



TREE SURVEY

FOR

PROPOSED PROPOED DEVELOPMENT AT

AUTUMN HOUSE CARE HOME, WORSBROUGH

February 2017



Wainwright
Landscape Architecture

Prepared by

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WAINWRIGHT LANDSCAPE ARCHITECTURE

Contents

1	Introduction	page 3
1.1	Instruction	
1.2	Scope of Report	
1.3	Tree Statement and Report Limitations	
2	Site Visit and Methodology	page 4
2.1	Site Visit	
2.2	Brief Description of the Site	
2.3	Trees Subject to Statutory Controls	
2.4	Survey Methodology	
2.5	Tree Classification (Grade)	page 5
2.6	Assessment of Hedgerows and Tree Groups	
3	Site Observations and Notes on Specific Trees	page 6
3.1	Tree and Woodland Overview	
3.2	Trees Surveyed	
3.3	Species Diversity	
3.4	Age Distribution	page 7
3.5	Grading Classification	
3.6	Trees and Woodland to be Removed	page 8
4	Tree Constraints and Protection Measures	page 9
4.1	Root Protection Area	
4.2	Root Protection Area Calculation	
4.3	Protective Fencing	
5	Strategic Overview, Future Management and Recommendations for New Planting	page 10
5.1	Tree Constraints During Design and Development	
5.2	Design Considerations for New Planting	
6	Tree Removal and Surgery of Trees to be Retained	page 11
6.1	Tree Works	
6.2	Bats Protected Species	
6.3	Birds Protected Species	
7	Summary	page 12
7.1	The Site	
7.2	Woodland Groups and Hedgerows	
7.3	Specific Tree Observations	
7.4	Recommendations	

Appendix A Drawings

J208/01 Autumn House Care Home – Tree Survey & Tree Protection Plan (1/3)

J208/02 Autumn House Care Home – Tree Survey & Tree Protection Plan (2/3)

J208/03 Autumn House Care Home – Tree Survey & Tree Protection Plan (3/3)

1639 A(90)-01 Proposed Site Plan (CAdvis3d)

Appendix B Tree Survey Schedule

Appendix C Tree Photographs

1 Introduction

1.1 Instruction

In February 2017 Wainwright Landscape Architecture were requested by Autumn House Care Home to undertake a tree survey on the site of the proposed care home development and extension, in accordance with BS 5837:2012 'Trees in Relation to design, demolition and construction – Recommendations' (See 'Proposed Site Plan' in Appendix A).

1.2 Scope of Report

The purpose of the tree survey is to provide detailed and accurate information which will enable the planning and successful layout of the scheme and to minimise impact on trees to be retained. The survey will also assist in development of a future maintenance strategy, and the layout of new plantings. Soil Type was not assessed.

Details of the condition of existing trees and maintenance recommendations are given on a tree by tree basis or as tree groups where appropriate. Guidance is provided for the protection of existing trees during demolition and construction processes.

The term 'group' is used to define trees that form a cohesive arboriculture feature either aerodynamically, visually or culturally, including for biodiversity. Assessment of individuals within a group has still been undertaken if there is need to differentiate between them.

1.3 Tree Statement and Report Limitations

Several trees are set at height around a quarry or over adjoining property boundaries outside the site. Where direct access to a tree is limited, survey notes and measurements are estimated based on distance observations.

Several trees had dense Ivy growth or Holly around the lower stem. Condition notes and observations are based on the area of stem that was visible and not obscured by vegetation.

Trees are living organisms and their health and physical condition can change rapidly due to site and climatic conditions. The tree survey is based on evidence available at the time of the survey. This report is valid for one year from the date of site inspection.

Any changes to physical site conditions after the date of this survey will have the potential to change the findings and recommendations.

It is beyond the scope of this report to comment on structural damage that may be associated with tree growth or related soil subsidence.

The survey and assessment of the tree groups is intended to provide an overall average grading and recommendation for that group. If the group is partly removed the remaining trees will need to be reviewed on a tree by tree basis based on condition, context and association with the remaining trees.

2 Site Visit and Methodology

2.1 Site Visit

A site visit for the survey were undertaken by Wainwright Landscape Architecture on 22nd February 2017.

2.2 Brief Description of the Site

The survey site is set around Autumn House Care Home. The site is accessed from Station Road to the south side via tarmac driveway, passing through woodland and terminating at a small car park area to the north side.

The existing care home buildings occupy a central elevated location with steep sided embankments. The wider site is set within a former stone quarry with vertical rock faces to the east side with ground level rising approximately 6m from the main access drive.

Trees are interspersed throughout the site and grow on the sloping embankments and around the quarry face to form a small woodland.

The woodland extends beyond the site boundary to the north side where trees are located within residential property back gardens (off Thicket Lane).

2.3 Trees Subject to Statutory Controls

Barnsley MBC's online mapping was consulted which indicates that the main area of trees within the site is not protected by a Tree Preservation Order and the site is not within a Conservation Area. However, the northern edge of the site and the extended area to the north side of the site is protected by a Tree Preservation Order¹ (Ref. no.5, Tree Ref. no. G1 Group of Trees, Description -36 Sycamore). Several trees may be on or just within the official TPO boundary (see 'Tree Survey' plans in Appendix A).

2.4 Survey Methodology

The format of the survey follows the guidelines of British Standard BS 5837:2012 'Trees in Relation to design, demolition and construction – Recommendations'

The site survey has been carried out from ground level, also using principles set out in 'Updated Field Guide for Visual Tree Assessment', *Claus Mattheck, 2007*. Where appropriate further reference made to 'Principles of Tree Hazard Assessment and Management', *David Lonsdale, DETR, 1999*.

The tree survey is based on a site topographical survey² with tree groups and canopy extent adjusted with the assistance of additional site survey (see 'Tree Survey' plans in Appendix A).

