction techniques are required to ensure other trees can be retained during the course of the works

Table 3: Tree features requiring complete removal

Tree type	Tree Quality Assessment Category Grading				Totals
	A	B	C	U	
Individual trees	T17, T18, T20	T1, T2, T15, T100, T109, T168, T180, T181, T182	T27, T28, T102, T103, T105, T106, T107, T110, T140, T141, T142, T143, T169, T178, T179	T108, T167, T205, T206	**31**
Groups of trees	G7	G46, G60, G183	G16, G25, G26, G42, G43, G71, G72, G182, G184, G187, G205, G215, G216	G47	**18**
Hedges	None	None	H2, H11	None	**2**
Total	**4**	**12**	**30**	**5**	**51**

Table 4: Tree Groups and hedges requiring partial removal

Group number	BS5837 category	Total area of group (m^2)	Area of group to be retained (m2)	Area of group to be retained (%)
G4	C2	4053	1911	47%
G8	C2	823	519	63%
G9	B2	792	153	81%
G10	A2	1128	821	73%
G11	C2	261	182	70%
G12	B2	1938	314	16%
G14	B2	1109	790	71%
G24	B2	5529	5256	95%
G36	C2	732	176	24%
G42	C2	1603	616	38%
G48	B2	6304	1359	34%

Group number	BS5837 category	Total area of group (m^2)	Area of group to be retained (m2)	Area of group to be retained (%)
G61	B3	4110	2868	70%
G62	B3	2339	349	15%
G70	B2	8092	7365	91%
G181	C3	5124	4254	83%
G186	C3	1613	675	42%
G187	C2	10224	7522	74%
G188	B1	11171	1812	16%
G189	C3	3111	2684	86%
G190	C3	1159	828	71%
G192	C2	240	37	15%
G201	C2	7293	6850	94%
G206	A1	6722	5878	87%
G207	C1	4671	746	16%
G208	C3	4037	2755	68%
G209	C2	704	661	94%
G217	C2	1058	504	48%
H1	C3	1102	691	63%
H4	C3	4433	573	13%

3.3 Post construction landscaping

A separate landscaping scheme has been produced to demonstrate the new planting which will be undertaken when the works are complete in order to replace trees which have been removed to facilitate the scheme, and ultimately to enhance the local landscape and biodiversity.

3.4 Earthworks within RPAs

T19 has been recorded as a moderate B grade pollarded willow tree. This tree is considered to be high value by local stakeholders, and as such the tree must be retained. Some earthworks are shown within the RPA of this tree. Tree protection fencing should be installed around the perimeter of the canopy and RPA of T19. Earthworks should be positioned outside of the protective fencing. If this is not possible, level increases will be achieved by layering of a cellular confinement system similar to the one shown in **Appendix 8**. The cellular confinement system will be filled with crushed stone or no fines gravel and must be topped with a permeable surface layer. Further guidance can be provided if required.

3.5 Vehicle Access, Compounds, and Storage of Materials

It should be possible for all vehicle access movements, compounds, and material storage areas to be placed outside the RPA of retained trees. Where this is not possible, ground protection should be installed as described in Section 3.6 below.

3.6 Facilitation Pruning

No requirement for facilitation pruning has been identified at this stage. If facilitation pruning does become necessary, the requirements should be discussed with the retained arboricultural consultant in the first instance.

3.7 Ground Protection

Should access be required for machinery or pedestrians within the RPAs of any retained trees, ground protection will be installed.

This ground protection will be required to avoid direct damage to the roots of the trees as well as preventing compaction of the soil. In accordance with section 6.2.3 of BS5837:2012 this ground protection will need to be fit for the purpose of supporting any traffic entering the RPA without causing compaction of the soil below.

For pedestrian traffic, a single layer of scaffold or 19mm ply boards laid on top of driven scaffold framework or laid onto a compressible layer of sharp sand or woodchip on a geotextile membrane should be adequate.

If access is required within the RPAs of retained trees for plant and machinery, the level of ground protection may need to be increased to proprietary inter-locking boards on a compressible layer, or a cellular confinement system similar to that shown in **Appendix 8**.

3.8 Tree Protection Fencing

Tree protection fencing should be installed around the perimeter of the extent of the canopy spread of retained groups and woodlands, and around the RPAs of all retained trees.

In line with Section 6.2.2 of BS 5837:2012, which requires that the tree protection barriers be fit for the purpose of excluding construction activity and that they provide adequate protection to the trees and hedge, it is proposed that they will consist of 2m tall welded mesh panels supported by upright poles driven into the ground. Each panel will be secured to its neighbour with a minimum of 2 anti-tamper couplers secured so that they can only be undone from inside the Construction Exclusion Zone (CEZ). The panels will be further supported by stabilizer struts which will be pinned to the ground. Examples of suitable fencing configurations are included in **Appendix 7**. Inside the CEZ the following prohibitions will be complied with:

- No excavations, including by hand;
- No storage of machinery;
- No storage or handling of building materials, fuel, chemicals or spoil;
- No fires;
- No vehicular access;
- No pedestrian access;
- No alteration, increase or decrease, to existing ground levels;
- No excavation or installation of services.

3.9 Utility Connections

At the time of producing this report ADAS has not been made aware of the locations of proposed utility connections.

In order to avoid damage to retained trees, excavations for any proposed services will avoid the RPAs of retained trees, including but not limited to:

- Foul and surface water drains
- Land drains
- Soakaways
- Gas
- Oil
- Electricity
- Telephone
- Lighting
- Signage

If additional services must unavoidably be installed within the RPAs around retained trees, the locations of these will be chosen in consultation with the retained arboricultural consultant.

Where possible the works will be carried out using trenchless techniques such as moling, laser guided boring and/or in accordance with advice contained within National Joint Utilities Group (NJUG) document Volume 4 Issue 2.

3.10 Arboricultural Monitoring

An Arboricultural Consultant should be appointed to monitor the tree protection measures on site. The purpose of this is to ensure the protection measures remain in situ and continue to provide sufficient protection to the trees.

This role will initially entail the Arboricultural Consultant liaising with the project manager or engineering team to ensure the recommended protection measures are correctly installed. Once the tree protection measures have been installed, and construction activity commences, the arboricultural consultant should monitor any works taking place within the RPAs of retained trees.

A formal record of these supervisory visits should be recorded and kept on file; a copy should also be circulated to all relevant parties.

4 Conclusions

The tree survey undertaken by Mott MacDonald in the summer of 2018, and the additional survey undertaken by ADAS in July 2020 and February 2021, identified a total of 240 tree features including 151 individual trees, 75 groups of trees and 14 hedgerows which have the potential to be impacted by the proposed scheme.

In line with the recommendations contained within Table 1 of BS5837:2012, of these tree features, 18 tree features including 15 individual trees and three groups of trees were awarded a high quality A grade. Eighty seven tree features, including 59 individual trees and 27 groups of trees and one hedgerow were awarded a moderate quality B grade. 128 tree features, including 71 individual trees, 44 tree groups and 13 hedgerows were awarded a low quality C grade. Six individual trees and one tree group were awarded a very low U grade, meaning the trees would be unsuitable for long term retention.

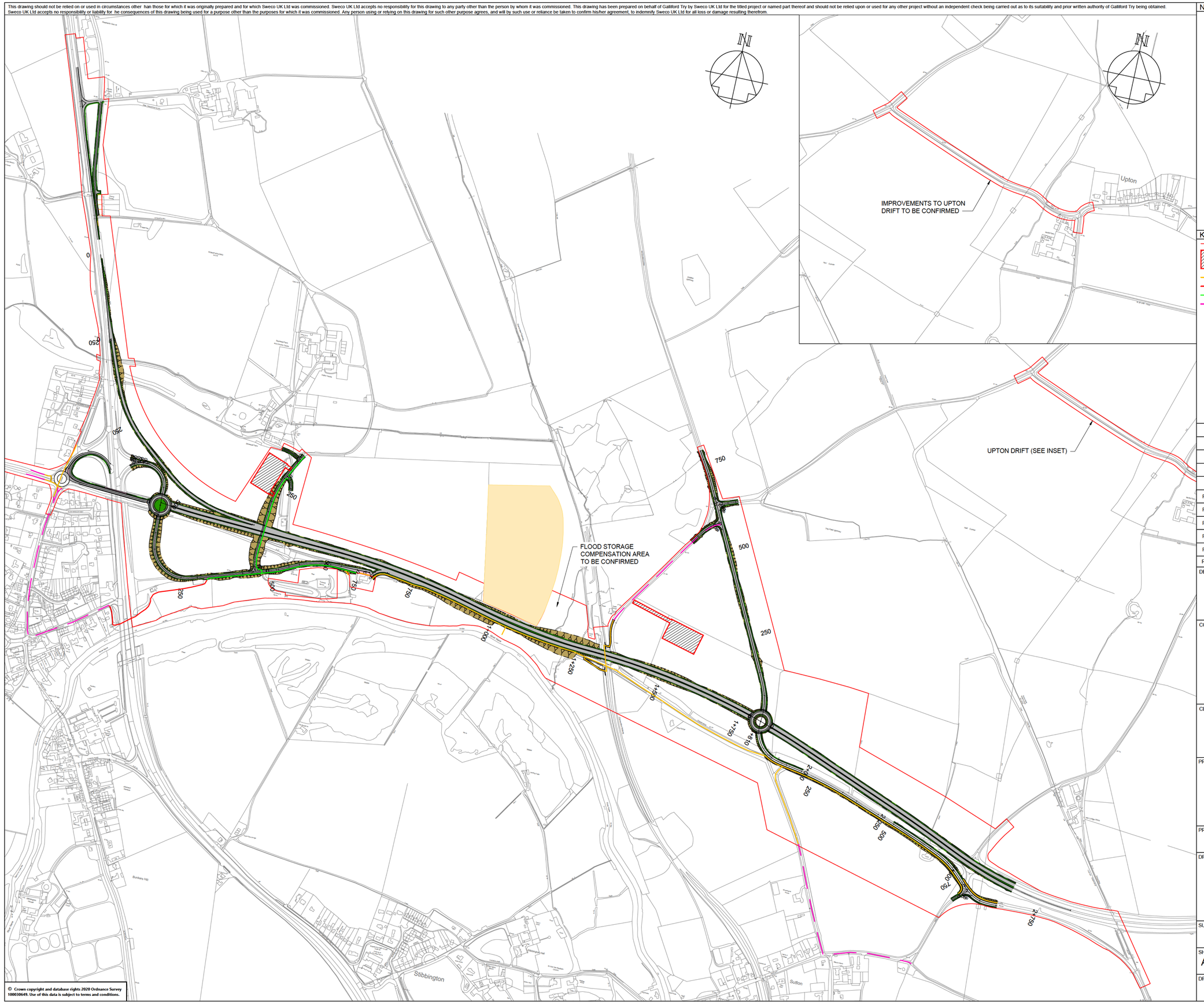
Based on the current proposals, 31 individual trees, 18 groups of trees and two hedgerows will require complete removal in order to facilitate the scheme. In addition, 27 tree groups and two hedgerows will require partial removal. Some special construction techniques are required to ensure other trees can be retained during the course of the works.

Several trees are protected by virtue of a TPO. These are: G58, T80, T82, T84, T95 – T101, T104, T105, T108, T110-T135, G203, G204. Of these protected trees, T105 and T110 will be felled to facilitate the development proposals.

ADAS believes that, if the recommended tree protection measures are correctly installed and maintained, the trees identified for retention will not be at risk of damage. And that the proposed post-construction landscaping scheme will provide compensation, in the long term, for any necessary tree removals.

Appendix 1: Proposed Site Layout

See following page. Please note 'Indicative Site Bounday' reflects the proposed scheme boundary as reported in the ES



NOTES

IMPORTANT

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

TO BE READ IN CONJUNCTION WITH HAZARD REGISTER DOC. REF: HE551490-GTY-GHS-000-HS-ZZ-30001.

HAZARD REF AND BRIEF DESCRIPTION OF HAZARD:-

HAZARD REF	BRIEF HAZARD DESCRIPTION

KEY TO SYMBOLS

- INDICATIVE SITE BOUNDARY (TBC)
- INDICATIVE CONSTRUCTION COMPOUND AREAS
- SHARED CYCLEWAY
- SHARED CYCLEWAY (CONSTRUCTED PRE-SCHEME)
- BRIDLEWAY
- PROPOSED ON-CARRIAGEWAY NMU ROUTE.

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	07/07/20	WORK IN PROGRESS	EM	MM	MM
P02	08/07/20	XREFS UPDATED	EM	EM	MM
P03	22/07/20	HATCHING ADDED TO HIGHWAYS MODEL	EM	EM	MM
P04	03/08/20	RAILWAY NMU LINK, WEST RBT SLTL	EM	EM	MM
P05	18/08/20	DESIGN LAYOUT UPDATED	EM	EM	MM

DESIGNER
SWECO

CONTRACTOR
GallifordTry

CLIENT
highways england

PROJECT TITLE
A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE
PCF STAGE 3

DRAWING TITLE
PROPOSED DESIGN FIX B2
GENERAL ARRANGEMENT

SUITABILITY
SUITABLE FOR REVIEW & COMMENT

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:5000	S3	P05

DRAWING NUMBER
HE551494-GTY-HGN-000-DR-CH-30001

Appendix 2: Arboricultural Impact Assessment Plan

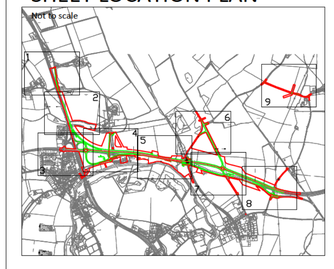
See following page

LEGEND

- Category A — Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category A — Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
- Category B — Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category B — Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C — Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category C — Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category U — Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Category U — Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
- Individual trees to be removed
- Groups or hedgerows to be removed

SHEET LOCATION PLAN

Not to scale



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:

SWECO

Project:

A47 - Wansford

Drawing Title:

Arboricultural Impact Assessment Plan 1/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA1

Scale: 1:1000 @ A1

Drawn by: RT Date: 08/06/2021

Checked by: IB Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

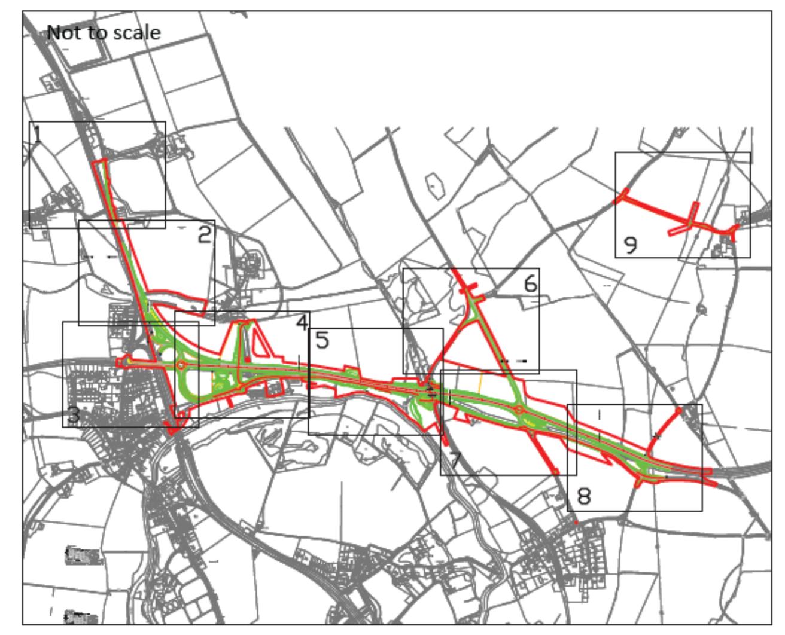
Tel: 01235 355630

ADAS

LEGEND

(green circle)	Category A Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
(green hatch)	Category A Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
(blue circle)	Category B Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
(blue hatch)	Category B Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
(grey circle)	Category C Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
(grey hatch)	Category C Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
(dark red circle)	Category U Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
(dark red hatch)	Category U Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
(pink circle)	Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
(red circle)	Individual trees to be removed
(red hatch)	Groups or hedgerows to be removed

