

# Independent Tree Surveys Ltd

## Tree Survey Report Cloghan Active Travel Scheme Hill Street Cloghan Co. Offaly

November 2023



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## Contents

1.0 Introduction .....	1
2.0 Report Limitations.....	1
3.0 Survey Methodology .....	2
3.1 Survey Key .....	2
3.2 Tree Retention Category (Cat) (BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations) .....	3
3.3 Root Protection Area .....	3
4.0 Findings .....	4
5.0 Preliminary Management Recommendations.....	4
6.0 Site Photographs .....	5
7.0 Arboricultural Impact of the New Development .....	8
8.0 Arboricultural Method Statement .....	9
8.1 Tree Work Operations .....	9
8.2 Tree Protection Measures .....	9
9.0 Appendices.....	10
Useful Reference Documents.....	10
Tree Survey Schedule .....	10
Tree Survey Drawing 23032_TS.....	10

## 1.0 Introduction

Offaly County Council are seeking to improve and extend the footpath network on Hill Street, Cloghan as part of the Active Travel Scheme. Part of the new scheme will run past several trees located alongside and adjacent to the existing footpath. Some of these trees may or may not be impacted by the works required to deliver the project. This report has been commissioned to provide an arboricultural assessment of the trees along the proposed route to input into the design and planning of the new development.

## 2.0 Report Limitations

- The inspection has been carried out from ground level using visual observation methods only.
- Trees are living organisms whose health and condition can change rapidly. Trees should be checked on a regular basis, preferably once a year. The conclusions and recommendations of this report are valid for one year.
- The fruiting bodies of some important species of decay fungi only emerge at certain times of the year and may not have been visible during this inspection.
- There is no such thing as a 100% safe tree in all conditions, since even perfectly healthy trees may fall or suffer branch break.
- The location of tree (tagged 1756) in the park south of the footpath has been plotted in its *approximate* position on the survey drawing should be regarded as indicative.

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27/11/2023

### 3.0 Survey Methodology

The trees were assessed from ground level using Visual Tree Assessment (VTA) techniques and relevant observations and findings were recorded in compliance with the industry standard document BS5837: *Trees in relation to design, demolition and construction (2012)*.

#### 3.1 Survey Key

##### Tree Numbers

Individual trees were tagged with numbered tree tags. These numbers identify the trees in the survey schedule and on the supporting survey drawings.

##### Tree Species

Common and botanical names of the tree species were recorded.

##### Tree Crown Dimensions

Tree height (Ht), crown clearance (Cl) and crown-spread (NESW cardinal points) measurements are in metres and are estimated.

##### Stem Diameter (Dbh)

Measurements are in millimetres and taken at 1.5m from ground level, multiple stems (St) are recorded as a function of the BS:5837 RPA formulae described below. Where tree stems could not be directly accessed; the stem diameters were estimated.

##### Tree age classes

Y	Young	Recently planted (with 5 years or so)
SM	Semi-Mature	Well established young tree
EM	Early Mature	Established tree not yet fully grown
M	Mature	Full or near full grown tree
LM	Late Mature	Older specimen in full maturity
OM	Over Mature	Full maturity now declining through natural causes
Vet	Veteran	Notable due to large size, old age, ecological importance

##### Tree Physiological and Structural condition

Good:	No obvious defects visible, vigour and form of tree good.
Fair:	Tree in average condition for its age and the environment.
Poor:	Tree shows signs of ill health/structural defect
Bad:	Tree in seriously bad health/major structural problem

##### Work Recommendations

Preliminary management recommendations are made where necessary and pertain to current site conditions unless otherwise stated.

##### Estimated Remaining Contribution (ERC)

The approximate number of years that a tree should continue to live and contribute amenity, conservation, or landscape value to the site under current site conditions.

### **3.2 Tree Retention Category (Cat) (BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations)**

The tree retention category system grades a tree's suitability for retention within a development:

- A** Indicates a tree of high quality and value. These are trees that are particularly good examples of their species, which also provide landscape value. These trees are in such a condition as to be able to make a substantial contribution. (A minimum of 40 years is suggested)
- B** Indicates a tree of moderate quality and value. Trees that might be included in the high category but are downgraded because of impaired condition. These trees are in such a condition as to make a significant contribution. (A minimum of 20 years is suggested)
- C** Indicates a tree of low quality and value - trees with an estimated remaining life expectancy of at least 10 years, or younger trees with a stem diameter of below 150mm and/or <10m in height.
- U** Trees that are 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.