¹ TPO information obtained from BMBC online mapping portal, scaled and transposed onto the tree survey plans. Boundaries should be regarded as approximate. <https://www.barnsley.gov.uk/services/parks-and-open-spaces/tree-preservation-orders/>

² Topographical survey by Met Geo Environmental, survey ref. 12900-102_2DT, 12900-102.

The species and condition of all trees or groups with stems over 75mm diameter @ 1.5 above ground level were surveyed. The survey includes all trees within the site and all trees adjacent to the site boundary which may potentially be affected by the works. All trees and tree groups within the survey have been individually numbered for identification purposes in the format T1, T2, T3 (individual trees and tree groups), and corresponding numbers have been used both on the Tree Survey Plans and within the Tree Survey Schedule.

Other details have been included in the survey such as: height, stem diameter, branch spread, crown clearance, life stage, and estimated remaining contribution.

Tree heights have been estimated. Crown spreads have been measured with a tape or ranging staff to the nearest 0.5m. Where access is restricted, estimated measurements are marked with a '#' symbol.

Life Stage has been defined as: Young (self-seeded / stake dependent), Semi-mature (not sexually mature / stem up to 30cm girth capable of being transplanted), Early Mature (up to 75% of expected mature size), Mature (fully developed size), Over Mature (tree beyond mature in natural decline).

Attention in the survey has been given to the size and form of each tree or group; physiological condition (Good, Moderate, Poor, Dead); any structural defects where apparent; the location of each tree in relation to existing features.

Preliminary management recommendations have also been given including recommendations for further investigation of suspected defects that require more detailed assessment and potential for wildlife habitat (if relevant).

2.5 Tree Classification (Grade)

On the basis of this assessment and following guidelines in BS 5837 : 2012, trees have been classified into one of the following categories, differentiated by colour on the attached Tree Survey Plans (see Appendix A):

- Category A - Trees of High Quality (light green);
Trees able to make a substantial contribution.
- Category B - Trees of Moderate Quality (mid blue);
Trees able to make a significant contribution.
- Category C - Trees of Low Quality (grey);
Trees in adequate condition.
- Category U - Trees Unsuitable for Retention (dark red);
Trees that are dead, serious structural defects or disease.

The Categories are further qualified under one or more of the following three sub-categories (1, 2, 3). Subcategories 1, 2 and 3 are intended to reflect:

- (1) Mainly Arboricultural Qualities
- (2) Mainly Landscape Qualities
- (3) Mainly Cultural Values,

2.6 Assessment of Hedgerows and Shrub Masses

Shrub masses were surveyed separately and in accordance with BS 5837:2012 4.4.2.7. Height, species and general descriptive information has been indicated on the survey plans where relevant.

3 Site Observations and Notes on Specific Trees

3.1 Tree and Woodland Overview

Trees within the general area of the site form a woodland group. Except for one Ash tree (T1), almost all the larger mature trees surveyed are Sycamore. There are several other species within the younger age classes forming general woodland edge and understorey and these mainly comprise self-set Ash, Sycamore and Cherry.

Most of the larger trees are growing on steep embankment slopes and the steeper terraced rock face of the former quarry and along the top edge of the quarry, often rooted into rock crevices and adapted to the available space and location.

Several trees to the north west side of the site occupy a flatter and more open aspect near to the care home car park and building entrance. A dense clipped Holly hedgerow lines the access road to the northern side of the site.

Many of the larger trees have dense Ivy growing on the main tree stem. In many cases this has been cut and managed in the past but is now re-growing.

Some of the trees have minor damage, defects and faults, have misshapen crowns and are tall and drawn through light competition, but this is not untypical of natural self-set woodland growing with constraints or in difficult ground conditions (ie quarry).

The better trees in the survey are graded as 'Moderate' quality in order to provide some differentiation between them, but generally the woodland has Low to Moderate collective landscape value as a woodland group.

Several of the larger trees have defects that are likely to fail at some point in the near future (whole or in part) but these are often away from the building and in less frequently accessed areas and unlikely to be a problem. Most notably this includes Tree T8 located to the east side of the existing building (proposed for removal).

Several other trees have some dead wood in the crown or damaged branches which could fall. This should be assessed and managed where there is a high risk of it falling onto cars or public access areas.

3.2 Trees Surveyed

A total of 40 individual trees and tree groups were surveyed. Trees are located as shown on the Tree Survey plans (see Appendix A). Survey data is summarised in the Tree Survey Schedule (see Appendix B).

3.3 Species Diversity

There are 2 species (Ash, Sycamore) represented within the larger individual trees surveyed. Several other tree species are within the younger groups (T4 & T40). Table 1 shows the number of individuals recorded.

At the time of the survey the cherry trees were without leaves and difficult to identify precise species but likely to be either Bird Cherry or Wild Cherry.

3.4 Age Distribution

The larger older trees within the woodland dominate the site and originate from a time after the quarry ceased working and are probably 100-150 years old.

The younger self-set Ash, Sycamore and Cherry growing at the woodland edge or as understorey are approximately 5-20yrs old.

Table 1: Species Diversity Individual Trees

Common Name	Botanical Name	Quantity	Approx. %
Sycamore	Acer pseudoplatanus	35	92
Ash (Common)	Fraxinus excelsior	1	2.5
Cherry spp. probably Bird Cherry or Wild Cherry	Prunus padus or Prunus avium	2	5.5
Young – Early Mature Groups T4 + T40 Approx. 17 trees mixed - Cherry, Ash, Sycamore, Elder, Privet, Holly, Birch.			
	Total	38	100

3.5 Grading Classification

Distribution of category grading is depicted in The Tree Survey Schedule and shows that no trees or groups within the survey population achieve a grade 'A', approximately 61% are grade B2, 39% are C2.

Generally, the trees contribute to the wider collective landscape value as a woodland group despite their sometimes slightly impaired condition. Some of the trees will require management to reduce public risk and to further develop and reach their potential.