SHEET LOCATION PLAN



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:
SWECO

Project:
A47 - Wansford

Drawing Title:
Arboricultural Impact Assessment Plan 2/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA2

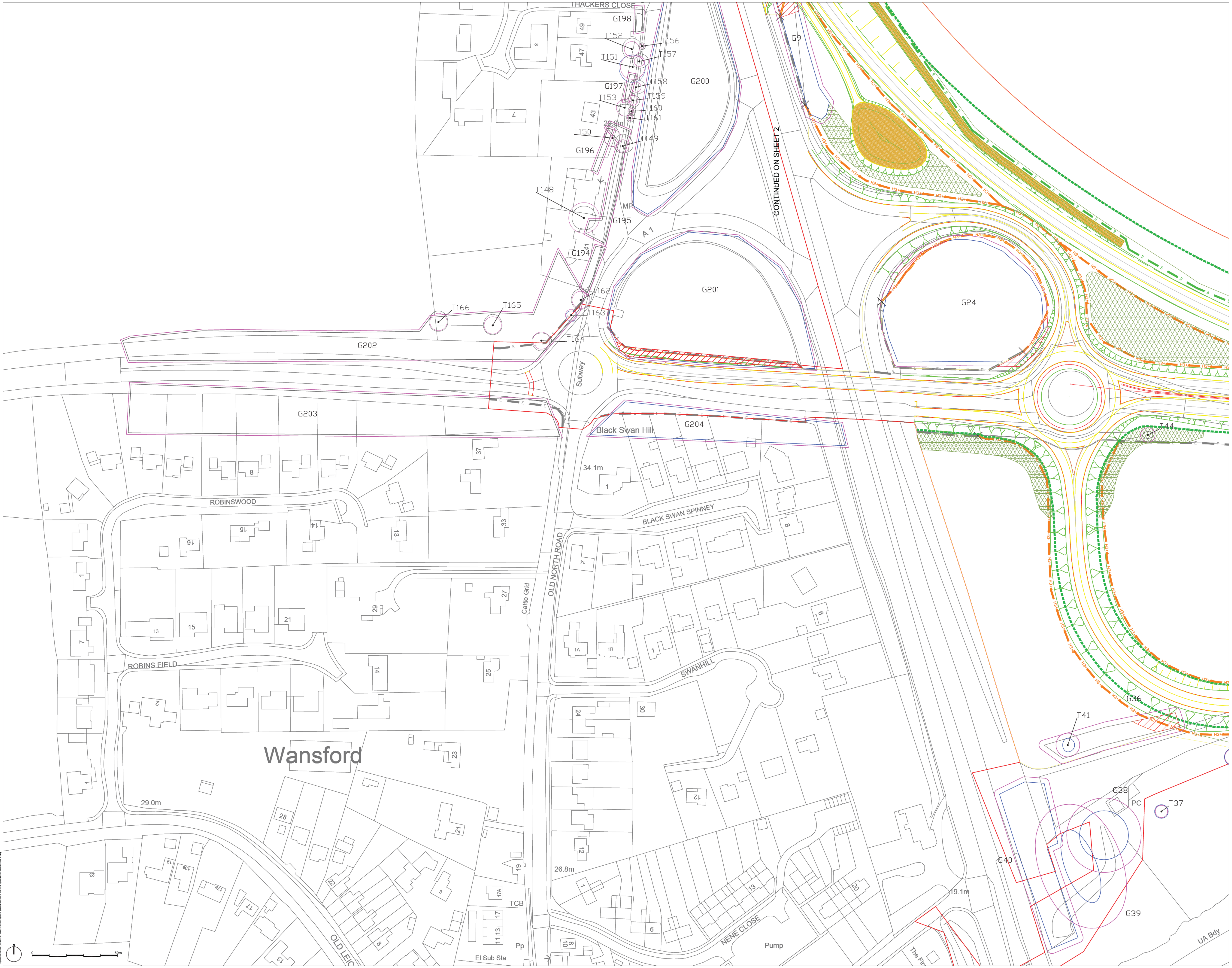
Scale: 1:1000 @ A1

Drawn by: RT　Date: 08/06/2021

Checked by: IB　Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

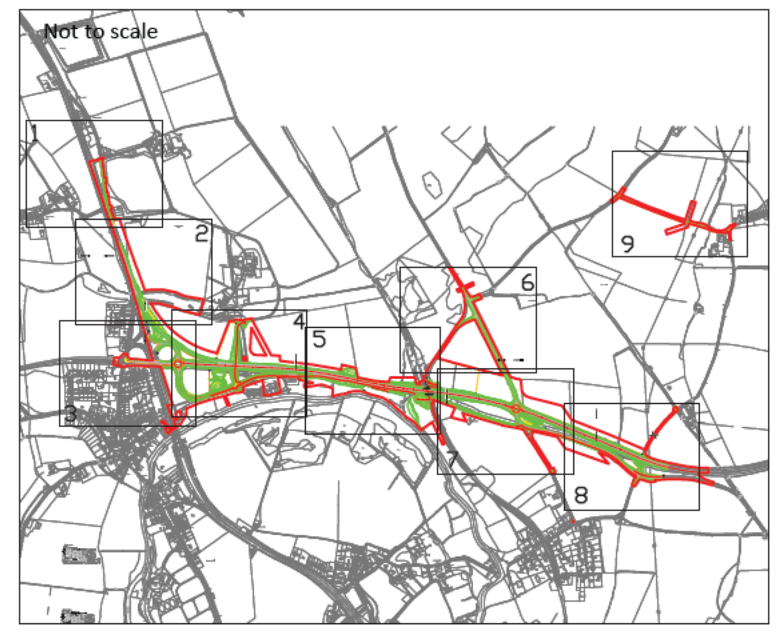


LEGEND

- Category A — Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category A — Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
- Category B — Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category B — Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C — Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category C — Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category U — Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Category U — Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
- Individual trees to be removed
- Groups or hedgerows to be removed

SHEET LOCATION PLAN

Not to scale



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:
SWECO

Project:
A47 - Wansford

Drawing Title:
Arboricultural Impact Assessment Plan 3/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA3

Scale: 1:1000 @ A1

Drawn by: RT — Date: 09/06/2021

Checked by: IB — Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

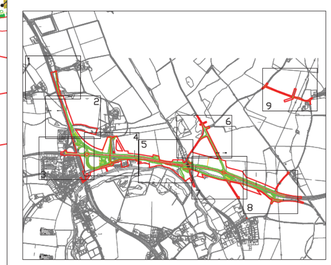
Tel: 01235 355630

SLUICE
Def
FB
CS
1.22m
RH
Def
G10
Sacrewell Farm
G11
G12
Track
G13
G14
T44
G43
A 47
MS
G26
Filter Tank
22.0m
G42
19.9m
G92
G45
Filling Station
Mast
El Sub Sta
G25
Pumping
Station
Drain
18.0m
T28
T27
Sluice
Flood Gauging
Station
G36
T41
T35
T29
Post
Drain
G38
PC
T37
T33#
T32#
T31#
T30#
0
50m

CONTINUED ON SHEET 3
CONTINUED ON SHEET 4

LEGEND

- Category A
  Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category A
  Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
- Category B
  Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category B
  Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C
  Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category C
  Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category U
  Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Category U
  Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Recommended "Root Protection Area" (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
- Individual trees to be removed
- Groups or hedgerows to be removed



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue		February 2021

Client:
SWECO

Project:
A47 - Wansford

Drawing Title:
Arboricultural Impact Assessment Plan 4/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA4

Scale: 1:1000 @ A1

Drawn by: RT Date: 09/06/2021

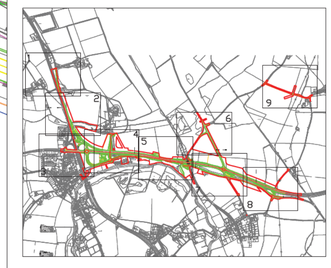
Checked by: IB Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

LEGEND

- Category A
  Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category A
  Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
- Category B
  Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category B
  Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C
  Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category C
  Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category U
  Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Category U
  Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
- Individual trees to be removed
- Groups or hedgerows to be removed



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:
SWECO

Project:
A47 - Wansford

Drawing Title:
Arboricultural Impact Assessment Plan 5/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA5

Scale: 1:1000 @ A1

Drawn by: RT Date: 09/06/2021

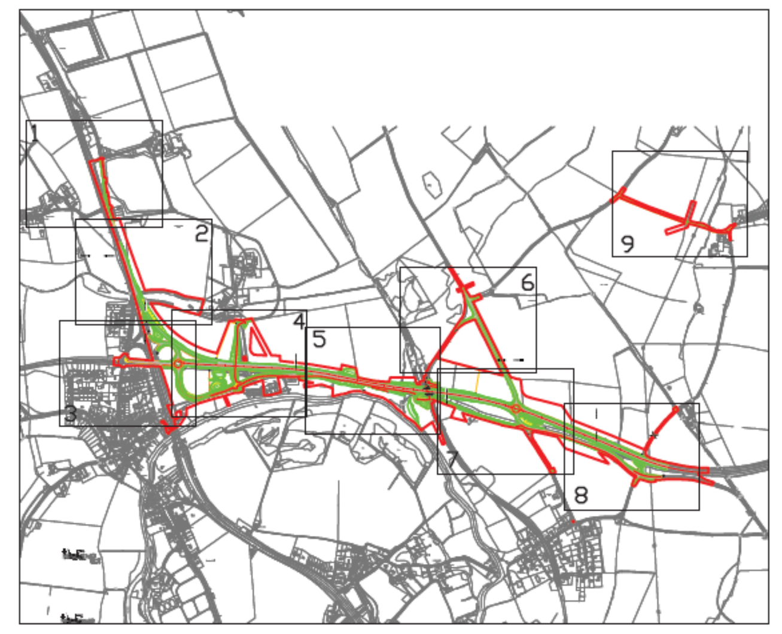
Checked by: IB Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

LEGEND

Category A	Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
Category A	Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
Category B	Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
Category B	Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
Category C	Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
Category C	Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
Category U	Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
Category U	Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
	Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
	Individual trees to be removed
	Groups or hedgerows to be removed



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:
SWECO

Project:
A47 - Wansford

Drawing Title:
Arboricultural Impact Assessment Plan 6/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA6

Scale: 1:1000 @ A1

Drawn by: RT   Date: 09/06/2021

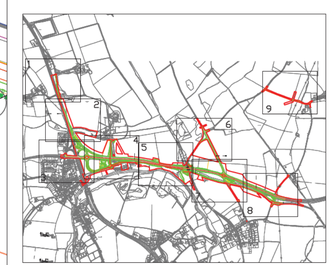
Checked by: IB   Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

LEGEND

- Category A
  Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category A
  Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
- Category B
  Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category B
  Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C
  Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category C
  Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category U
  Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Category U
  Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
- Individual trees to be removed
- Groups or hedgerows to be removed



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:
SWECO

Project:
A47 - Wansford

Drawing Title:
Arboricultural Impact Assessment Plan 7/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA7

Scale: 1:1000 @ A1

Drawn by: RT Date: 09/06/2021

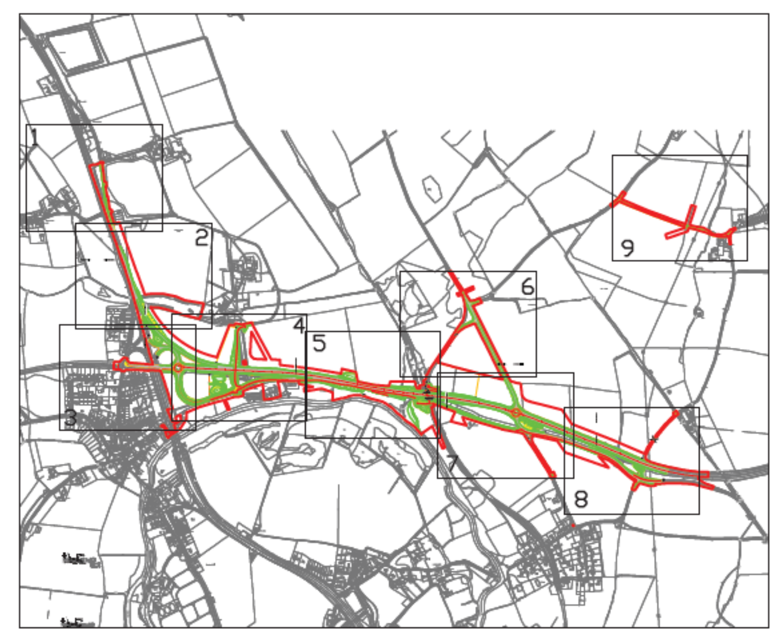
Checked by: IB Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

LEGEND

- Category A — Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category A — Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
- Category B — Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category B — Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C — Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category C — Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Category U — Ind v dual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Category U — Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
- Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
- Individual trees to be removed
- Groups or hedgerows to be removed



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:

SWECO

Project:

A47 - Wansford

Drawing Title:

Arboricultural Impact Assessment 8/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA8

Scale: 1:1000 @ A1

Drawn by: RT — Date: 30/04/2021

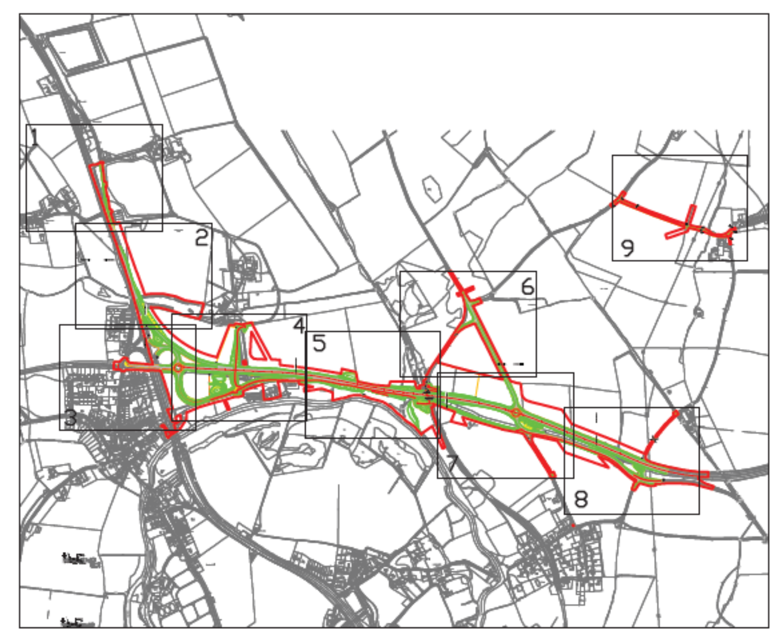
Checked by: IB — Date: 30/04/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