#### **Sub Categories**

Tree categories may be further categorised using the following sub-categories (e.g. C1, C2 or C3) - 1 mainly Arboricultural qualities, 2 mainly landscape qualities, 3 mainly cultural values.

### **3.3 Root Protection Area**

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is recorded as a radius in metres measured from the tree stem and is shown on the tree survey/constraints drawing as a circle with the tree stem in the centre.

For single stem trees, the root protection area (RPA) should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

For trees with more than one stem, one of the two calculation methods below should be used. The calculated RPA for each tree should be capped to 707 m<sup>2</sup>.

a) For trees with two to five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

b) For trees with more than five stems, the combined stem diameter should be calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

## 4.0 Findings

The trees were assessed during a site visit on the 17<sup>th</sup> of November 2023; the field data for the trees is contained in the accompanying Tree Survey Schedule. Approximate tree location, BS5837 category, RPA and approximate crown shape are shown on the Tree Survey/Constraints Drawings 23032\_TS.

The survey included 6 individual trees comprised of 0 category A (high value) trees, 3 category B (moderate value) trees, 3 category C (low value) trees and 0 category U (<10 years useful life) trees.

The trees are positioned along Hill Street, with trees T752, T753, T754 and T755 all growing out of the southern edge of the tarmac footpath. Sycamore tree T756 is growing out of the public park to the south of the road, with the larger Sycamore tagged T757 growing out of a private garden.

Trees T752, T753 and T755 are smaller trees of relatively low value/quality due to a combination of poor form, ill-health, and poor planting position. The larger Maple tree tagged T754 is in fairly good physiological and structural condition but is causing severe distortion to the footpath as well as significantly reducing the usable width of the path. The two Sycamore trees T756 and T757 also seem to be in reasonably good condition however, the stone wall next to tree T757 has been built too close to the tree stem and has evidently been pushed out and cracked by the continued growth of the tree. The curved section of stone wall seems to have been built to try and accommodate the tree stem; however, it looks like insufficient space was left between the inside face of the wall and tree, and the growth of the tree stem has resulted in cracking in the brittle sand and cement mortar joints of the wall.

## 5.0 Preliminary Management Recommendations

Preliminary management recommendations for the trees and hedge assessed are listed in the tree survey schedule in the appendices; these pertain to *current* site conditions independently of the proposed improvement works unless otherwise stated. All tree work should be carried out by qualified and experienced tree surgeons working to *BS3998 (2010) Tree Work – Recommendations*.

## 6.0 Site Photographs



1. Young Maple tree T752 at the western end of the survey area



2. Ash tree T753 in the foreground, with larger Maple T754 a bit further east



3. Maple tree T754 viewed from the north, with severe distortion of the tarmac surface clearly visible



4. Trees T755-757 along the eastern part of the survey area, viewed from the northwest





*5. Short section of stone wall built around the stem base of Sycamore tree T757, note the significant cracking of the masonry*

## 7.0 Arboricultural Impact of the New Development

The proposed footpath improvement scheme will require that the existing footpath be levelled and widened to create a better and accessible surface. Realistically the works to complete the project will require the removal of the four trees tagged 752, 753, 754 and 755. Trees T752, 753 and 755 are of relatively poor quality and value and so their removal could be readily mitigated by new replacement planting in the adjacent public park.

Tree 754 is a larger tree of moderate quality and amenity value, and its removal would result in the loss of landscape amenity that would take longer to replace with fresh planting. The significant upward distortion of the footpath surfacing close to the tree stem (see photo 3 above) means that the root severance required to return the surfacing to a level grade would cause serious damage to the tree, rendering it unsuited to retention close to a busy public road. Leaving the root flare of the tree intact would greatly restrict the width of the footpath, and so unfortunately, the tree would need to be removed if the project goes ahead as planned. Good quality new tree planting in the locality would be necessary to help mitigate the trees removal.

Removal and replacement of the section of curved stone wall next to tree T757 has potential to impact the tree unless the works are well planned and executed with care. Some tree protection recommendations are included below.