3.6 Trees and Woodland to be removed

The following table lists all trees and woodland proposed to be removed as part of the scheme. This shows the worst-case scenario.

Table 4: Trees and Woodland to be removed or thinned

Ref.	Description	Grade	Quantity
T7, T8, T9, T10, T11, T12, T13, T15.	Individual trees	B2 - 50% C2 – 50%	8 no.
Holly Hedge	Part removed to extend parking and access	-	Approx. 20 ln. m

4no. individual grade B2 trees and 4no. C2 trees are proposed to be removed.

4 Tree Constraints and Protection Measures

4.1 Root Protection Area

The protection of existing trees is vital if trees are to be successfully retained within or adjacent to new development. All trees to be retained should be protected by barriers and / or ground protection. Barriers should be fit for excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. Special attention should be paid to ensuring that barriers remain rigid and complete.

To avoid damage to tree roots or rooting environment, a minimum area or Root Protection Area (RPA) in m² should be left undisturbed around each tree to be retained.

4.2 Root Protection Area Calculation

The RPA for individual trees has been plotted on the Tree Survey Plans as a circle centred on the base of that stem.

4.3 Protective Fencing

The recommended location of protective fencing is shown on the Tree Survey Plans in Appendix A (also the 'Tree Protection Plans').

Protective fencing and barriers should be constructed in accordance with Section 6.2 and Figure 2 + 3 of BS 5837:2012 and fit for excluding construction activity.

The RPA for several trees extends under the existing tarmac road and car park areas. The location of tree protection fencing takes this into account if the existing hard surfaces are retained throughout construction works. If the existing surfaces are to be excavated or removed, additional ground protection measures will be required as set out in BS 5837.

5.1 Tree Constraints During Design and Development

It is essential when selecting trees to be retained to make practical provision for protection during the development work. Root Protection Areas and the location for barrier fencing have been indicated on the Tree Survey plans.

Careful consideration should also be taken of the location of services. If possible service layout should be designed to follow common trenches, and leaving suitable space for tree planting and avoiding Root Protection Areas. This will also avoid subsequent disruption of trees during routine maintenance of services.

Future post development maintenance of new and existing trees is vital if new trees are to become successfully established, and the older trees are to be safely retained. Maintenance of new planting is also important during the establishment period.

5.2 Design Considerations for New Planting

All new tree planting should take into consideration the future use, layout and design of a development site, constraints of the soil and climate, the local landscape character and contextual surroundings.

There should be no net loss of trees on the site and character of groups should be retained as far as possible. Native plant species should be used unless the context and landscape character strategy suggest otherwise, sourced locally where possible or in accordance with best practice guidance. Planting proposals should reflect and where possible enhance the existing vegetation pattern.

6 Tree Removal and Surgery of Trees to be Retained

6.1 Tree Works

The tree by tree survey indicates all trees which should be removed, and all work needed to individual trees or groups. Consideration should be given during the tree works operations to balance and form, in association with the adjacent trees to be retained within a group. A system should be adopted where all trees to be felled and all stumps grubbed up should be removed first, so that subsequent crown shaping work may be considered within the context of the remaining space.

Tree removal and surgery work should be made following the recommendations of BS 3998, and a qualified tree works contractor / arboriculturalist should be used to carry out any of the works.

In a woodland setting, it may be preferable to leave felled wood on site as habitat potential.

6.2 Bats - Protected Species

All British bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of the Conservation (Natural Habitats etc) Regulations 1994 as European Protected Species.

It is an offence to intentionally or recklessly kill, injure or capture bats; deliberately or recklessly disturb bats (whether in roosts or not); damage, destroy or obstruct access to bat roosts.

6.3 Birds - Protected Species

The main bird nesting season is between March and August inclusive. Contractors have a legal responsibility to comply with current legislation relating to breeding birds.

Under the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way Act 2000, all birds, their nests and eggs are protected and it is an offence to take, damage or destroy the nest of any wild bird; take or destroy the egg of any wild bird; disturb any wild bird on Schedule 1 while it is nest building, at nest containing young, or disturb the dependent young of such a bird.

7 Summary

7.1 The Site

The survey site is around Autumn House Care Home, set within a former stone quarry, located off Station Road in Worsbrough Dale. Trees are interspersed throughout the site and grow on the sloping embankments and around the quarry face to form a small woodland.

The woodland extends northwards beyond the site boundary where it is protected by a Tree Preservation Order.

7.2 Woodland Groups and Hedgerows

The woodland is dominated by mature Sycamore but with some other younger trees growing at the woodland edge or as understorey. Many of the larger trees have dense ivy growing on them. This has been cut and managed in the past but is re-growing. A dense clipped Holly hedgerow lines the access road to the northern side of the site.

7.3 Specific Tree Observations

Some of the trees have minor damage, defects and faults, but this is not untypical of natural self-set woodland growing with constraints.

Several of the larger trees have defects that are likely to fail at some point in the near future (whole or in part) but these are often away from the building and in less frequently accessed areas and unlikely to be a problem. Most notably this includes Tree T8 located to the east side of the existing building (proposed for removal).

7.4 Recommendations

Several trees have some dead wood in the crown or damaged branches which could fall. This should be assessed and managed where there is a high risk of it falling onto cars or public access areas.

Ivy should be cut where this is becoming large and there is risk of it constraining growth. This can be cut at the base but left in-situ as habitat.

Approximately 8no. mature sycamore trees and approx. 20 lin.m of Holly hedgerow would be removed to facilitate the development. Cut timber could be retained on site within the woodland areas as habitat for invertebrates.

Several good mature trees are located close to the access road and parking areas. Tree Protection Fencing is recommended to protect these existing trees during the construction phase.

If the existing hard tarmac areas are to be excavated or removed, additional ground protection measures should be put in place to protect the Root Protection Areas.