LEGEND

Category A	Individual trees of high quality with an estimated remaining life expectancy of at least 40 years
Category A	Groups/hedges/woodlands of high quality with an es imated remaining life expectancy of at least 40 years
Category B	Individual trees of moderate quality with an estimated remaining life expectancy of at least 20 years
Category B	Groups/hedges/woodlands of moderate quality with an estimated remaining life expectancy of at least 20 years
Category C	Individual trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
Category C	Trees/hedges of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
Category U	Individual trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
Category U	Trees/hedges in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years
	Recommended 'Root Protection Area' (RPA) of trees/hedges considered desirable for retention calculated using the method set out in section 4.6 of BS5837:2012
	Individual trees to be removed
	Groups or hedgerows to be removed



Rev.	Issue Details.	Date.
Rev. C	Amended Layout	June 2021
Rev. B	Updated Red Line Boundary	April 2021
Rev. A	Revised Layout	April 2021
First Issue	-	February 2021

Client:

SWECO

Project:

A47 - Wansford

Drawing Title:

Arboricultural Impact Assessment Plan 9/9

Drawing No: ADAS_1050831_Sweco_A47 Wansford_AIA9

Scale: 1:1000 @ A1

Drawn by: RT Date: 09/06/2021

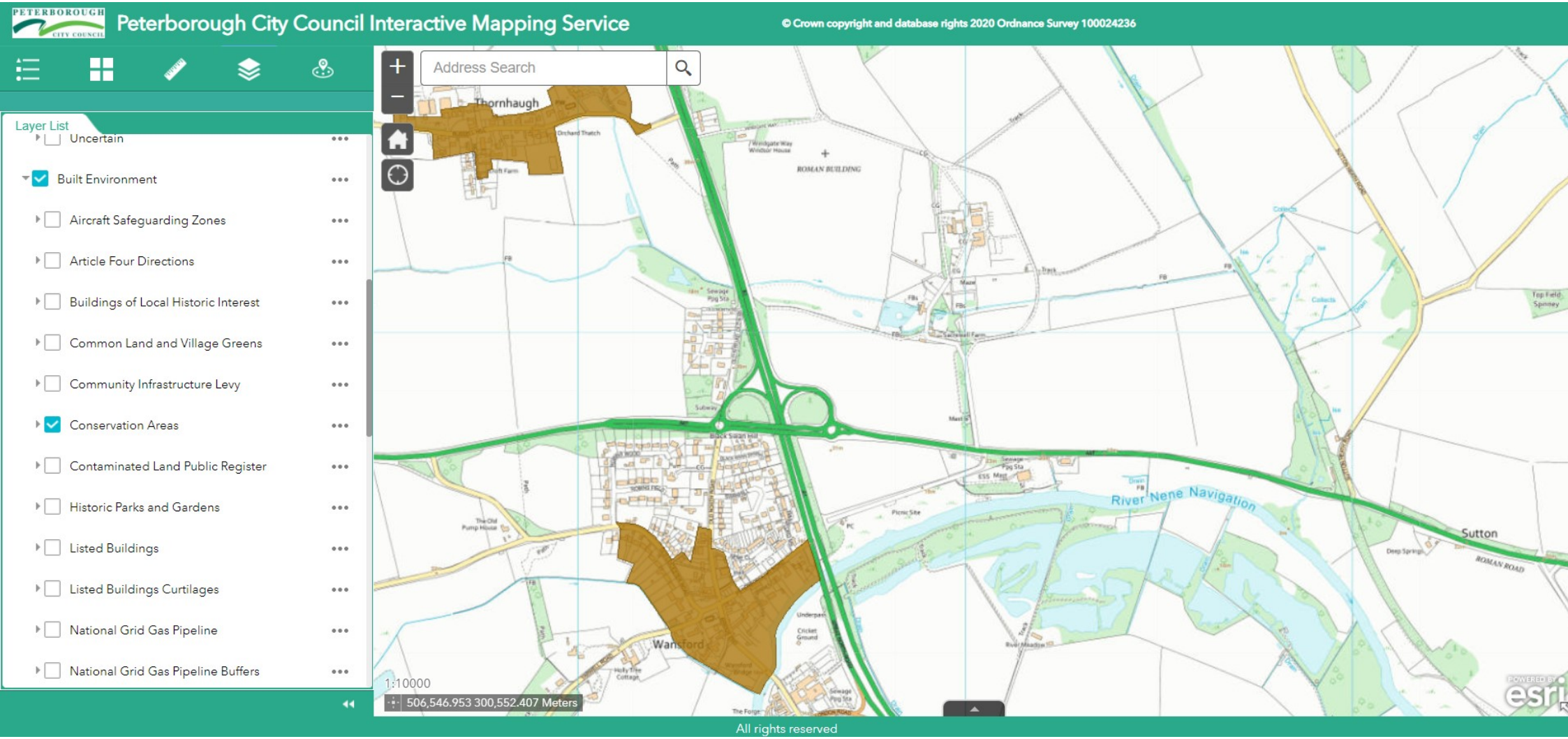
Checked by: IB Date: 09/06/2021

ADAS, 11d Park House, Milton Park,
Milton, Abingdon, Oxford, OX14 4RS

Tel: 01235 355630

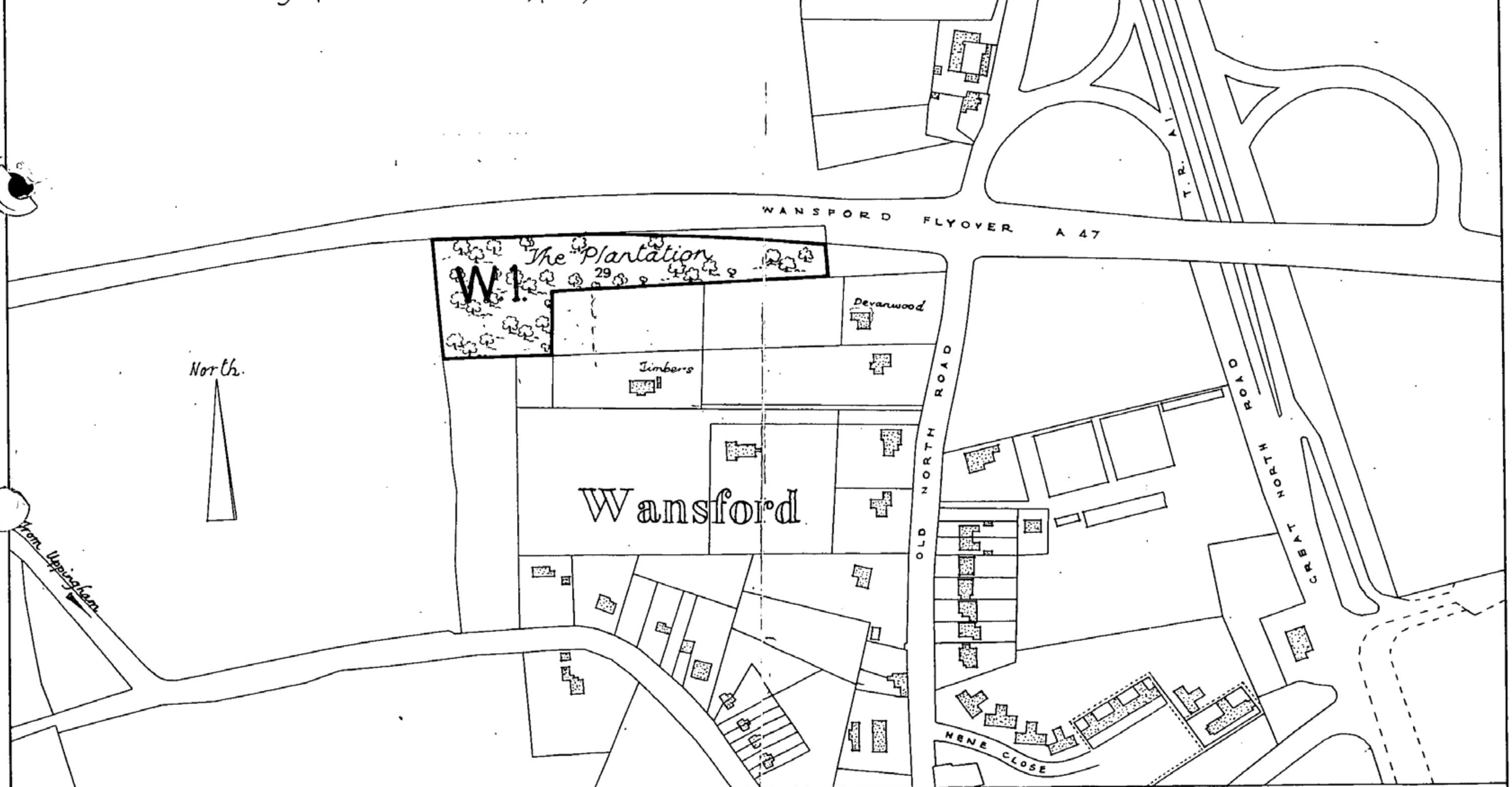
Appendix 3: TPO & CA Search Results

See following page


Peterborough City Council Interactive Mapping Service
© Crown copyright and database rights 2020 Ordnance Survey 100024236
Address Search
Layer List
Uncertain
Built Environment
Aircraft Safeguarding Zones
Article Four Directions
Buildings of Local Historic Interest
Common Land and Village Greens
Community Infrastructure Levy
Conservation Areas
Contaminated Land Public Register
Historic Parks and Gardens
Listed Buildings
Listed Buildings Curtilages
National Grid Gas Pipeline
National Grid Gas Pipeline Buffers
Thornhaugh
ROMAN BUILDING
River Nene Navigation
Sutton
Wansford
1:10000
506,546.953 300,552.407 Meters
All rights reserved

SOKE OF PETERBOROUGH COUNTY COUNCIL : COUNTY PLANNING COMMITTEE

This is the Map referred to in the Schedule to the Soke of Peterborough (Tree Preservation) (No. 1) Order 1964.



DRAWING No.	21st February 1964 O.S. NORTHANTS. VII. 10.	SCALE : 1/2500th.	W. T. JEFFRIES, M.T.P.I., A.R.I.B.A., A.M.I.C.E., COUNTY PLANNING OFFICER.

TOWN AND COUNTRY PLANNING (TREES) REGULATIONS 1999

Town and Country Planning Act 1990
TREE PRESERVATION ORDER 3.2005

The COUNCIL OF THE CITY OF PETERBOROUGH in exercise of the powers conferred on them by sections 198, 201 and 203 of the Town and Country Planning Act 1990 hereby make the following Order—

Citation

1. This Order may be cited as the **Sutton Heath Road, Sutton, Peterborough Tree Preservation Order 3.2005**

Interpretation

2. In this Order "the authority" means THE COUNCIL OF THE CITY OF PETERBOROUGH and unless the context otherwise requires, any reference in this Order to a numbered section is a reference to the section so numbered in the Town and Country Planning Act 1990.

Application of section 201

2. The authority hereby direct that section 201 (provisional tree preservation orders) shall apply to this Order and, accordingly, this Order shall take effect provisionally on 11th March 2005

Prohibited acts in relation to trees

4. Without prejudice to subsections (6) and (7) of section 198 (power to make tree preservation orders)**(1)** [or subsection (3) of section 200 (orders affecting land where Forestry Commissioners interested)], and subject to article 5, no person shall—

(a) cut down, top, lop, uproot, wilfully damage or wilfully destroy; or

(b) cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of,

any tree specified in Schedule 1 to this Order or comprised in a group of trees or in a woodland so specified, except with the consent of the authority and, where such consent is given subject to conditions, in accordance with those conditions.

---

(1) Subsection (6) of section 198 exempts from the application of tree preservation orders the cutting down, uprooting, topping or lopping or lopping trees which are dying, dead or have become dangerous, or the undertaking of those acts in compliance with obligations imposed by or under an Act of Parliament or so far as may be necessary for the prevention or abatement of a nuisance. Subsection (7) of that section makes section 198 subject to section 39(2) of the Housing and Planning Act 1986 and section 15 of the Forestry Act 1967.

TOWN AND COUNTRY PLANNING (TREES) REGULATIONS 1999

Town and Country Planning Act 1990
TREE PRESERVATION ORDER 14.2005

The COUNCIL OF THE CITY OF PETERBOROUGH in exercise of the powers conferred on them by sections 198, 201 and 203 of the Town and Country Planning Act 1990 hereby make the following Order—

Citation

1. This Order may be cited as the **The Drift, Sutton, Peterborough Tree Preservation Order 14.2005**

Interpretation

2. In this Order "the authority" means THE COUNCIL OF THE CITY OF PETERBOROUGH and unless the context otherwise requires, any reference in this Order to a numbered section is a reference to the section so numbered in the Town and Country Planning Act 1990.

Application of section 201

3. The authority hereby direct that section 201 (provisional tree preservation orders) shall apply to this Order and, accordingly, this Order shall take effect provisionally on the 15th day of July 2005

Prohibited acts in relation to trees

4. Without prejudice to subsections (6) and (7) of section 198 (power to make tree preservation orders)**(1)** [or subsection (3) of section 200 (orders affecting land where Forestry Commissioners interested)], and subject to article 5, no person shall—

(a) cut down, top, lop, uproot, wilfully damage or wilfully destroy; or

(b) cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of,

any tree specified in Schedule 1 to this Order or comprised in a group of trees or in a woodland so specified, except with the consent of the authority and, where such consent is given subject to conditions, in accordance with those conditions.

Exemptions

5.—(1) Nothing in article 4 shall prevent—

(a) the cutting down, topping, lopping or uprooting of a tree by or at the request of a statutory undertaker, where the land on which the tree is situated is operational land of the statutory undertaker and the work is necessary—

---

(1) Subsection (6) of section 198 exempts from the application of tree preservation orders the cutting down, uprooting, topping or lopping or lopping trees which are dying, dead or have become dangerous, or the undertaking of those acts in compliance with obligations imposed by or under an Act of Parliament or so far as may be necessary for the prevention or abatement of a nuisance. Subsection (7) of that section makes section 198 subject to section 39(2) of the Housing and Planning Act 1986 and section 15 of the Forestry Act 1967.

Plotted 15/5/80 142

PETERBOROUGH CITY COUNCIL

M.E. PEARSON, LL.B., Solicitor
Legal and Administrative Officer

CITY PLANNING OFFICER

Please ask for:
Miss Jones
P.O. Box No. 8,
Town Hall,
Peterborough.
PE1 1HG.