Where street trees are removed to facilitate the footpath improvements, these should be replaced by new planting in the locality, preferably within the adjacent public park, where they will have a good chance to establish and develop into mature specimens in maturity. The park has space to accommodate a number of new trees, although these should be positioned to avoid future interference with the overhead powerlines and other trees. A mix of tree species would be advisable, including faster growing species such as Silver Birch (*Betula pendula*) and slower growing species such as Oak (*Quercus robur*) and Scots Pine (*Pinus sylvestris*). Other species to consider are Field Maple (*Acer campestre*), Sycamore (*Acer pseudoplatanus*), Tulip tree (*Liriodendron tulipifera*), Austrian Pine (*Pinus nigra*) and Common Alder (*Alnus glutinosa*), amongst others. Replacement trees should be sourced from a reputable nursery and be planted and managed with appropriate aftercare by professional landscape contractors in accordance with BS 8545:2014 *Trees: from nursery to independence in the landscape Recommendations*.

## **8.0 Arboricultural Method Statement**

### **8.1 Tree Work Operations**

The 4 trees tagged T752, 753, T754 and T755 will be section-felled and the stumps will be removed.

The pruning works described in the survey schedule will be carried out on trees T756 and T757.

The tree felling and pruning works will be carried out by professional tree surgeons working to BS3998 (2010).

All arisings (cordwood and brash) will be removed to a green waste facility or processed into mulch for recycling on the site.

### **8.2 Tree Protection Measures**

The works operations should not need to access the public park to the south of the footpath and the existing stone wall should provide an adequate protective barrier for Sycamore tree T756 that is located just inside the park.

If the curved stone wall next to Sycamore tree 757 is to be removed and replaced, this should be undertaken with great care so as to avoid unnecessary damage to the above-ground parts of the tree (stem and branches) and the root system. The wall should be dismantled carefully by hand, with the masonry being pulled back away from the tree stem. Any new excavation for new foundations should be minimised, with a series of small footings and supporting lintels being used rather than strip foundations. An alternative to a replacement wall would be to have a section of ironwork fence fabricated to fit across the gap created by the removal of the curved wall. Such fencing/railing could be fixed into place with small footings positioned away from significant woody roots (which could be identified by hand digging or the use of a compressed air lance or Vacuum truck), again avoiding the need for strip foundations.

A qualified arborist should be available to provide advice and guidance where necessary during the construction process.

Any new underground services should be routed away from the RPAs of the trees being retained; where this is not practical for reasons unforeseen and unavoidable, the services will be installed under any significant tree roots into trenches excavated by compressed air lance (*Airspade*) or other approved tree root friendly system such as Air-Vacuum truck, Mole drilling etc.

All exposed roots and/or soil profiles containing roots of trees to be retained will be kept damp in dry conditions by regular watering and be covered with a double layer of hessian fabric to prevent desiccation. Backfill should be of good quality topsoil, structural soil or clean sand.

Where construction machinery *must* encroach upon soil within the RPAs of the trees to be retained for reasons unforeseen and unavoidable; suitable ground protection will be put in place to prevent any significant soil compaction or root damage near the trees; this should take the form of suitable strength ground protection mats or cellular confinement system capable of supporting the appropriate weight.

All materials storage, staff parking etc. will located outside of the RPAs of the trees wherever practical; where this is not possible then the ground surface will be covered by an appropriate ground protection layer.

## **9.0 Appendices**

### ***Useful Reference Documents***

NATIONAL JOINT UTILITIES GROUP (NJUG). *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*. Volume 4, issue 2. London: NJUG, 2007.

BS5837:2012 *Trees in relation to design, demolition, and construction – Recommendations*  
BSI Standards Limited 2012

BS8545:2014 *Trees: from nursery to independence in the landscape Recommendations*.  
BSI Standards Limited 2014