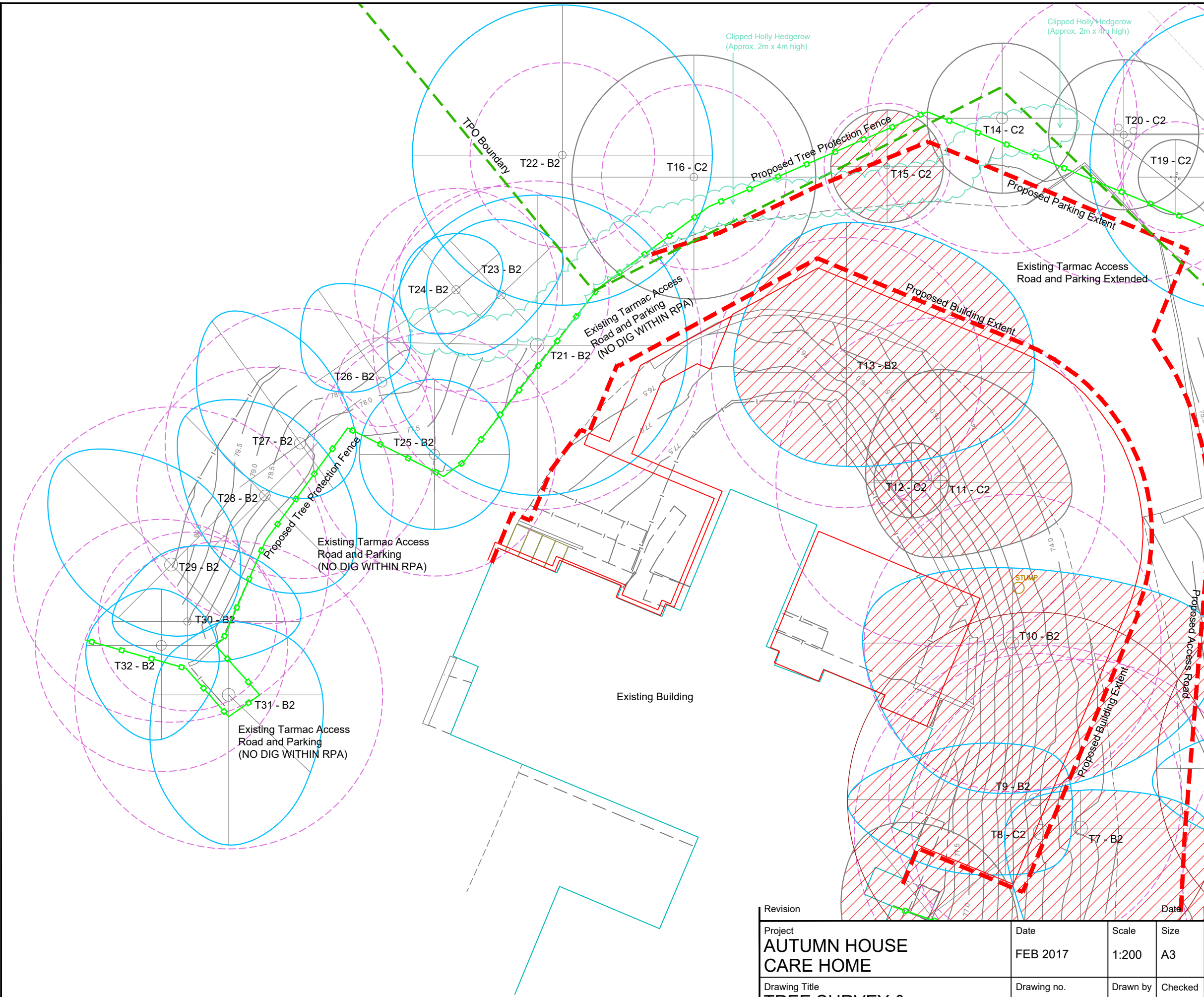
There should be no net loss of trees on the site and replacement planting should use locally occurring native species to preserve local character and habitat.

A system for periodic review should be put in place to assess and manage risks where trees are located close to or overhang public access areas around the site.

Appendix A Drawings

- J208/01 Autumn House Care Home – Tree Survey & Tree Protection Plan (1/3)
- J208/02 Autumn House Care Home – Tree Survey & Tree Protection Plan (2/3)
- J208/03 Autumn House Care Home – Tree Survey & Tree Protection Plan (3/3)

- 1639 A(90)-01 Proposed Site Plan (CAdvis3d)



KEY

T22 A

A - High quality

T22 B

B - Moderate quality

T22 C

C - Low quality

T22 U

U - Trees Unsuitable for Retention

Other shrub groups and hedgerows

Trees to be removed due to proposed works

Tree protection fencing

Root Protection Areas (RPA)

Construction Limits

Tree Preservation Order (TPO Ref. G1)

REFERENCE
BS 5837:2012 Category.

N

Tree numbers refer to schedule in Tree Survey Report .

The RPA should be created using a robust barrier fence that fully meets the requirements of BS 5837:2012.

Barrier fence to be 2m high 'Heras' type weldmesh fencing panels, well braced to resist impacts, or a framework of vertical and horizontal tubular scaffold poles braced sufficiently to receive weld mesh which should itself be securely fixed with wire or scaffold clamps.

The fencing should be sufficiently strong to withstand impacts likely to be caused during building operations.