Tel: 63141 (STD Code 0733)

AR

RECORDED DELIVERY

My Ref: PMJ/md/PD11/9/79 Your Ref: Date: 9th May 1980

Dear Sir/Madam

Town and Country Planning Act 1971 - Section 60 9/79
Peterborough City Council Tree Preservation Order (Black Swan Spinney, Wansford) Woodland at rear of Black Swan Spinney, Wansford.

I refer to the Notice sent to you dated 20th February 1980 which stated that the City Council had made the above mentioned Tree Preservation Order, and enclosing a copy of the Order for your information.

Where no objections are made to a Tree Preservation Order, the City Council are empowered to confirm it themselves (without modification) instead of forwarding the Order to the Secretary of State for confirmation.

As no objections have been received to the Order, it has now been confirmed by the City Council, the date of its confirmation being 9th May 1980.

Yours faithfully

[redacted]

PETERBOROUGH CITY COUNCIL
PLA...
14 MAY 1980
For attention of B/LA/LA/CAO - search record
Ack. sent ...
Reply ...
File No. TP142
14...3

Town and Country Planning Act 1990

Insert title of Order · Land at Old North Road, Wansford
· TP013.94

TREE PRESERVATION ORDER, 19[94] .

Insert name of local planning authority · THE COUNCIL OF THE CITY OF PETERBOROUGH in this Order called "the authority", in pursuance of the powers conferred in that behalf by sections 198 and 199 [[~~and] 201~~*] [~~and] [300~~] of the Town and Country Planning Act 1990, and subject to the provisions of the Forestry Acts 1967 and 1979, hereby make the following Order:—

1. In this Order:—

"the Act" means the Town and Country Planning Act 1990;

"owner" means the owner in fee simple, either in possession or who has granted a lease or tenancy of which the unexpired portion is less than three years; lessee (including a sub-lessee) or tenant in possession, the unexpired portion of whose lease or tenancy is three years or more; and a mortgagee in possession; and

"the Secretary of State" means the [Secretary of State for the Environment] [~~Secretary of State for Wales~~].

2.—Subject to the provisions of this Order and to the exemptions specified in the Second Schedule hereto, no person shall, except with the consent of the authority and in accordance with the conditions, if any, imposed on such consent, cut down, top, lop, uproot, wilfully damage or wilfully destroy or cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of any tree specified in the First Schedule hereto or comprised in a group of trees or in a woodland therein specified, the position of which trees, groups of trees and woodlands is defined in the manner indicated in the said First Schedule on the map annexed hereto‡ which map shall, for the purpose of such definition as aforesaid, prevail where any ambiguity arises between it and the specification in the said First Schedule.

3.—An application for consent made to the authority¶ under Article 2 of this Order shall be in writing stating the reasons for making the application, and shall by reference if necessary to a plan specify the trees to which the application relates, and the operations for the carrying out of which consent is required.

4.—(1) Where an application for consent is made to the authority under this Order, the authority may grant such consent either unconditionally, or subject to such conditions (including conditions requiring the replacement of any tree by one or more trees on the site or in the immediate vicinity thereof), as the authority may think fit, or may refuse consent:

Provided that where the application relates to any woodland specified in the First Schedule to this Order the authority shall grant consent so far as accords with the principles of good forestry, except where, in the opinion of the authority, it is necessary in the interests of amenity to maintain the special character of the woodland or the woodland character of the area, and shall not impose conditions on such consent requiring replacement or replanting.

NOTE: Where appropriate this Order has been updated to reflect statutory amendments which have resulted in the need to show substitutions or repeals of the prescribed form.

* Include only where Order contains a direction under section 201 of the Act.

‡ Map to be to a scale of not less than 25 inches to one mile (1:2500), except in the case of large woodlands when the scale shall be 6 inches to one mile (1:10000 or 1:10560).

¶ NOTE: If it is proposed to fell any of the trees included in this Order and the felling requires a licence under the Forestry Act 1967, an application should be made in the first place to the Forestry Commission.

Appendix 4: Tree Survey Schedule

See following page

Column Heading	Description
Colour Coding	Data from previous Highways England Survey Data from ADAS survey.
Tree Ref No.	All individual trees and groups of trees have been given a unique reference number. Each number is prefixed by a letter. ▪ T = Individual tree ▪ G = Group of trees ▪ H = Hedgerow
Species	The English common name has been used.
Single or Multiple stem (S or M)	* S represents a tree which has a single clear stem to at least 1.5m above ground level. * M(a) represents a tree where the main stem divides into two to five stems below 1.5m above ground level, and * M(b) represents a tree where the main stem divides into 6 or more stems below a height of 1.5m.
Height (m)	Where possible tree heights are measured using a laser. In some instances such as in close groups of trees, one height may be measured and other nearby trees estimated from this height. Measurements are provided in metres.
Stem Diameter (mm)	S_n represents the stem number. Measurements are provided in millimetres at 1.5m above ground level for single stemmed trees.
Very Large Girth (y/n)	Girth is very large for species inaccordance with Fig 1.3 of publication 'Ancient and other veteran trees: further guidance on management' Acient Tree Forum 2013. RAVEN - Step 1
Branch Spread (m)	Measured in metres to the four cardinal compass points (N, E, S, W).
Crown Clearance	1) Height in metres of the first significant branch, and the direction of growth. 2) Height in metres of lowest part of crown.
Life Stage	The stage at which the tree is within its lifecycle (Y = young, SM = semi-mature, EM = early-mature, M = mature, OM = over mature, V = veteran)
General Observations	Any relevant observations are recorded, with particular reference to structural and/or physiological condition.
Preliminary Management Recommendations	Recommendations are made where management work is required for reasons of health and safety or sound arboricultural management.
Estimated Remaining Contribution (years)	An estimation of how long the feature will contribute to its surroundings. This is recorded in bands of either <10 years, 10+ years, 20+ years and 40+ years.
Tree Quality Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C).
Retain / Remove	Remove in full Remove part of group Retain
Root Protection Area	Calculated as prescribed in section 4.6 of BS5837:2012, provided as an area (m^2) and a radius from the tree s stem (m).
Note: Those measurements shown in *italics* have been estimated, usually where access has restricted them being taken.	

Table 1: Tree Survey Schedule heading descriptions

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T1	Poplar	S	24	1230						8	4	8	8	4w	1.5	OM	Good form and condition	None	20+	B2	Remove	N/A	N/A
T2	Poplar	S	24	1250						8	8	8	4	3s	1.5	OM	Good form and condition	None	20+	B2	Remove	N/A	N/A
T3	Horse chestnut	S	8	700						6	6	6	4	3e	1.5	M	Good form and condition	None	20+	B2	Retain	221.7	8.4
T15	Oak	S	14	700						4	4	4	4	3n	2	M	Good form and condition	None	20+	B1	Remove	N/A	N/A
T17	Oak	S	16	1100						8	5	7	8	2s	1	OM	Stag headed. Ganoderma species and Fistulina hepatica fruiting bodies at east root buttress.	None	40+	A3	Remove	N/A	N/A
T18	Oak	S	18	1000						6	10	10	10	3e	2	OM	Good form and condition	None	40+	A1	Remove	N/A	N/A
T19#	Willow	S	14	1200						6	6	6	6	2s	1	OM	Good form. Reasonable condition. Basal defect.	None	20+	B2	Retain	651.5	14.4
T20	Oak	S	12	1400						4	4	4	4	2n	0	V	Good form. Reasonable condition	None	40+	A3	Remove	N/A	N/A
T22	Poplar	S	30	850						13	10	4	8	2n	3	OM	Poor central leader defect at 8m	Fell	20+	B2	Retain	326.9	10.2
T23	Poplar	S	30	800						6	3	4	4	5n	2	M	Suspect, fruiting body likely to be Armillaria tabescens	Fell	20+	B2	Retain	289.6	9.6
T27	Ash	S	14	300						4	4	4	4	3e	1	SM	Good form and condition	None	10+	C1	Remove	N/A	N/A
T28	Ash	S	8	283						2	3	2	3	1.5w	1	SM	Good form and condition	None	10+	C1	Remove	N/A	N/A
T29	Ash	S	12	500						5	5	5	5	2n	1	EM	Good form and condition	None	20+	B2	Retain	113.1	6.0
T30#	Willow	S	16	700						5	5	5	5	2n	1	M	Good form. Reasonable condition	None	20+	B2	Retain	221.7	8.4
T31#	Ash	S	20	600						5	6	6	4	2n	2	M	Good form and condition	None	20+	B1	Retain	162.9	7.2
T32#	Ash	S	20	600						5	4	6	5	2n	2	M	Good form and condition	None	20+	B1	Retain	162.9	7.2
T33#	Willow	S	16	700						4	4	4	4	2n	2	M	Good form. Reasonable condition	None	20+	B2	Retain	221.7	8.4
T35	Ash	S	14	400						5	5	5	5	2w	1	EM	Good form and condition	None	20+	B1	Retain	72.4	4.8
T37	Red oak	S	5	300						4	4	4	4	1n	1	SM	Good form and condition	None	20+	B1	Retain	40.7	3.6
T41	Sycamore	S	16	579						4	4	4	3	4s	4	EM	Good form. Reasonable condition	None	20+	B2	Retain	151.7	6.9
T44	Sycamore	S	4	354						2	3	2	3	1n	1	SM	Good form and condition	None	10+	C1	Retain	56.7	4.2

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T73	Ash	S	10	180						5	5	5	5	2n	2	SM	Good condition, multi stemmed within hedgerow	None	10+	C1	Retain	14.7	2.2
T74	Ash	S	8	400						2	2	4	1	2w	3	M	Fair condition. Innonotus hispidus	None	10+	C1	Retain	72.4	4.8
T75	Ash	S	18	500						4	5	6	4	s4	3	M	Isolated dead branches. Inonotus hispidus and associated failures, Ganoderma spp. east base	None	20+	B2	Retain	113.1	6.0
T76	Ash	S	8	500						2	5	5	5	3s	3	M	Isolated dead branches. Inonotus hispidus associated branch failures	None	10+	C1	Retain	113.1	6.0
T77	Ash	S	14	500						5	5	5	5	3w	3	M	Some limb failures	None	10+	C1	Retain	113.1	6.0
T78	Ash	S	18	600						4	4	2	3	3w	3	M	Inonotus hispidus and loose deadwood in canopy	None	10+	C1	Retain	162.9	7.2
T79	Ash	S	16	600						4	2	3	3	3s	3	M	Poor, thin canopy, woodpecker hole, Inonotus hispidus	None	10+	C1	Retain	162.9	7.2
T80	Ash	S	18	1000						7	7	7	7	2w	3	OM	Good form and condition	None	20+	B1	Retain	452.4	12.0
T81	Ash	S	18	700						7	7	7	7	3w	3	M	Reasonable, limb failures, Ganoderma spp at north base	None	10+	C1	Retain	221.7	8.4
T82	Ash	S	17	600						6	5	5	5	3n	4	M	Good form and condition	None	20+	B2	Retain	162.9	7.2
T83	Ash	S	18	700						5	4	6	4	s4	3	M	Deformed foliage associated with lower canopy. Inonotus hispidus fruiting bodies north face of stem, limb failures	None	10+	C1	Retain	221.7	8.4
T84	Ash	S	18	700						5	5	5	5	2n	3	M	Good condition. Isolated deadwood	None	20+	B1	Retain	221.7	8.4
T86	Ash	S	6	200						2	2	2	2	1n	1	SM	Good form and condition	None	10+	C1	Retain	18.1	2.4
T89	Macrocarpa	S	8	200						3	3	3	3	1e	1	SM	Good form and condition	None	10+	C1	Retain	18.1	2.4
T91#	Silver birch	S	8	200						1	1	1	1	1e	1	SM	Good form and condition	None	10+	C1	Retain	18.1	2.4
T95	Sycamore (Acer pseudoplatanus)	S	22	920						8	8	9	9	3.5-N	1.5	M	Growing within hedgerow so base obscured. Good physiology and structure.	None	40+	A2	Retain	383.0	11.0
T96	Sycamore (Acer pseudoplatanus)	S	15	580						5.5	5.5	6	6	4.0-S	2	EM	Pruning wound at 4m north decaying. Basal suckering.	None	10+	C1	Retain	152.2	7.0
T97	Sycamore (Acer pseudoplatanus)	S	21	760						8.5	11	12	7.5	5.5-N	3	M	Basal suckering. Growing within hedgerow so base obscured. Good physiology and structure.	None	40+	A2	Retain	261.3	9.1
T98	Sycamore (Acer pseudoplatanus)	S	21	1010						6.5	8.5	9	7	5.0-S	2.5	M	Large diameter deadwood at 6m east over road. One large dead hanging branch over road at 7m east.	Remove deadwood	40+	A2	Retain	461.5	12.1
T99	Sycamore (Acer pseudoplatanus)	S	13	500						5	5.5	6	5	3.0-N	2.5	EM	Good physiology and structure. No obvious defects observed.	None	10+	C1	Retain	113.1	6.0
T100	Sycamore (Acer pseudoplatanus)	S	16	600						6	6	6.5	5.5	2.5-N	3.5	EM	Basal suckering restricted view of lower stem. No major defects observed.	None	20+	B2	Remove	N/A	N/A