### ***Tree Survey Schedule***

### ***Tree Survey Drawing 23032\_TS***

Tree Survey Schedule  
Hill Street, Cloghan, Co. Offaly  
November 2023

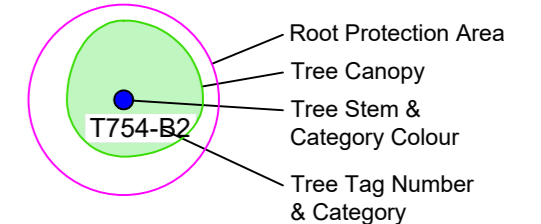
Type	No.	Species	Age	Ht m	Dbh mm	St	Cr	N	S	E	W	ERC	Phys Cond	Structural Condition/Comments	Preliminary Recommendations	RPA m	Cat
T	752	Acer platanoides (Norway Maple)	SM	8	270	1	2.5	3	3.5	2	3	10	Fair	Fair. Small tree that was planted into tarmac footpath, very close to the masonry wall and directly below overhead ESB wires. Tree is of poor shape & form, having been crudely cut back during ESB line clearance works, which will have to be repeated as it grows back. Low amenity value and limited potential to grow into maturity.	Prune tree clear of ESB wires. Consider removal as part of good long-term management.	3.24	C2
T	753	Fraxinus excelsior (Ash)	EM	10.5	400	1	2.5	5	5	6	5	10	Poor	Fair. Medium sized tree growing very close to low retaining stone wall, seemingly causing significant damage to the masonry. Poor shape & form as a result of being 'topped' and disfigured by ESB line clearance works. Branches restricting street light. Epicormic shoots on branching throughout crown indicative of infection by Ash dieback disease (ADB). Tree growth is causing significant damage and distortion of footpath surfacing.	Monitor tree condition to track progress of ADB disease; fell tree if condition deteriorates significantly. Prune branching clear of ESB wires. Consider removal as part of good medium-term management.	4.8	C2
T	754	Acer platanoides (Norway Maple)	M	16	670	1	2.5	6	7	6	5.5	20+	Good	Fair. Medium sized tree. Tree crown develops from 2.5m as the main stem forks into 4 upright scaffolds. Some central branching has been cut in the past to allow the passage of the overhead ESB cables through the tree. Woody roots and the root flare of the tree are causing significant lifting and distortion of the tarmac surfacing of the footpath. There is also some cracking of the adjacent stone wall that seems likely to have been caused by the growth of the tree.	Prune branching clear of ESB wires. Explore options to resurface or re-align footpath. If footpath space is restricted and/or the rise in levels required for new surfacing is not practicable, the tree may have to be removed.	8.04	B2
T	755	Betula pendula (Silver Birch)	EM	8.5	300	1	1.5	3	3	4	2.5	10+	Fair	Fair. Smaller sized tree planted very close to the low masonry wall. Previously topped during poor quality pruning works in past resulting in poor shape & form. Roots lifting adjacent tarmac paving, but are not distorting the surface severely yet. Some light branching close to ESB cables.	Prune tree branches clear of ESB wires. Consider removal as part of good long-term management.	3.6	C2
T	756	Acer pseudoplatanus (Sycamore)	EM	14	550	1	2.5	3	5	5	4.5	20+	Good	Fair. Medium sized tree growing in park to the south of the footpath. Epicormic growth on stem and some suckers around stem base. Some light branching close to ESB cables.	Prune tree branches clear of ESB wires.	6.6	B2
T	757	Acer pseudoplatanus (Sycamore)	M	13.5	800	1	3	5	8	8	7.5	20+	Good	Fair. Larger tree growing in garden just behind the stone boundary wall; this curved wall has been built around the lower stem of the tree, with some cracking and bulging of the masonry probably caused by the growth of the tree now evident. Somewhat unbalanced crown shape. Some branch stubs left from previous poor quality pruning works.	Target prune branch stubs and crown lift to improve clearance over the road. Consider removing short the section of curved stonewall and re-building it with a gap between wall and tree stem or replacing it with an iron fence.	9.6	B2

CLOGHAN

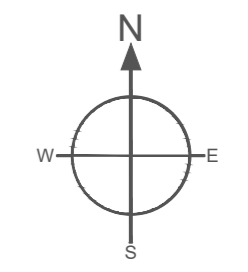
GS  
Stn

10kV  
Hillview

LEGEND

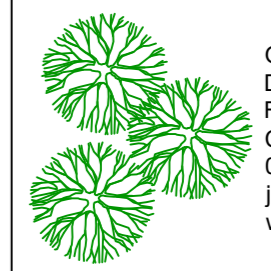


- Category A Trees (high value)
- Category B Trees (moderate value)
- Category C Trees (low value)
- Category U Trees (unsuitable for retention)



NOTES:  
Please see Tree Survey Report for further detail.  
All drawings to be read in conjunction with the consulting architects and engineers drawings.

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Project Name: Cloghan Active Travel Scheme, Hill Street, Cloghan, Co. Offaly

Drawing Title: Tree Survey

Drawing Number: 23032\_TS

Client: Offaly County Council

Agent:

Date: 22/11/2023

Scale: 1:500@A2