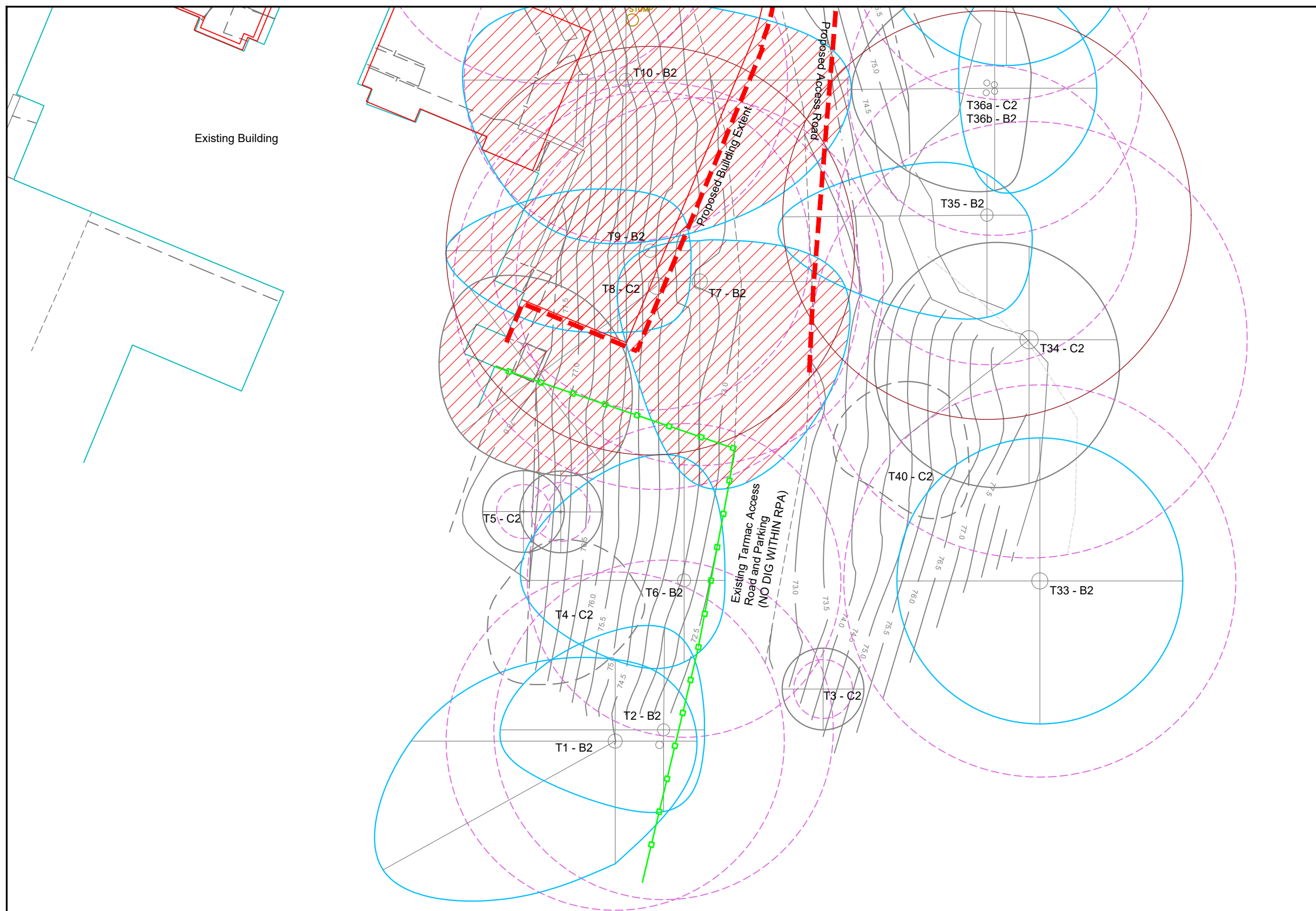
All-weather signs should also be affixed to the fencing at regular intervals stating; "CONSTRUCTION EXCLUSION ZONE KEEP OUT."

Revision				Date	Scale	Size
Project	AUTUMN HOUSE CARE HOME				FEB 2017	A3
Drawing Title	TREE SURVEY & TREE PROTECTION PLAN				Drawing no.	Checked
					J208/01	JRW
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KEY

T22 A

A - High quality

T22 B

B - Moderate quality

T22 C

C - Low quality

T22 U

U - Trees Unsuitable for Retention

Other shrub groups and hedgerows

Trees to be removed due to proposed works

Tree protection fencing

Root Protection Areas (RPA)

Construction Limits

Tree Preservation Order (TPO Ref. G1)

REFERENCE
BS 5837:2012 Category.



Tree numbers refer to schedule in Tree Survey Report .