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T101	Sycamore (Acer pseudoplatanus)	S	17	550						5	7	4	5	2.5-W	4	EM	Basal suckering. Utility lines running south of tree. Minor deadwood over road.	None	10+	C1	Retain	136.9	6.6
T102	Pedunculate/common oak (Quercus robur)	S	6.5	160						2.5	2.5	2.5	2.5	2.5-N	2.5	Y	Lapsed hedgerow tree.	None	10+	C3	Remove	N/A	N/A
T103	Blackthorn (Prunus spinosa)	S	4.5	170						1.5	2	1.5	2	1.5-S	2	M	Lapsed hedgerow tree.	None	10+	C3	Remove	N/A	N/A
T104	Sycamore (Acer pseudoplatanus)	S	11	640						6.5	6.5	6.5	6.5	5.5-E	2.5	M	Compact tree. Good physiology and structure.	None	20+	B2	Retain	185.3	7.7
T105	Sycamore (Acer pseudoplatanus)	M(a)	9	160	140					4	3	2	3	3.0-S	3	SM	Twisted stems covered with Russian Vine. Semi fused stems. Will fail before maturity.	None	10+	C3	Remove	N/A	N/A
T106	Hawthorn species (Crataegus spp)	S	7	440						3	2.5	3.5	3	3.5-S	4	M	Significant Ivy cover throughout restricted more thorough visual tree assessment.	Sever Ivy	10+	C2	Remove	N/A	N/A
T107	Hawthorn species (Crataegus spp)	M(a)	5.5	170	140	75	150			2	2	2	2	2.0-W	3	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment.	Sever Ivy	10+	C3	Remove	N/A	N/A
T108	Sycamore (Acer pseudoplatanus)	S	16	600						4.5	7	6	6	4.5-S	4	M	Significant Ivy cover to base of stem. Multi-stemmed from 2.5m. Considerable crown decline, approx 30% of western crown dead. Delamination of bark at union. Large diameter deadwood throughout.	Remove	<10	U	Remove	N/A	N/A
T109	Turkey oak (Quercus cerris)	S	16	520						6	6.5	4.5	5.5	2.5-N	2	EM	Good physiology and structure. No major defects observed.	None	20+	B2	Remove	N/A	N/A
T110	Sycamore (Acer pseudoplatanus)	M(a)	15	440	160	460				6	5.5	5	5	2.5-N	1.5	M	Base obscured due to suckering and Ivy. Multi-stemmed from 0.5m. Dense crown.	Sever Ivy at base	10+	C1	Remove	N/A	N/A
T111	Sycamore (Acer pseudoplatanus)	S	21	680						7	8.5	7	7	3.0-S	3.5	M	Good physiology and structure. No major defects observed.	None	40+	A2	Retain	209.2	8.2
T112	Sycamore (Acer pseudoplatanus)	S	18	840						10	8	7	7.5	3.5-N	4	M	No major defects observed.	None	20+	B2	Retain	319.2	10.1
T113	Sycamore (Acer pseudoplatanus)	S	25	1120						10	12	13	10	6.5-N	3	M	Excellent physiology and structure. Minor Ivy to base of stem.	None	40+	A1	Retain	567.6	13.4
T114	Sycamore (Acer pseudoplatanus)	S	18	660						5.5	7.5	7	6.5	3.0-E	1.5	EM	Variegated cultivar. Good physiology and structure.	None	20+	B2	Retain	197.1	7.9
T115	Sycamore (Acer pseudoplatanus)	S	20	1100						7	7	8	6	5.0-S	4.5	M	Significant basal suckering restricted access to base. Very good physiology and structure.	Remove sucker growth	40+	A2	Retain	547.5	13.2
T116	Sycamore (Acer pseudoplatanus)	S	21	690						6.5	7	8.5	7.5	5.0-N	4.5	M	Ivy cover on stem restricted more thorough visual tree assessment. Good physiology and structure.	Sever Ivy at base	40+	A2	Retain	215.4	8.3
T117	Sycamore (Acer pseudoplatanus)	S	21	700						6.5	7	6.5	6.5	4.0-N	4.5	M	Historic limb failure at 6m north, snapped with no occlusion. No other major defects visible, though minor deadwood over road.	Remove snapped branch	20+	B2	Retain	221.7	8.4
T118	Sycamore (Acer pseudoplatanus)	S	12	380						5.5	6	6.5	5.5	3.0-S	3	SM	Tree growing within hedgerow. No major defects observed.	None	10+	C1	Retain	65.3	4.6
T119	Sycamore (Acer pseudoplatanus)	S	12	460						5.5	5.5	5.5	6.5	3.5-S	3.5	EM	Minor Ivy on stem. Growing within hedgerow. No major defects observed.	None	10+	C1	Retain	95.7	5.5
T120	Sycamore (Acer pseudoplatanus)	S	12	370						4	5	4	4	4.0-W	4	EM	No major defects observed.	None	10+	C1	Retain	61.9	4.4
T121	Sycamore (Acer pseudoplatanus)	S	14	480						5	5.5	4.5	5	4.5-S	4	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment.	Sever Ivy at base	10+	C1	Retain	104.2	5.8

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T122	Sycamore (Acer pseudoplatanus)	S	18	500						6	6	6	6	4.0-S	3	EM	Good physiology and structure. No major defects observed.	None	20+	B1	Retain	113.1	6.0
T123	Sycamore (Acer pseudoplatanus)	S	20	680						8	8	7.5	8	3.5-N	2	EM	Significant Ivy cover on main stem only. Good physiology and structure. No major defects observed.	None	20+	B1	Retain	209.2	8.2
T124	Sycamore (Acer pseudoplatanus)	S	22	690						9.5	9.5	9.5	9.5	4.5-E	3.5	EM	Good physiology and structure. No major defects observed.	None	20+	B1	Retain	215.4	8.3
T125	Sycamore (Acer pseudoplatanus)	S	17	710						7.5	7	6.5	7	4.5-S	2.5	EM	Ivy cover on main stem only. Good physiology and structure. No major defects observed.	None	20+	B1	Retain	228.1	8.5
T126	Sycamore (Acer pseudoplatanus)	S	10	380						4	5	5.5	5.5	4.0-S	3	EM	Minor Ivy on stem. Growing within hedgerow. No major defects observed.	None	10+	C1	Retain	65.3	4.6
T127	Sycamore (Acer pseudoplatanus)	S	17	660						6.5	6.5	7	6.5	4.0-N	3.5	EM	Good physiology and structure. No major defects observed. Basal suckering.	None	20+	B1	Retain	197.1	7.9
T128	Sycamore (Acer pseudoplatanus)	S	13	640						6	6	6.5	6	3.0-N	2	EM	Minor Ivy on stem. Growing within hedgerow. No major defects observed. Stem growing slightly eastwards.	None	10+	C1	Retain	185.3	7.7
T129	Sycamore (Acer pseudoplatanus)	S	19	700						7	7	8	7.5	4.5-W	3	EM	Good physiology and structure. No major defects observed.	None	20+	B1	Retain	221.7	8.4
T130	Sycamore (Acer pseudoplatanus)	S	22	820						9	9	9	9	3.0-S	3	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment. Possible physiological issue as crown sparse and looks to have failed in areas.	Sever Ivy at base	10+	C1	Retain	304.2	9.8
T131	Sycamore (Acer pseudoplatanus)	S	21	620						7.5	7	6	6	5.0-W	4.5	EM	Variegated cultivar. No obvious defects observed.	None	20+	B2	Retain	173.9	7.4
T132	Sycamore (Acer pseudoplatanus)	S	15	520						6.5	6.5	6.5	6.5	4.0-W	2.5	EM	Variegated cultivar. No major defects observed.	None	10+	C1	Retain	122.3	6.2
T133	Sycamore (Acer pseudoplatanus)	S	25	710						7	7	5.5	7	5.5-N	5	M	No major defects observed. Base obscured due to scrub growth.	None	40+	A2	Retain	228.1	8.5
T134	Sycamore (Acer pseudoplatanus)	S	24	980						11	7	9	7	6.0-W	2.5	M	No major defects observed. Twin stemmed with close union from 5m.	None	20+	B3	Retain	434.5	11.8
T135	English elm (Ulmus procera)	S	28	1430						13	13	13	7	6.5-N	6	M	Excellent specimen. No obvious defects observed. Minor deadwood within crown.	None	40+	A1	Retain	707.0	15.0
T136	Sycamore (Acer pseudoplatanus)	S	13	320						5	5	5	5	2.0-W	1.5	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment.	Sever Ivy at base	10+	C2	Retain	46.3	3.8
T137	Sycamore (Acer pseudoplatanus)	S	13	780						7.5	7.5	7.5	7.5	3.0-S	2.5	M	Compact tree. Base inaccessible. Significant Ivy cover throughout.	Sever Ivy at base	10+	C1	Retain	275.3	9.4
T138	Ash (Fraxinus excelsior)	M(a)	17	260	250	300	320	90		8.5	8.5	4	9.5	3.0-N	1	M	Significant Ivy cover throughout restricted more thorough visual tree assessment. Utility lines running through centre of crown.	Sever Ivy at base	10+	C3	Retain	149.6	6.9
T139	Sycamore (Acer pseudoplatanus)	S	16	530						3.5	8	7.5	4	3.0-E	4	EM	Utility lines growing through centre of crown. Suppressed slightly by neighbouring trees.	None	10+	C3	Retain	127.1	6.4
T140	Ash (Fraxinus excelsior)	M(a)	12	240	260	200	150			4.5	5.5	5	5	4.0-E	5.5	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment. Utility cable running through centre of crown.	Sever Ivy at base	10+	C3	Remove	N/A	N/A
T141	Ash (Fraxinus excelsior)	S	13	470						4.5	5	5	5	3.5-W	2.5	EM	Minor Ash Dieback. No other major defects observed.	None	10+	C1	Remove	N/A	N/A
T142	Pedunculate/common oak (Quercus robur)	S	11	400						5.5	5.5	5.5	5.5	2.5-S	1	SM	No significant defects observed.	None	10+	C1	Remove	N/A	N/A

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T143	Ash (Fraxinus excelsior)	S	15	390						3	4	4	4	4.0-W	2.5	SM	Ash Dieback not obvious at time of survey. No major defects observed.	None	10+	C1	Remove	N/A	N/A
T144	Pedunculate/common oak (Quercus robur)	S	9	270						6	6	6	6	2.5-E	1	SM	Growing within tree group. No obvious defects observed.	None	10+	C1	Retain	33.0	3.2
T145	Ash (Fraxinus excelsior)	S	12	520						4	6	7	5	2.0-S	2	OM	Heavily reduced tree. Ash Dieback prevalent throughout. Major limb loss to south.	Fell	<10	U		122.3	6.2
T146	Ash (Fraxinus excelsior)	S	13	340						4.5	0	6	7	4.0-W	4	EM	Suppressed by neighbouring tree. Ash Dieback prevalent throughout. Twin stemmed from 2m. Previously reduced.	Remove	<10	U		52.3	4.1
T147	Ash (Fraxinus excelsior)	M(a)	13	340	320					7	5	5	4.5	2.0-N	0	EM	Twin stemmed from base. Suspected Ash Dieback. Dense crown with considerable epicormic growth.	None	10+	C3	Retain	98.6	5.6
T148	Ash (Fraxinus excelsior)	S	17	750						7	7	7	7	3.0-S	3	M	All measurements estimated. No access to area and limited visibility.	None	10+	C2	Retain	254.5	9.0
T149	other broadleaves	M(a)	7	200	180	150				7	6	4	5	2.0-S	1	OM	Laburnum anagyroides. Loss of large stem to east.	None	10+	C3	Retain	42.9	3.7
T150	Ash (Fraxinus excelsior)	S	14	410						7	4	5	5	4.0-N	4	EM	Historic removal of lower limbs, most fully occluded but some with minor cavities. No access to base.	None	10+	C2	Retain	76.1	4.9
T151	Ash (Fraxinus excelsior)	S	17	600						7	7.5	9	8	3.0-E	5.5	M	Historic stem removal to south east, occluded. Likely to have been a Pollard at 4.5m, but has outgrown this form. Open crown form with no major defects.	None	20+	B2	Retain	162.9	7.2
T152	Ash (Fraxinus excelsior)	S	14	*370*						6.5	6	5.5	5.5	4.0-N	4	EM	No access to area. No major defects observed.	None	10+	C1	Retain	61.9	4.4
T153	other cherry spp (Prunus spp)	M(a)	6.5	200	200	200	150	150		2	5.5	5	4	0-N	0	EM	Single Laurel specimen.	None	10+	C2	Retain	74.7	4.9
T154	other cherry spp (Prunus spp)	S	10	360						5	4	5.5	6	3.5-W	2.5	EM	Twin stemmed from 2.5m. Good physiology and structure.	None	20+	B2	Retain	58.6	4.3
T155	Scots pine (Pinus sylvestris)	S	10	340						6	2.5	6	6	4.0-S	3	SM	Deadwood in lower crown, typical of species. No major defects observed.	None	10+	C2	Retain	52.3	4.1
T156	other cherry spp (Prunus spp)	S	6	110						2	2	2	2	1.5-S	2	Y	Recently established specimen.	None	10+	C2	Retain	5.5	1.3
T157	other cherry spp (Prunus spp)	S	12	250						4.5	5.5	4	4	3.0-S	1.5	SM	Good physiology and structure. No major defects observed.	None	10+	C1	Retain	28.3	3.0
T158	other cherry spp (Prunus spp)	S	12	250						4.5	5.5	4	4	3.0-S	1.5	SM	Good physiology and structure. Root damage due to low lawnmower height.	None	10+	C1	Retain	28.3	3.0
T159	other cherry spp (Prunus spp)	S	12	240						3	4	4	3.5	3.0-S	1.5	SM	Good physiology and structure. Root damage due to low lawnmower height.	None	10+	C1	Retain	26.1	2.9
T160	other cherry spp (Prunus spp)	S	7	130						2.5	2.5	2.5	2	2.0-S	1.5	Y	Recently established tree.	None	10+	C1	Retain	7.6	1.6
T161	other cherry spp (Prunus spp)	S	7	130						2.5	2.5	2.5	2	2.0-S	1.5	Y	Recently established tree.	None	10+	C1	Retain	7.6	1.6
T162	Common lime (Tilia europaea)	S	15	*420*						6.5	5.5	5.5	5.5	2.0-S	2	M	Slight crown retrenchment. Measurements estimated due to access not being provided. A thorough assessment may increase tree grading.	None	10+	C1	Retain	79.8	5.0
T163	Scots pine (Pinus sylvestris)	S	14	*280*						2.5	3	4	3	5.0-N	4	EM	Growing within dense tree group so no access to base.	None	20+	B2	Retain	35.5	3.4

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T164	Sycamore (Acer pseudoplatanus)	M(a)	16	300	230	180				4.5	6	6	5.5	1.5-S	3	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment.	Sever Ivy	10+	C1	Retain	79.3	5.0
T165	Common lime (Tilia europaea)	S	16	*420*						6.5	5.5	5.5	5.5	2.0-S	2	M	Measurements estimated due to access not being provided. A thorough assessment may increase tree grading.	None	10+	C1	Retain	79.8	5.0
T166	Common lime (Tilia europaea)	S	16	*420*						6.5	5.5	5.5	5.5	2.0-S	2	M	Measurements estimated due to access not being provided. A thorough assessment may increase tree grading.	None	10+	C1	Retain	79.8	5.0
T167	Ash (Fraxinus excelsior)	S	12	470						6	5.5	5	5.5	2.5-W	0.5	EM	Heavily included union. Minor Ash Dieback.	Fell	<10	U	Remove	N/A	N/A
T168	Ash (Fraxinus excelsior)	S	16	400						7	4.5	4	4	2.5-N	0	EM	Good physiology and structure. No major defects observed.	None	20+	B3	Remove	N/A	N/A
T169	other cherry spp (Prunus spp)	S	7.5	320						5	5	5	5	1.5-S	0.5	EM	Good physiology and structure. Access restricted as tree growing within hedgerow.	None	10+	C2	Remove	N/A	N/A
T170	Ash (Fraxinus excelsior)	S	16	640						6	8	7	8	3.5-W	10	M	Bifurcation of main stem at 4m. Union adequate. Ivy clad, preventing further inspection.	None	20+	B2	Retain	185.3	7.7
T171	Beech (Fagus sylvatica)	S	16	650						6	11	7.5	7.5	3.0-N	0.5	M	No major defects observed. Good physiology and structure.	None	20+	B3	Retain	191.2	7.8
T172	Beech (Fagus sylvatica)	S	14	520						6	6	6	6	3.0-W	1.5	EM	Good physiology and structure. Growing in gravel car park.	None	20+	B2	Retain	122.3	6.2
T173	other cherry spp (Prunus spp)	S	11	430						4	4	4	5	3.0-W	2	M	Suppressed to east by neighbouring tree. Sparse growth.	None	10+	C3	Retain	83.7	5.2
T174	Field maple (Acer campestre)	M(a)	12	150	270	320				6	4.5	2.5	3	2.0-W	3.5	EM	Growing within gravel car park. No major defects observed.	None	10+	C1	Retain	89.5	5.3
T175	Field maple (Acer campestre)	M(a)	13	290	310					4	4.5	4.5	3	2.5-N	1.5	EM	Good physiology and structure. No major defects observed.	None	20+	B2	Retain	81.5	5.1
T176	other cherry spp (Prunus spp)	S	10	520						4	7	6	3.5	1.5-S	1.5	M	Good physiology and structure. Foliage reduced due to pest.	None	10+	C2	Retain	122.3	6.2
T177	Sycamore (Acer pseudoplatanus)	S	12	570						7	5.5	6.5	6.5	1.5-E	2.5	M	Good physiology and structure. Slightly congested crown. No major defects observed.	None	10+	C2	Retain	147.0	6.8
T178	Leyland cypress (XCupressocyparis leylandii)	S	12	390						2	2	2	2	4.0-N	4.5	EM	Utility line under western edge of crown. No major defects observed.	None	10+	C2	Remove	N/A	N/A
T179	Leyland cypress (XCupressocyparis leylandii)	S	12	430						2	2	2	2	4.0-N	4.5	EM	No major defects observed.	None	10+	C2	Remove	N/A	N/A
T180	Pedunculate/common oak (Quercus robur)	S	14	1050						9	9	9	9	2.5-S	2.5	M	Significant Ivy cover throughout restricted more thorough visual tree assessment. No obvious defects observed.	None	20+	B2	Remove	N/A	N/A
T181	Beech (Fagus sylvatica)	S	9	350						6.5	6.5	6	5.5	1.0-S	1.5	SM	Good health and vigour,	None	20+	B2	Remove	N/A	N/A
T182	Beech (Fagus sylvatica)	S	5	200						2.5	2.5	2.5	2.5	1.0-W	0.5	SM	Good health and vigour, parkland tree	None	20+	B2	Remove	N/A	N/A
T183	Beech (Fagus sylvatica)	S	7	270						4.5	4.5	4.5	4.5	1.0-S	1.5	SM	Good health and vigour, parkland tree	None	20+	B2	Retain	33.0	3.2
T184	Crack willow (Salix fragilis)	S	11	1700						4.5	10	5	2	1.0-S	2	OM	Stem decay with rot holes	ction or tree will lik	10+	C2	Retain	707.0	15.0