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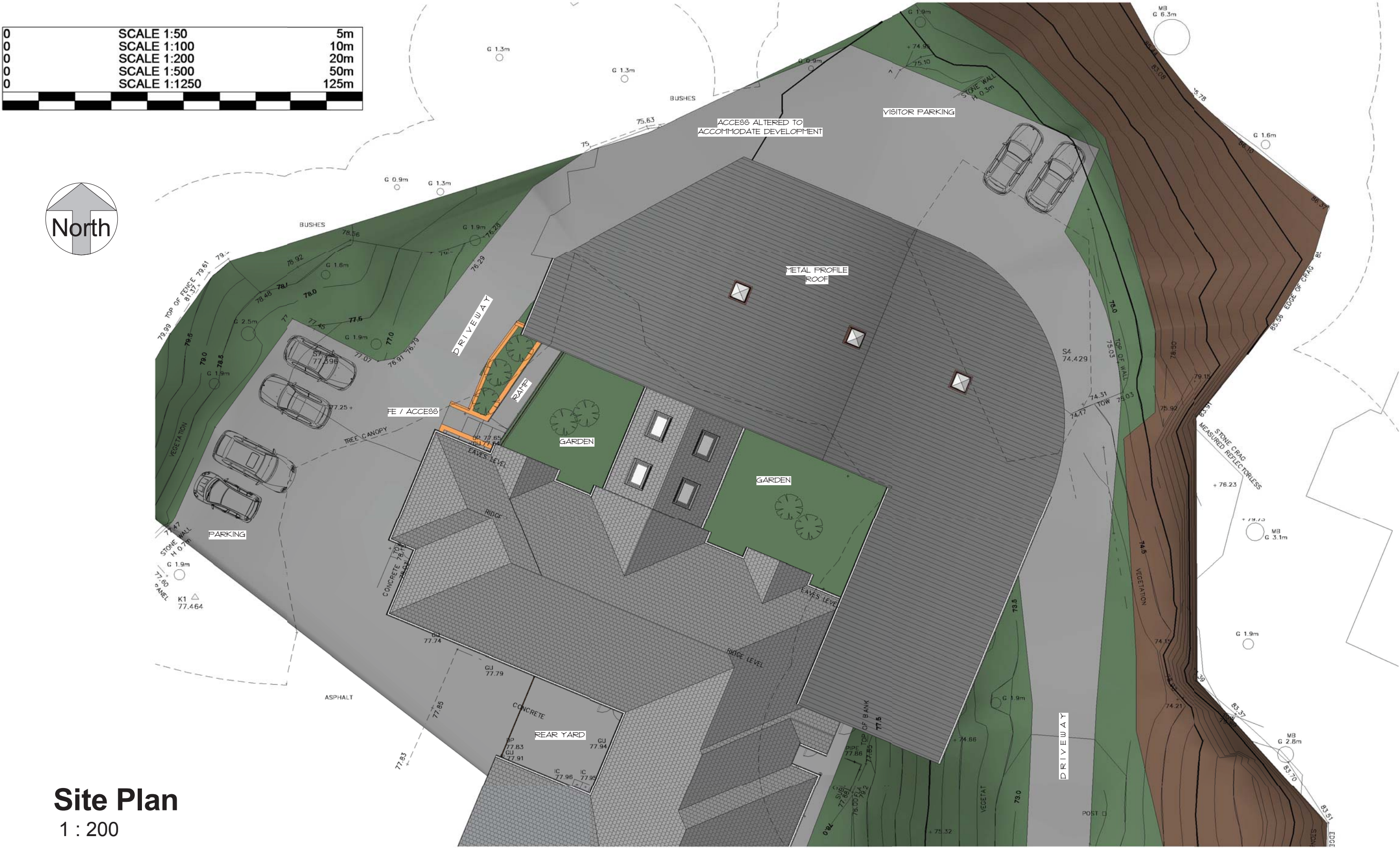
All-weather signs should also be affixed to the fencing at regular intervals stating; "CONSTRUCTION EXCLUSION ZONE KEEP OUT."

Revision		Date	
Project	DATE	Scale	Size
AUTUMN HOUSE CARE HOME	FEB 2017	1:200	A3
Drawing Title	Drawing no.	Drawn by	Checked
TREE SURVEY & TREE PROTECTION PLAN	J208/03	JW	JRW

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Site Plan
1 : 200



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project

Residential Care Home Extension,
Autumn House Care Home, 2 Station
Rd, Worsbrough, Barnsley S70 4SY

client

Autumn House Care Home

title

Proposed Site Plan

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Appendix B Tree Survey Schedule

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T1	Ash (Common) (<i>Fraxinus excelsior</i>)	14-16	687	N 4 E 4 S 6 W 10 SW 13	7m	Mature	Good	Growing part of woodland group. Tall form typical of shady situation. Generally good. Some minor dead wood in crown. One large heavy lateral to SW close to edge of building. Ivy to lower stem.	Remove dead wood over hanging public areas. Reduce / remove large SW lateral if overhanging public access areas, otherwise retain. Cut Ivy.	40+	B2
T2	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	366 + 588	N 5 E 2 S 4 W 8	5-6m	Mature	Good	Growing part of woodland group. Tall form typical of shady situation. 2 stems divide near base, smaller stem with hollow cavity but not currently a problem. Generally good. Some minor dead wood in crown.	None (Periodic review to monitor smaller stem)	40+	B2
T3	Cherry (<i>Prunus spp.</i>)	8	120	N 2 E 2 S 2 W 2	2m	Semi Mature	Good	On side of embankment near track. Lower stem leans to N. side.	None	40+	C2
T4	Group of approx. 10 self-set Ash, Sycamore, Holly, Privet	3-6	110 Max.	1-4 dia. varies - - -	<1m	Yng –Early Mat.	Fair	Young self-set trees growing as mixed group on embankment. General woodland understorey.	None	40+	C2
T5	2 x Cherry (<i>Prunus spp.</i>)	4-6	105 + 117	4m dia. each - - -	1.5m	Mature	Good	Two cherry trees growing close together at top of embankment. Upper most tree pruned back from garden area. General understorey / garden edge	None	40+	C2
T6	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	636	N 6 E 2 S 4 W 8	6m to lower laterals.	Mature	Good	Crown mainly to west side. Ivy to lower stem cut in past but re-growing.	Cut Ivy.	40+	B2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T7	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	748	N 2 E 7 S 10 W 4 SW 12	10m	Mature	Good	Growing part of woodland group. Tall form typical of shady situation. Main stem divides at 2m, forms a shallow bowl / hollow. No obvious problems. Distorted shape crown. Small north side stem storm damage in crown due to movement.	To Be Removed Due to Construction.	40+	B2
T8	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	827	11m dia. - Leans to - SW - -	6m	Mature	Poor	Growing part of woodland group. Tall, distorted crown, heavily leaning to SW. Main stem divides near base, 2 stems rubbing together. Poor weak union between stems, stress cracks and rot visible. Heavy loading over edge of building.	To Be Removed Due to Construction.	<10	C2
T9	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	652	N 3 E 2 S 4 W 10	6m	Mature	Good	Generally good. Part of close group located on embankment. Lower stem cavity where a side lateral has been removed in past but not a problem. Generally good in crown but constrained due to proximity with other trees. Slightly bent stem.	To Be Removed Due to Construction.	40+	B2
T10	Sycamore (<i>Acer pseudoplatanus</i>)	18	658	N 4 E 11 S 8 W 8	11m	Mature	Good	Some ivy growth. Leans slightly to south side. Generally good. Drawn shape and high crown due to group competition. Some minor dead wood.	To Be Removed Due to Construction.	40+	B2
T11	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	732	N 6 E 7 S 4 W 4	10m	Mature	Poor	Located on embankment. Stem root base exposed on east side. Main stem bent. Several spiral stress cracks in lower main stem, possible wind twisting. Some storm damage in crown. Main stem divides 8-10mH and NE lateral has visible cavity mid-way up. Ivy growth.	To Be Removed Due to Construction.	40+	C2
T12	Sycamore (<i>Acer pseudoplatanus</i>)	10-12	89	4m dia. - - -	4m	Early Mature	Poor	Located at top of embankment. Some ivy growth. Part of a bigger tree which has been felled with main stump adjacent. Drawn poor shape. Heavily pruned on west side towards building.	To Be Removed Due to Construction.	20+	C2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T13	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	600	N 8 E 10 S 5 W 6	4m	Mature	Good	Located top of embankment. Dense ivy covering lower stem. Crown mainly to NE side. Main stem divides approx.. 8m and NE lateral long and thin. No immediate problems.	To Be Removed Due to Construction.	40+	B2
T14	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	# 600	#8m dia. - - -	4m	Mature	Fair	Located outside site boundary. Leans SW slightly into the site. Tall, minimal side laterals. Dense holly around base. One side lateral @ 8-10m missing and visible cavity.	Assess risk – monitor if overhanging public areas or building.	40+	C2
T15	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	#280	#6m dia. - - -	2-4m	Mature	Poor	Very poor drawn and tall. Small crown, some lower minor branches over boundary into site. Dense holly around base. Some dead wood in crown.	To Be Removed Due to Construction.	20+	C2
T16	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	#410	#13m dia. - - -	2-4m	Mature	Good	Outside but near site boundary. Close inspection not undertaken but generally looks good. No obvious problems. Crown overhangs just to edge of site. Dense holly around base.	None	40+	C2
T17	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	493	# 8-10m dia. - - -	3m	Mature	Good	Located on quarry face, mid terrace. Leaning mainly SE out of top of quarry. Lower side branch with water-filled cavity, some rot but not affecting main stem at moment. Overall good.	None	40+	B2
T18	Sycamore (<i>Acer pseudoplatanus</i>)	6-8	#100	# 3m dia. - - -	4m	Young	Fair	Small self-set sapling located on quarry face, mid terrace. Poor position at edge. General understorey value only.	None	10+	C2
T19	Sycamore (<i>Acer pseudoplatanus</i>)	6	Multi x 5 stems #110 typical	# 4m dia. - - -	<1m	Young	Poor	Small self-set sapling located on quarry face, mid terrace. Poor position at edge. Main stem broken at 2m. General understorey value only. Distance view.	None.	<10	C2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T20	Sycamore (<i>Acer pseudoplatanus</i>)	10-12	Multi x 4 stems #380 max	# 8m dia. - - - -	<1m	Early Mature	Fair	Small self-set sapling located on quarry face, mid terrace. Poor position at edge. Growing mainly to SW away from site. Dense ivy at base. General understorey value only. Distance view.	None.	40	C2
T21	Sycamore (<i>Acer pseudoplatanus</i>)	18-20	732	N 8 E 8 S 8 W 8	6-8m	Mature	Good	Located at edge of access track. Heavy ivy growth, has been cut in past. Main stem divides at 4m. Upper stem twisted but balanced crown, some minor deadwood.	Remove dead wood overhanging public access areas.	40+	B2
T22	Sycamore (<i>Acer pseudoplatanus</i>)	18-20	413	# 16m dia. - - - -	8-10m	Mature	Good	Located outside boundary in adjacent garden. Dense holly, lower stem not visible. Balanced crown no obvious problems. Doesn't overhang the site.	None.	40+	B2
T23	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	477	# 8m dia. - - - SE 2	3m	Mature	Good	Located near boundary. Ivy growth to stem. Some storm damage and dead wood in crown but not currently a problem. Generally good.	None.	40+	B2
T24	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	445	# 6m dia. - - - SE 2	6m	Mature	Good	Small cavity 0.5m H w2ith some minor decay. Tall drawn tree with small high canopy Leans slightly away and out of site to the east. Otherwise good as part of boundary group.	None.	40+	B2
T25	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	541	N 4 E 4 S 4 W 4	4m	Mature	Good	Located close to edge of track / parking area. Some lower side branched removed to 3m over track and parking. Generally good, some minor storm damage in crown, not a problem. Vulnerable to car damage.	None.	40+	B2
T26	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	525	# 6m dia. - - - -	6-8m	Mature	Good	Located near boundary. Main stem divides at 6m. Main crown and partly over adjoining boundary. Some minor dead wood in crown but not a problem. Lower ivy to main stem.	None	40+	B2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T27	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	605	# 12-16m dia. NW 8 SW 6	4m	Mature	Good	Located near boundary. Ivy to lower stem. Growing partly over adjoining boundary. Some lower branches pruned at neighbour's side. Main stem divides at 5m. No obvious problems.	None	40+	B2
T28	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	572	# 8-12m dia. - - -	4m	Mature	Good	Located at edge of parking area. Ivy to lower main stem, difficult to inspect. Lower branches over parking area damaged. Tall drawn tree, no significant problems.	None	40+	B2
T29	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	700	# 8m dia. NW 8	8m	Mature	Good	On top of bank near boundary. Heavy ivy growth, cut in the past. High crown slightly over adjoining boundary but reasonably balanced. Lower branch near base removed in past. Strange twisted branch @4m pruned off in past. Some twisted branches in crown but no obvious problems.	None	40+	B2
T30	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	397	N 4 E 6 S 2 W 4	3m	Mature	Good	Located on low bank near parking area. Slightly distorted over parking area due to competition. Twisted main upper stem, but ok. Ivy growth has been cut in past.	None.	40+	B2
T31	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	684	N 4 E 5 S 8 W 4	4m	Mature	Good	Located at edge of parking area. Leaning slightly due to competition. Crown mainly into the site. Vulnerable lower stem due to parking area and cars.	None	40+	B2
T32	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	525	N 3 E 3 S 5 W 4	1.5m above bank / 3m above parking area	young	Moderate	Located on low bank close to parking area. Ivy to lower stem. Some minor lower laterals, but otherwise high crown. Part of the group, generally good.	None	40+	B2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T33	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	795	# 12-14m dia. - - -	<1m	Mature	Good	Located at top edge of quarry face. Seems well anchored. Some minor dead wood and damage to lower laterals but not a problem. Some minor damage to exposed roots.	None	40+	B2
T34	Sycamore (<i>Acer pseudoplatanus</i>)	12-14	#891	# 12m dia. - - -	<1m	Mature	Fair	Located at edge of quarry face. Main stem divides near base and some ivy growth. Ok as general woodland tree. Canopy mainly to SW.	None	20+	C2
T35	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	#605	# 6-8m dia. 2 2 5 10	<1m	Mature	Good	Set slightly back from edge pf quarry. Generally good.	None	40+	B2
T36 a + b	Sycamore x 2 (<i>Acer pseudoplatanus</i>)	14-16	4 stems approx. #300 each	# 10-12m dia. - - -	4m	Mature	Good + Poor	Located at edge of quarry face. 2 trees growing close together. Both trees divide into 2 main stems. Lower of the tree seems less stable located over the edge and with visible cavities near base of stem. Upper tree generally ok with canopy mainly back from the edge.	Remove lower tree only if overhanging public areas or new development, otherwise leave.	40+	C2 + B2
T37	Sycamore (<i>Acer pseudoplatanus</i>))	16-18	636	# 10-12m dia. - - -	5m	Mature	Good	Set slightly back from edge pf quarry. Generally good. Heavy ivy growth.	Cut ivy.	40+	B2
T38	Sycamore (<i>Acer pseudoplatanus</i>)	14-16	#509	# 8m dia. - - -	6m	Mature	Good	Located at the edge pf the quarry face but leaning back away from the site. Roots visible. No immediate problems.	None.	20+	C2
T39	Sycamore (<i>Acer pseudoplatanus</i>)	16-18	#approx. 7 stems each 300 dia.	# 14-16m dia. - - -	<1m	Mature	Good	Very large multi-stemmed tree located at the edge of the quarry face. Distant visual inspection only. No immediate problems.	None.	40+	B2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T40	Group of approx. 7 self-set Ash, Birch, Elder.	6-8	110 Max.	1-4 dia. varies	<4m	Yng –Early Mat.	Fair	Young self-set trees growing as mixed group on quarry embankment. General woodland understorey.	None	40+	C2