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T185	Beech (Fagus sylvatica)	S	7	330						7	7	7	7	0.5-N	1	SM	Good health and vigour	None	20+	B1	Retain	49.3	4.0
T186	Field maple (Acer campestre)	S	6.5	400						4	4	4	4	1.5-S	1.5	M	Stem decay at base, significant ivy cover to crown.	None	10+	C1	Retain	72.4	4.8
T187	Beech (Fagus sylvatica)	S	6.5	310	300					4.5	4.5	4.5	4.5	1.0-S	1.5	SM	Good health and vigour, field side of roadside ditch	None	20+	B1	Retain	43.5	3.7
T188	Hornbeam (Carpinus betulus)	S	2.5	150						1.5	1.5	1.5	1.5	0.5-S	0.5	Y	Good health and vigour	None	40+	C1	Retain	10.2	1.8
T189	Beech (Fagus sylvatica)	S	10	540						4.5	4.5	4.5	4.5	1.5-W	0.5	M	Good health and vigour, multistem above bole at 1.5m	None	20+	B1	Retain	131.9	6.5
T190	Ash (Fraxinus excelsior)	S	7	400						5	5	5	5	2.5-S	1.5	SM	Good health and vigour	None	20+	B1	Retain	72.4	4.8
T191	Ash (Fraxinus excelsior)	S	12	450						5	5	5.5	5	2.0-E	1	SM	Good health and vigour, no signs of Ash dieback	None	20+	B1	Retain	91.6	5.4
T192	Beech (Fagus sylvatica)	S	10	490						4.5	4.5	4.5	4.5	2.0-S	1	SM	Good health and vigour	None	20+	B1	Retain	108.6	5.9
T193	Beech (Fagus sylvatica)	S	9	480						4.5	4.5	4.5	4.5	1.5-E	1.5	SM	Good health and vigour	None	20+	B1	Retain	104.2	5.8
T194	Beech (Fagus sylvatica)	S	9	310						4	4	4	4	1.5-S	2	SM	Good health and vigour	None	20+	B1	Retain	43.5	3.7
T195	Beech (Fagus sylvatica)	M(a)	9	90	80					4.5	4.5	4.5	4.5	1.5-W	1.5	SM	Good health and vigour. Low value due to young age and ease of replacement	None	20+	C1	Retain	6.6	1.4
T196	Beech (Fagus sylvatica)	S	10	310						4.5	4.5	4.5	4.5	1.5-E	1.5	SM	Good health and vigour	None	20+	B1	Retain	43.5	3.7
T197	Beech (Fagus sylvatica)	S	10	310						4	5	4.5	4.5	1.5-E	1.5	SM	Good health and vigour	None	20+	B1	Retain	43.5	3.7
T198	Beech (Fagus sylvatica)	S	10	280						2.5	2	2	2	2.5-N	2.5	SM	Good health and vigour	None	20+	B1	Retain	35.5	3.4
T199	Beech (Fagus sylvatica)	S	6.5	200						3	2	3	3	1.0-W	1	SM	Good health and vigour	None	20+	C1	Retain	18.1	2.4
T200	Beech (Fagus sylvatica)	S	10	310						3.5	3.5	3	3	2.5-E	2.5	SM	Good health and vigour	None	20+	B1	Retain	43.5	3.7
T201	Hawthorn species (Crataegus spp)	M(b)	4	75	80	75	75	75	75	2	2	2	2	0.5-E	0.5	SM	Good health and vigour	None	20+	C1	Retain	19.2	2.5
T202	Ash (Fraxinus excelsior)	S	9	1200						5.5	5.5	5.5	5.5	3.0-S	3.5	OM	Notable tree record form, hollow stem, inonotus hispidus in stems, pollard at 3m , potential bat roost	None	40+	A3	Retain	651.5	14.4
T203	Hawthorn species (Crataegus spp)	M(a)	2.5	80	90	120				1	1	1	1	0.5-N	1	M	Deadwood in crown.	None	10+	C1	Retain	13.1	2.0
T204	Pedunculate/common oak (Quercus robur)	S	12	1070						6.5	6.5	6.5	6.5	2.5-W	3	OM	Notable tree record form, pollarded, deadwood in crown and bole. At field edge.	None	40+	A2	Retain	518.0	12.8
T205	Ash (Fraxinus excelsior)	S	13	550						5	5	5	5	4.5-E	5	M	Ash dieback, minor rot hole in branch collar on north side at 4m above ground level.	None	<10	U	Remove	N/A	N/A

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
T206	Ash (Fraxinus excelsior)	S	10	480						6	6	6	6	1.5-N	2	M	Ash dieback, wire grown into trunk.	None	<10	U	Remove	N/A	N/A
T207	Beech (Fagus sylvatica)	M(a)	10	250	330						5.5	5.5	5.5	1.5-E	1.5	SM	Good health and vigour, parkland tree	None	20+	B1	Retain	77.5	5.0
T208	Common lime (Tilia europaea)	S	7	210						5	4	5	4	1.5-E	1.5	SM	Good health and vigour, tree planted 1996, in memory of Dunblane	None	40+	A3	Retain	20.0	2.5
T209	Pedunculate/common oak (Quercus robur)	S	9.5	330						3	4	4	4	1.5-E	1.5	SM	Good health and vigour	None	20+	B1	Retain	49.3	4.0
G4	Poplar (Populus spp.)	S	24	1250						8	8	8	4	3s	3	OM	Good form and condition	None	20+	B2		707.0	15.0
G7	Beech (Fagus sylvatica)	S	20	520						5	3	4	5	1.5s	1	EM	Numerous dead semi mature larch	None	40+	A2	Remove	N/A	N/A
G8	Mixed broadleaves and conifers	S	18	200						2	3	2	3	1e	1	SM	Reasonable condition, including dead individuals	None	10+	C2		18.1	2.4
G9	Mixed broadleaves and conifers	S	14	200						2	3	2	3	1e	1	SM	Reasonable condition, including dead individuals	None	20+	B2		18.1	2.4
G10	Mixed broadleaves and conifers	S	16	600						8	8	5	4	2s	2	M	Good form and condition	None	40+	A2		162.9	7.2
G11	Mixed broadleaves and conifers	S	15	439						3	3	3	3	2n	2	SM	Reasonable condition some tree failures within group	None	10+	C2		87.2	5.3
G12	Mixed broadleaves and conifers	S	15	439						3	3	3	3	2n	2	SM	Reasonable some defects typical	None	20+	B2		87.2	5.3
G13	Mixed broadleaves and conifers	S	15	250						3	3	3	3	2s	0	SM	Good form and condition	None	20+	B2		28.3	3.0
G14	Mixed broadleaf species	S	5	100						2	2	2	2	1w	0	Y	Good form and condition	None	20+	B2		4.5	1.2
G16	Ash (Fraxinus excelsior)	S	12	495						4	4	4	4	2n	2	SM	Good form and condition	None	10+	C1	Remove	N/A	N/A
G21	Poplar (Populus spp.)	S	30	800						5	5	5	5	3n	4	M	Some defects within group. Reasonable condition	None	20+	B2	Retain	289.6	9.6
G24	Scots pine (Pinus sylvestris), larch (Larix decidua), sycamore (Acer pseudoplatanus)	S	15	200						3	3	3	3	1e	1	SM	Good form and condition	None	20+	B2		18.1	2.4
G25	Silver birch (Betula pendula), ash (Fraxinus excelsior), sycamore (Acer pseudoplatanus)	S	12	200						2	2	2	2	1e	1	SM	Good form and condition	None	10+	C2	Remove	N/A	N/A
G26	Leyland cypress (XCupressocyparis leylandii)	S	15	430						2	2	2	2	1e	1	SM	Good form and condition	None	10+	C2	Remove	N/A	N/A
G36	Ash (Fraxinus excelsior) sycamore (Acer pseudoplatanus)	S	18	250						4	2	4	2	3s	3	SM	Good form and condition	None	10+	C2		28.3	3.0
G38	Field maple (Acer campestre)	S	18	618						4	4	4	4	3n	1.5	M	Good form and condition	ess facilitation prur	20+	B2	Retain	172.8	7.4

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
G39	Ash (Fraxinus excelsior)	S	18	1270						5	5	5	5	4s	2	M	Good form. Reasonable condition	None	20+	B2	Retain	707.0	15.0
G40	Ash (Fraxinus excelsior), hawthorn (Crataegus monogyna)	S	10	250						3	3	3	3	1e	1	SM	Good form and condition	None	20+	B2	Retain	28.3	3.0
G42	Mixed broadleaved species	S	5	250						2	2	2	2	1n	1	Y	Good form and condition	None	10+	C2	Remove	N/A	N/A
G43	Willow (Salix spp.)	S	10	300						3	3	4	4	1n	1	SM	Good form. Reasonable condition	None	10+	C2	Remove	N/A	N/A
G45	Leyland cypress (X Cupressocyparis leylandii)	S	15	450						4	4	4	4	2n	2	EM	Good form and condition	None	20+	B2	Retain	91.6	5.4
G46	Ash (Fraxinus excelsior), poplar (Populus spp.)	S	15	420						4	4	4	4	4s	4	EM	Good form. Reasonable condition	None	20+	B2	Remove	N/A	N/A
G47	Elm (Ulmus spp.)	S	10	300						3	3	3	3	3n	2	SM	Poor condition. Group in decline	Fell	<10	U	Remove	N/A	N/A
G48	Ash (Fraxinus excelsior)	S	12	300						3	3	3	3	4s	4	SM	Fair, scattered deadwood	None	20+	B2		40.7	3.6
G58	Lime (Tilia spp.)	S	10	800						6	6	6	6	3s	6	M	Good form and condition	None	20+	B2	Retain	289.6	9.6
G59	Silver birch,(Betula pendula) Field maple (Acer campestre), Willow (Salix spp.)	S	10	250						2	2	2	2	1e	2	SM	Good form and condition	None	10+	C2	Retain	28.3	3.0
G60	Mixed broadleaved species	S	10	350						2	2	2	2	1s	2	SM	Roadside shelterbelt	None	20+	B3	Remove	N/A	N/A
G61	Mixed broadleaved species	S	10	350						2	2	2	2	1s	2	SM	Good form and condition	None	20+	B3		55.4	4.2
G62	Mixed broadleaved species	S	10	350						2	2	2	2	1s	2	SM	Good form and condition	None	20+	B3		55.4	4.2
G70	Lime (Tilia spp.), Oak (Quercus robur), Field maple (Acer campestre)	S	12	300						3	3	3	3	1e	1	SM	Good form and condition	None	20+	B2		40.7	3.6
G71	Willow (Salix spp.), elder (Sambucas nigra)	S	12	500						5	5	5	5	1n	1	M	Reasonable condition, one tree collapsing	None	10+	C1	Remove	N/A	N/A
G72	Ash (Fraxinus excelsior)	S	10	200						3	3	3	3	3e	3	SM	Good form and condition	None	10+	C1	Remove	N/A	N/A
G87	Ash (Fraxinus excelsior)	S	10	150						3	3	3	3	3e	3	SM	Good form and condition	None	10+	C1	Retain	10.2	1.8
G88	Cherry (Prunus avium)	S	6	250						3	3	3	3	1e	1	SM	Good form and condition	None	10+	C1	Retain	28.3	3.0
G90#	Mixed broadleaves and conifers	S	8	200						2	2	2	2	1e	1	SM	Good form and condition	None	10+	C1	Retain	18.1	2.4
G91#	Oak (Quercus robur)	S	12	600						5	5	5	5	3s	4	M	Good form and condition	None	20+	B2	Retain	162.9	7.2

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
G92#	Sycamore (Acer pseudoplatanus)	S	12	400						5	5	5	5	1n	1	SM	Good form and condition	None	20+	B2		72.4	4.8
G94	Oak (Quercus robur), Ash, (Fraxinus excelsior), Larch (Larix decidua)	S	20	750						6	6	6	6	1s	2	M	Good condition woodland, with isolated dead larches. Reasonable structural condition, numerous trees contain defects, general woodland high biodiversity, raptor activity over woodland. removals required identify trees suitable for retention on exposed new woodland edge beware of exposing large declining trees to wind.	None	20+	B3	Retain	254.5	9.0
G181	Mixed broadleaves	S	5	120						2	2	2	2	0-N	0	SM	Linear group with significant Ivy cover throughout.	None.	10+	C3		6.5	1.4
G182	Mixed broadleaves	S	5	90						1	1	1	1	0-N	0	SM	Unmanaged hedgerow.	None.	10+	C3	Remove	N/A	N/A
G183	other pines (Pinus spp)	S	16	*410*						3.5	3.5	3.5	3.5	6.0-S	6	EM	Linear group of Black Pine. Approx 15 specimens. Access to area not granted.	None.	20+	B2	Remove	N/A	N/A
G184	Ash (Fraxinus excelsior)	M(a)	12	210	220					2.5	2.5	2.5	2.5	7.0-E	6.5	SM	Group of 4 trees. Ash Dieback present. Poor form and of little potential.	None.	10+	C3	Remove	N/A	N/A
G185	Field maple (Acer campestre)	S		360						3.5	6	4.5	4.5	2.0-N	0.5	M	Group of 3 Field Maple with 5 Hawthorn below. 1 dead tree to western edge of group. Very exposed position.	None.	10+	C3	Retain	58.6	4.3
G186	Blackthorn (Prunus spinosa)	S	2	75						2	2	2	2	0-N	0	EM	Aged hedgerow.	None.	10+	C3		2.5	0.9
G187	Mixed broadleaves	S	4.5	120						1.5	1.5	1.5	1.5	0-N	0	SM	Sporadic group of Elder, Hazel and Birch.	None.	10+	C3	Remove	N/A	N/A
G188	Mixed broadleaves	S	18	320						4	4	4	4	4.0-N	2	EM	Approx 60 trees over 300mm dbh. Many smaller specimens and natural regeneration. Thinning undertaken within woodland.	None.	20+	B1		46.3	3.8
G189	Hawthorn species (Crataegus spp)	S	5	90						0.5	0.5	0.5	0.5	0.5-N	1.5	SM	Lapsed hedgerow on northern boundary of woodland. Suppressed by woodland.	None.	10+	C3		3.7	1.1
G190	Blackthorn (Prunus spinosa)	S	5	90						0.5	0.5	0.5	0.5	0.5-N	1.5	SM	Lapsed hedgerow on southern boundary of woodland. Suppressed by woodland.	None.	10+	C3		3.7	1.1
G191	Ash (Fraxinus excelsior)	S	5	75						1	1	1	1	0-N	0	Y	A number of young trees. Sporadic.	None.	10+	C3	Retain	2.5	0.9
G192	Ash (Fraxinus excelsior)	S	13	180						7.5	2.5	2.5	2	4.0-N	3	SM	7 specimens with understorey Blackthorn and Hawthorn. Early signs of Ash Dieback.	None	10+	C3	Retain	14.7	2.2
G193	Sycamore (Acer pseudoplatanus)	M(a)	13	170	150	200				1.5	2	4	1	3.0-W	2	SM	Approx 30 specimens growing in a linear formation above Hawthorn hedgerow. 1.5m spacings.	None.	10+	C2	Retain	41.4	3.6
G194	Mixed broadleaves	M(b)	6	75	75	75	75	75	75	4	4	1	4	0-N	0	SM	Mixed domestic planting along boundary wall. Comprising Hazel and Dogwood amongst other species.	None.	10+	C3	Retain	15.3	2.2
G195	Mixed broadleaves	S	12	200						4	2.5	4	2.5	3.0-W	3	SM	Approx 20 tall, slim specimens, growing on bank. Good physiology and structure.	None.	10+	C3	Retain	18.1	2.4
G196	other cherry spp (Prunus spp)	M(a)	5	75	75	75	75			1.5	1.5	1.5	1.5	0-N	0	SM	Maintained Laurel hedgerow.	None.	10+	C3	Retain	10.2	1.8
G197	other cherry spp (Prunus spp)	M(a)	5	75	75	75	75			1.5	1.5	1.5	1.5	0-N	0	SM	Maintained Laurel hedgerow.	None.	10+	C3	Retain	10.2	1.8
G198	Hawthorn species (Crataegus spp)	S	7	150						2	3	3	1	1.0-W	1	EM	Significant Ivy cover throughout restricted more thorough visual tree assessment. 9 specimens, comprising 8 Hawthorn and 1 Hazel.	None.	10+	C3	Retain	10.2	1.8

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm) S1	S2	S3	S4	S5	S6	Branch Spread (m) N	E	S	W	Crown Clearance (m) (1)	(2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area (m^2)	(radius in m)
G199	Mixed broadleaves	S	7	210						2	1	2	1	0-N	0	SM	Mixed group with 1 Pine. Roadside buffer planting.	None.	10+	C3	Retain	20.0	2.5
G200	Mixed broadleaves	S	20	400						3	3	3	3	3.0-S	4	EM	Mixed woodland. Predominantly Beech to north of group. Sporadic Larches. Natural regeneration throughout and smaller specimens to woodland edge.	None.	20+	B1	Retain	72.4	4.8
G201	Mixed broadleaves	S	20	400						3	3	3	3	3.0-S	4	EM	Mixed woodland. Predominantly Beech and Larch. Natural regeneration throughout and smaller specimens to woodland edge.	None.	20+	B1		72.4	4.8
G202	Mixed broadleaves	S	14	260						3	4.5	4	3.5	4.0-E	3	SM	Group of same aged trees, predominantly Ash and Sycamore. Tapers off into linear formation to the west. Approx 400 trees.	None.	10+	C1	Retain	30.6	3.1
G203	Mixed broadleaves	S	14	260						3	4.5	4	3.5	4.0-E	3	SM	Group of same aged trees, predominantly Ash and Sycamore. Approx 300 trees.	None.	10+	C1	Retain	30.6	3.1
G204	Mixed broadleaves	S	20	400						3	3	3	3	3.0-S	4	EM	Mixed group. Predominantly Beech and Larch. No access to trees. Approx 80 specimens.	None.	20+	B1	Retain	72.4	4.8
G205	Hawthorn species (Crataegus spp)	S	5	120						1	1	1	1	0.5-N	0.5	SM	Recently established hedgerow with some emerging trees.	None.	10+	C3	Remove	N/A	N/A
G206	Mixed broadleaves	S	24	600						5.5	8	6.5	7	8.0-N	9	EM	Mixed woodland. Predominantly Beech, with some Ash to the southern tip.	None.	40+	A3		162.9	7.2
G207	Mixed conifers	S	11	170						2.5	3	2	2	1.0-E	0	SM	Predominantly Larch and Cypress with sporadic broadleaf specimen. Some declining trees within woodland group and also regeneration.	None.	10+	C1		13.1	2.0
G208	Mixed broadleaves	S	6	240						2.5	2.5	2.5	2.5	0.5-N	0	SM	Mixed group with large amounts of scrub underneath.	None.	10+	C3		26.1	2.9
G209	Pedunculate/common oak (Quercus robur)	S	16	450						4	4	4	4	6.0-S	7	EM	Approx 15 specimens comprising Oak and Ash growing over smaller tree group. No access to base.	None.	10+	C2		91.6	5.4
G210	Mixed conifers	S	16	170						2.5	3	2	2	1.0-E	0	SM	Predominantly Larch and Cypress with sporadic broadleaf specimen. Some declining trees within woodland group and also regeneration.	None.	10+	C1		13.1	2.0
G211	Ash (Fraxinus excelsior)	S	12	230						3	3	3	3	2.5-E	3	SM	3 trees. No major defects observed.	None.	10+	C1	Retain	23.9	2.8
G212	Leyland cypress (X Cupressocyparis leylandii)	S	3.5	130						0.5	0.5	0.5	0.5	0.5-N	0.5	SM	Maintained hedgerow.	None.	10+	C2	Retain	7.6	1.6
G213	Leyland cypress (X Cupressocyparis leylandii)	S	11	300						3	3.5	3	3.5	0.5-E	2	EM	Linear feature. No access to group.	None.	10+	C2	Retain	40.7	3.6
G214	Beech (Fagus sylvatica)	S	17	400						4.5	4	4.5	3	1.5-S	1	EM	Group of 4 Beech and 1 Larch. Significant Ivy cover throughout restricted more thorough visual tree assessment. Western tree has small limbs in contact with utility cable.	Remove northern limb on lowest tree to ensure utility cable remains unaffected.	20+	B3	Retain	72.4	4.8
G215	Leyland cypress (X Cupressocyparis leylandii)	S	4	80						1	1	1	1	0-N	0	SM	Maintained hedgerow.	None.	10+	C2	Remove	N/A	N/A
G216	Leyland cypress (X Cupressocyparis leylandii)	S	12	270						2	4	1	2	0-W	0	SM	Approx 6 trees. Some dieback on northern edge of group.	None.	10+	C2	Remove	N/A	N/A
G217	Mixed broadleaves	S	12	260						2.5	2.5	2.5	2.5	1.0-N	1.5	SM	Mixed planting on raised area. No major defects observed.	None.	10+	C2		30.6	3.1
H1	hedgerow (mixed)	S	2	75						0.5	0.5	0.5	0.5	0-N	0	SM	Maintained hedgerow.	None.	10+	C3		2.5	0.9

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter (mm)						Branch Spread (m)				Crown Clearance (m)		Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Retain or Remove for Development	Root Protection Area	
				S1	S2	S3	S4	S5	S6	N	E	S	W	(1)	(2)							(m^2)	(radius in m)
H2	hedgerow (mixed)	S	2	75						1	1	1	1	0-N	0	SM	Maintained hedgerow.	None.	10+	C3	Remove	N/A	N/A
H3	hedgerow (mixed)	S	2	75						1	1	1	1	0-N	0	SM	Maintained hedgerow.	None.	10+	C3	Retain	2.5	0.9
H4	hedgerow (mixed)	S	3.5	75						1	1	1	1	0-N	0	SM	Maintained hedgerow.	None.	10+	C3		2.5	0.9
H5	hedgerow (mixed)	M(a)	3	75	75	75				1	1	1	1	0-N	0	SM	Predominantly Elder hedge with sporadic Blackthorn.	None.	10+	C3	Retain	7.6	1.6
H6	Hawthorn species (Crataegus spp)	M(b)	4.5	75						1	1	1	1	0-N	0	SM	managed hedgerow, height 4.5m, width 1.0m, emergent Ash	None.	40+	C2	Retain	2.5	0.9
H7	Hawthorn species (Crataegus spp)	M(b)	1.5	75						1	1	1	1	0-N	0	SM	managed hedgerow, height 1.5m, width 1.0m	None.	20+	C2	Retain	2.5	0.9
H8	Hawthorn species (Crataegus spp)	M(b)	5	75						1	1	1	1	0-N	0	SM	Elder, Blackthorn Beech, height 5.0m, width 3m	None.	40+	C2	Retain	2.5	0.9
H9	Hawthorn species (Crataegus spp)	M(b)	1.5	75						1	1	1	1	0-N	0	SM	Field maple, Crab Apple, managed hedgerow	None.	40+	C2	Retain	2.5	0.9
H10	Field maple (Acer campestre)	M(b)	6.5	75						1	1	1	1	0-N	0	SM	Hawthorn, Elder, Hazel, unmanaged hedgerow, width 4m	None.	40+	C1	Retain	2.5	0.9
H11	Hawthorn species (Crataegus spp)	M(a)	1.8	75						1	1	1	1	0-N	0	SM	Blackthorn, managed hedgerow, height 1.8m, width 1.0m	None.	40+	C2	Remove	N/A	N/A
H12	Hornbeam (Carpinus betulus)	S	16	450						3	4.5	6	5	3.5-S	3.5	EM	Good health and vigour, hawthorn hedgerow at base.	None.	40+	B1	Retain	91.6	5.4
H13	Laurel (Prunus spp.)	M(b)	4.5	75						1	1	1	1	0-N	0	EM	Cherry Laurel hedgerow	None.	20+	C2	Retain	2.5	0.9
H14	Hawthorn species (Crataegus spp)	M(b)	1.5	75						1	1	1	1	0-N	0	EM	Sycamore, managed hedgerow, height 1.5, width 1m	None.	40+	C2	Retain	2.5	0.9

Appendix 5: Cascade Chart for Tree Quality Assessment

See following page

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
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 **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
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)	See Table 2
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	See Table 2
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	See Table 2

Appendix 6: RPA Guidance

The Root Protection Area (RPA) is calculated from the stem diameter of the tree, in accordance with the guidance contained in section 4.6 of BS 5837:2012.

These areas are normally sacrosanct, and should not be entered, by traffic or foot, during construction, or used to store materials, fuel or chemicals.

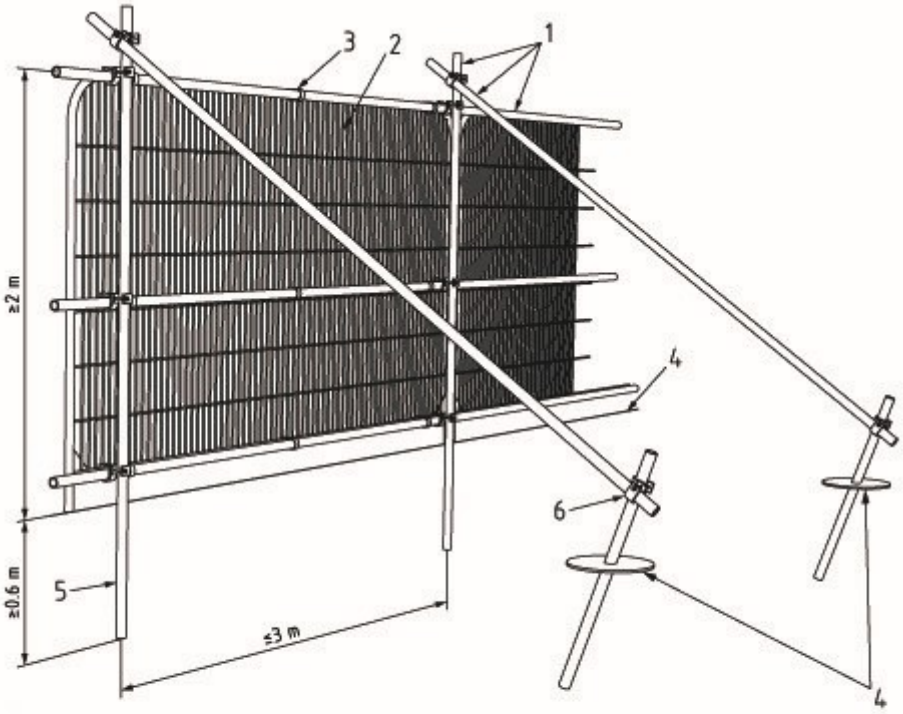
Protective fencing should be erected along the edge of the RPA, before construction begins, and should not be moved until after all construction has finished and vacated the site. The type of fencing used should be fit for purpose, and ordinarily conform to the recommendations given in section 6.2.2 of BS 5837:2012 and be erected similar to the example shown in Figure 2 of the same standard.

Where underground services cannot be routed outside the RPA, these should be installed by trenchless technology, such as a directional drill. Where this technology is used the underground channel created should be no less than 600mm below normal ground level, or the base of the tree. Also, the starting and receiving excavations should not be within the RPA. Drill channel lubricant should be avoided, other than water, unless precautions are taken to prevent contamination of soil and possibly water. Hand digging may be an alternative to trenchless excavation, but this is less desirable, and not always practical.

When determining the workable space around the RPA of a tree or trees, it is also important to maintain a working zone of one metre (which is usually sufficient) between the edge of construction and the protective fencing.