Appendix C Tree Photographs 1 / 3



Tree ref. T1 Common Ash (to be retained, cut Ivy) - *part of a tree group*



Tree ref. T2 Sycamore (to be retained, periodic review) - *part of a tree group*



Tree ref. T6 Bird Sycamore (to be retained, cut Ivy) - *part of a tree group*



Tree ref. T7 Sycamore (to be removed)



Trees ref. T8 Sycamore (to be removed)



Tree ref. T9 Sycamore (to be removed)

Appendix C Tree Photographs 2 / 3



Tree ref. T10 Sycamore (to be removed)



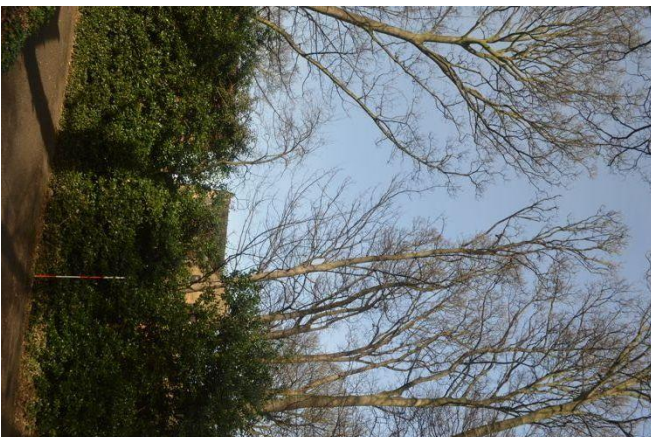
Tree ref. T11 Sycamore (to be removed)



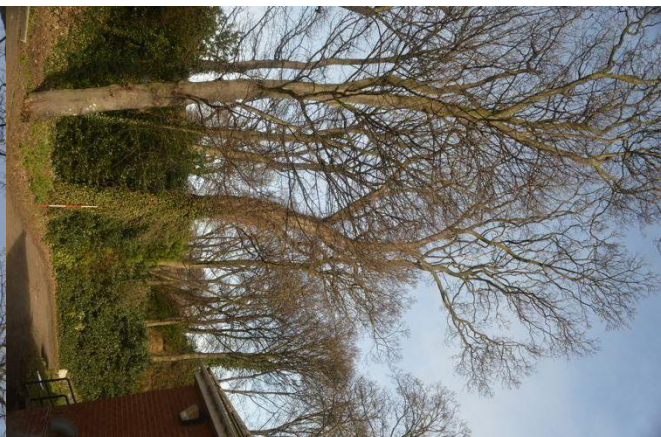
Tree ref. T12 Sycamore (to be removed)



Tree ref. T13 Sycamore (to be removed)



Tree ref. T15 Sycamore (to be removed)



Tree ref. T21 Sycamore (to be retained, remove deadwood, cut Ivy)

Appendix C Tree Photographs 3 / 3



Tree ref. T25 Sycamore (to be retained, protect from vehicles)



Tree ref. T31 Sycamore (to be retained, protect from vehicles)



Holly hedgerow to the northern side of the site, access road boundary.