Appendix 7: Tree Protection Fencing Examples

See following page



Key

1 Standard scaffold poles

2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels

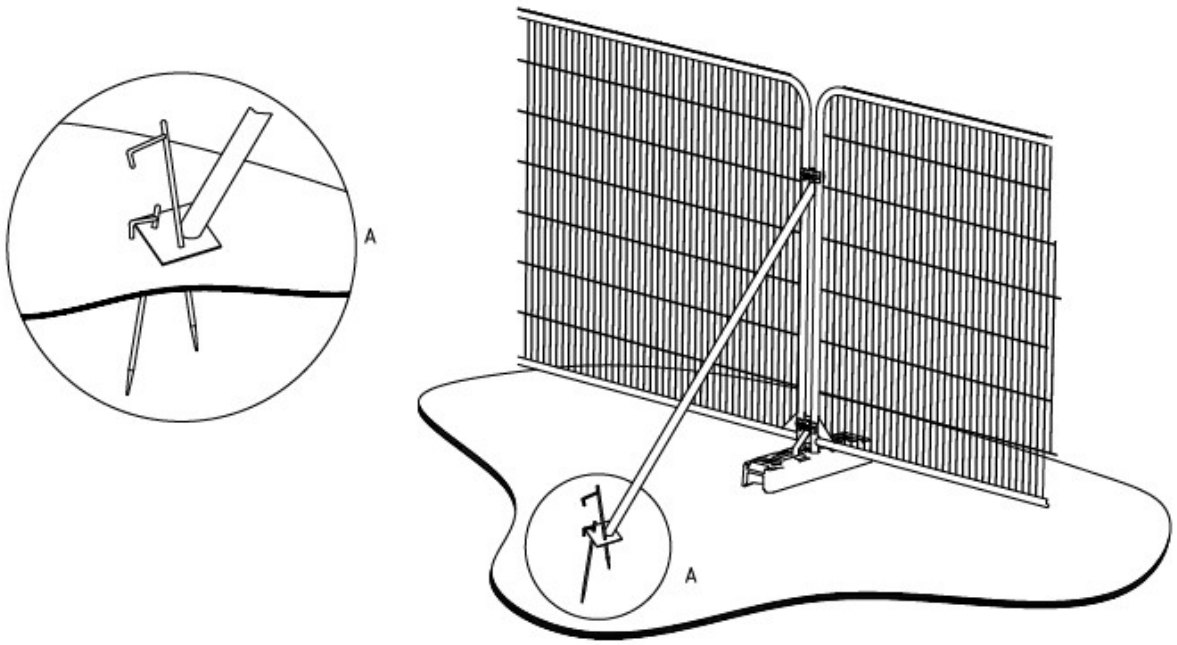
3 Panels secured to uprights and cross-members with wire ties

4 Ground level

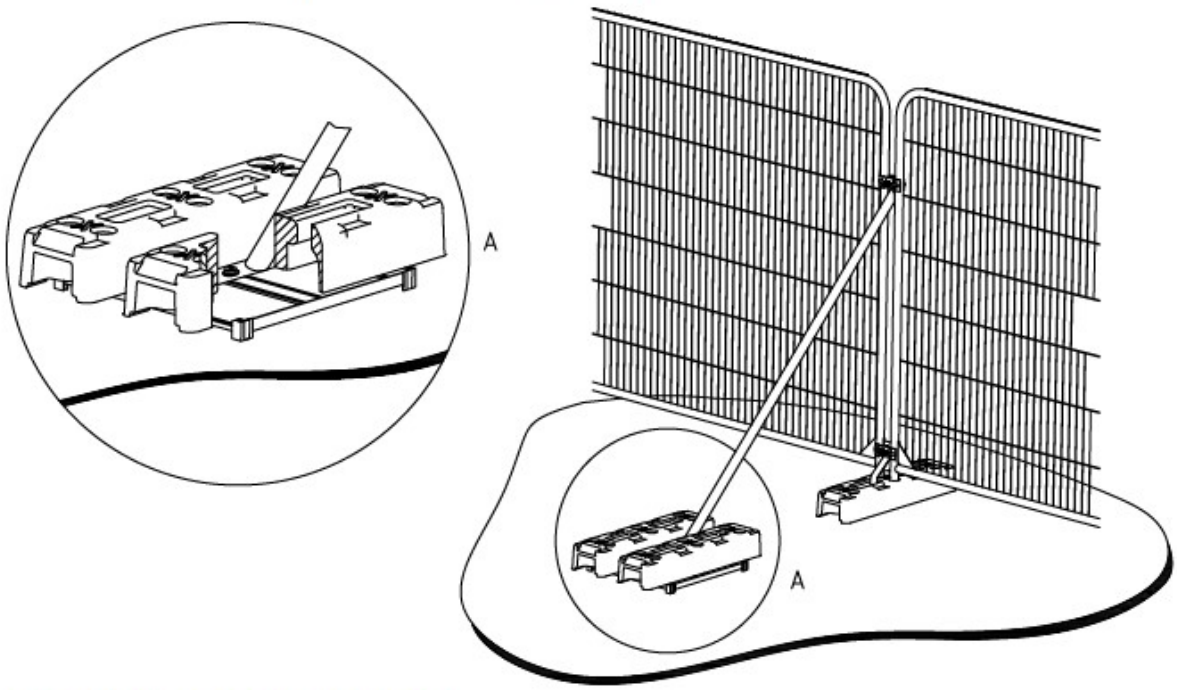
5 Uprights driven into the ground until secure (minimum depth 0.6 m)

6 Standard scaffold clamps

Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix 8: Example 3D Cellular Confinement System

See following page

CI/SfB

Common Arrangement R12

Uniclass
L81208/L81210

CellWeb™

Tree Root Protection System

Geosynthetics

CellWeb™

Tree Root Protection System

The CellWeb™ TRP cellular confinement system protects tree roots from the damaging effects of compaction and desiccation, while creating a stable, load-bearing surface for vehicular traffic.

Potential loss of existing tree due to poor construction techniques.

CellWeb™ offers an alternative to the traditional methods of constructing roadways and building foundations that involve excavation, which can result in tree root severance and soil compaction from the passage of vehicles. Such damage can severely influence tree health, and in extreme cases leads to death. CellWeb™ can be sensitively installed close to and under the canopies of trees without negative effects.

Trees are valuable landscape features and a vital environmental resource. Increasingly, contractors are being required to ensure the health and survival of trees during and beyond the construction period. Although this is enshrined in BS 5837: Trees in Relation to Construction: Recommendations (2005) and Tree Preservation Order legislation, it presents several issues when implementing construction projects near to trees:

- Root severance caused by excavation, leaving trees open to decay, less stable and with a diminished capacity to utilise soil water and nutrients.
- Destruction of soil structure and compaction due to the passage of heavy vehicles, restricting the flow of water and air to tree roots.
- Need for construction access, new roadways and hard surfaces that require engineering-standard load-bearing foundations that meet building regulations.
- Need for high-performance, cost-effective driveways and roadways in the vicinity of tree roots.

The CellWeb™ system overcomes these issues and helps contractors to comply with tree health guidelines by creating a load-bearing base that is water-permeable, stable and durable.

With no need for excavation, the system is quick and easy to install, reducing construction time and saving costs and making it suitable for temporary and permanent solutions.

Glynebourne Wood.

Pedestrian path to recreational woodland built using a CellWeb™ foundation which was covered with DuoBlock and then filled with woodchip to create a porous surface.

Product features

CellWeb™ comprises an expandable cellular mattress that is then filled with a clean stone sub-base and above a Treetex T300 Geotextile.

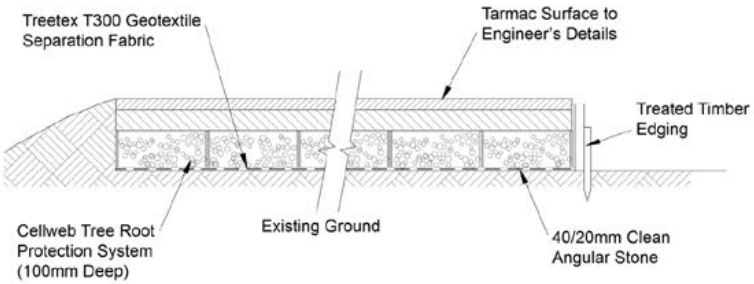
The honeycomb-like structure is made of robust high-density polyethylene (HDPE) that is simply stretched out and filled with clean angular material. Just like traditional roadways, the strength of the structure comes from the binding together of the infill, but with CellWeb™ this is achieved without compaction and without reduction in permeability.

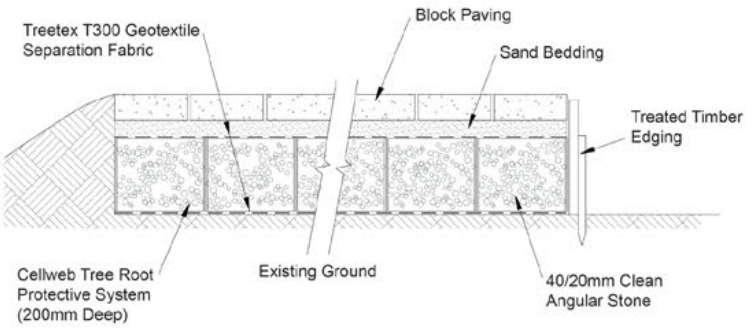
Perforated cell walls allow the angular infill to bind with the contents of the adjacent cell, but with sufficient space for the movement of water and air to nearby tree roots. As the infill contains no fines and the geotextile layers prevent clogging from particles washing into the system, the structure remains permeable to water over time and protects the roots for the lifetime of the tree.

As well as being quick and easy to install, CellWeb™ also dramatically cuts down the depth of sub-base required, in most cases by as much as 50%, further reducing costs. CellWeb™ significantly reduces surface rutting, increasing the long-term performance of the finished surface and ensuring that tree roots remain protected from vertical loads.

CellWeb can be used as a permanent solution or alternatively the system can be used in a temporary situation. In a temporary application the system can be used for the required period of time, then removed for use on another site or recycled, thereby adding to CellWeb's green credentials.

- No excavation – Soil structure remains undisturbed; risk of root damage minimised.
- Porous infill – Allows tree roots to conduct moisture and gas exchange.
- No compaction – No need to compact the infill to achieve a load-bearing structure.
- Lateral stability – Structure remains rigid to vertical loads.





Please call
01455 617 139
or email sales@geosyn.co.uk
for further information.

Wide product range

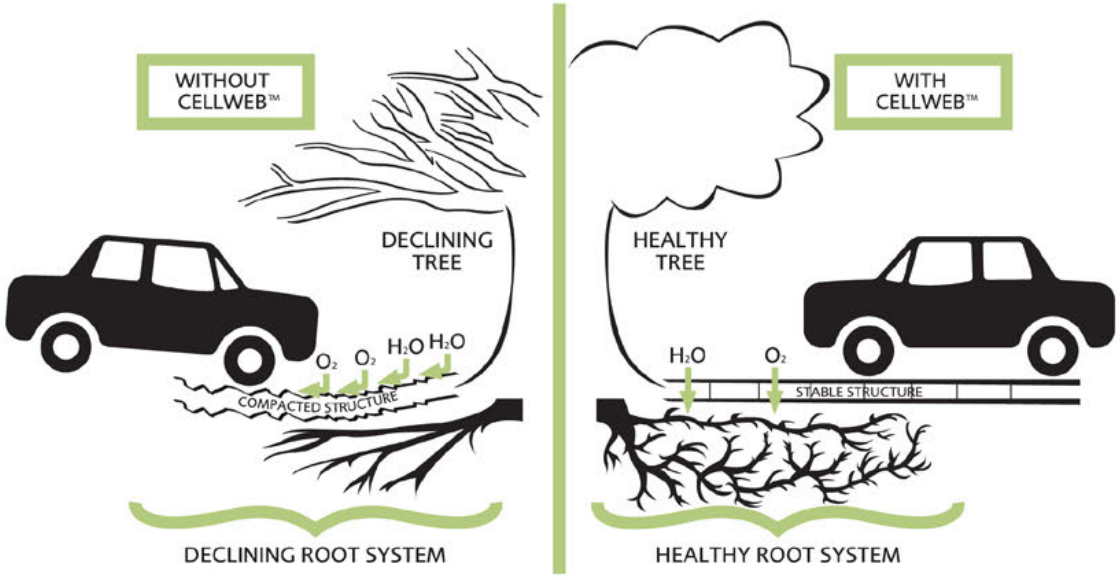
Large stock holding

Next day delivery

Hydrological benefits

Water is a shrinking resource in the urban environment. As the extent of the built environment increases, more and more ground is being covered by impermeable hard surfaces that repel rainwater runoff, preventing it from reaching the roots of vegetation, and in particular trees. Rapid water runoff stretches the capacity of stormwater drains and frequently results in drainage management issues that are rarely resolved in favour of adjacent trees.

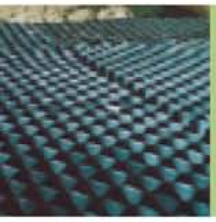
Using CellWeb™ mitigates these issues by promoting both the vertical and the lateral movement of water, whether the system is installed above or below ground. The 'pores' that are created by the spaces between the infill stones and the cell perforations even allow water to flow to adjacent tree roots that are effectively 'trapped' under areas of impermeable hard standing. CellWeb™ therefore helps to promote root growth and allows roots to continue to grow within areas of hard surfacing.



Design service

Onsite support

Geosynthetics



Design & installation

Final surfacing

The benefits of the CellWeb™ system to trees can only be maintained if a suitably porous final surface is selected. An ideal surfacing is the DuoBlocks grass reinforcement and gravel retention system, a visually attractive surface that has the advantage of being fully porous. Alternatives include block paviors, porous asphalts and loose or bonded gravel.

Call the Geosynthetics sales team on 01455 617 139 for more advice on surfacing options and other products and systems.

Advice and product selection

Geosynthetics Limited has been supplying the CellWeb™ system for many years and has acquired solid experience in its application. No two contracts are the same, and we understand the factors that need to be taken into account to specify the right CellWeb™ product.

We provide a FREE consultation, design and advisory service to find the solution that is most cost-effective and beneficial for your site. Our service includes product selection, CAD drawings and full instructions to help you from project conception to completion.

Call our sales office on 01455 617 139 for specification details and project-specific design assistance.

CellWeb™ in action:
Access road for the Lake District National Parks Authority.

Site before construction pictured above.

Installation of the CellWeb™ system.

Four years later.

Technical specification

Product Specifications

Properties	Standard Cell
Material	Virgin HDPE
Wall thickness	1.25mm
Seam welding	Ultrasonic to 100% of seam length
Cell depth	75, 100, 150, 200 and 300mm
Width of expanded panel	2.56m
Length of expanded panel	8.1m
Cell diameter (expanded)	259 x 224mm

Certified Quality

CellWeb™ is manufactured in accordance with the ISO 9001 Quality Management System in a comprehensive range of cell diameters and depths.

Geosynthetics Ltd

Geosynthetics

Geosynthetics Limited

Fleming Road, Harrowbrook Industrial Estate
Hinckley, Leicestershire LE10 3DU.

Tel: 01455 617 139

Fax: 01455 617 140
Email: sales@geosyn.co.uk