

Arboricultural Assessment
(Tree survey)

To assess the trees

On the site at

Monksland
Athlone
Co. Roscommon

July 2023

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PART ONE – ARBORICULTURAL ASSESSMENT

Introduction

The purpose of this report is to set out the findings following the inspection of trees on site at, **Monksland, Athlone, Co. Roscommon** and set out their condition. The survey work was undertaken 12th June 2023 by the undersigned a qualified arboricultural consultant. The term of reference for the report is a submission as part of a planning application on the site. The following categories have been used within the tree report tables and, where appropriate, the criterion used to define each category is defined.

- **Tree No.** : refers to the identification tag attached to a tree [also identified as such on the accompanying survey drawings]
- **Species** : refers to the common and scientific name given to the tree.
- **Stem diameter** : refers to the diameter of the tree stem in millimetres, as measured at 1.5 metres above ground level and above the root flare for multi-stemmed trees.
- **Height** : refers to the total height of the tree in metres. (Heights measured with a TruPluse® 200)
- **Crown spread** : refers to the width of the crown in metres, measured at each cardinal point on the compass. [Dimensions marked with # are estimates as per 4.4.2.6 c) – BS 5837:2012]
- **Condition** : refers to the physiological condition of the tree as a whole described as:
 - Good** – Full healthy canopy but possibly including some suppressed or damaged branches
 - Fair** – Slightly reduced leaf cover, minor dead wood or isolated major dead wood
 - Poor** – Overall sparse leafing or extensive dead wood
- **Age** An estimation of the age of the tree described as;
 - V- Veteran, trees, which by recognized criteria, show features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to individuals surviving beyond the typical age range for the species concerned.
 - OM – Over Mature, trees reaching the end of their life, in decline and senescent.
 - M – Mature, fully grown, with only small annual increments.
 - EM – Early Mature, one-third to two thirds of total life expired.

Y – Young, recent planting, with up to one third of total life expired.

- **Remarks:** Descriptive comments about the health (physiological) or form (structural) of the tree, its environment or external influences and may include preliminary management recommendations.

Category grade

- **U** -Those trees in such a condition that any existing value would be lost within 10years and which should be in the correct context, be removed for reasons of sound arboricultural management.
 - **A** -Those trees of a high quality and value in such a condition as to be able to make a substantial contribution.
 - **B** - Those trees of a moderate quality and value in such a condition as to be able to make a significant contribution.
 - **C**- Those trees of a low quality and value currently inadequate condition to remain until new planting could be established, or young trees with a stem diameter below 150mm
-
- **Estimated remaining contribution in years (ERC):** Expressed as less than 10, 10+, 20+, more than 40

Glossary of terms used:

Basal: The base of the tree close to the ground, (basal shoots are those emanating from the base).

Crown (canopy): The leaves and branches of a tree.

Co-dominant: Stems or branches of near equal diameter, often weakly attached.

Decay: Degradation of wood by fungi and/or bacteria.

Defect: Any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback: The death of part of a plant, usually starting from a distal point and often progressing in stages.

Epicormic : Pertaining to shoots or roots, which are initiated on mature woody stems; shoots may form in this way from dormant buds or they may be adventitious.

Dysphotic zone : A zone within the canopy which does not have enough light to carry out photosynthesis.

Included Union: bark and cambium of adjacent parts of a tree's stem (usually in forks, acutely angled branches or basal flutes), which is in face-to-face contact, so that there is weakness due to the lack of a woody union.

Lean: Departure of the trunk from the vertical.

Scaffold limbs: The branches, which form the main framework of the crown of a tree with a decurrent growth habit.

Shoot: A shoot derived from a dormant or adventitious bud on the main stem or branch.

Stub/peg: A short section of a branch, which may have, been left after previous pruning or storm damage.

Wound: Injuries on the surface of a trunk or branch.

Full: A canopy, which extends to the ground or nearly to the ground

Natural suppressed deadwood: Deadwood in conifers, which died as the crown height extended and the lower branch no longer have a function in the production of foliage.

Pathogens: Fungal and /or bacterial infections, which degrade the wood and render trees liable to failure

Wound wood: Wood with atypical anatomical features, formed in the vicinity of a wound or the occluding tissue around a wound

Hazard Limb: An upwardly curved part in which strong internal stresses may occur, cause wood to crack

Burr: Woody protuberances, especially those derived from the mass proliferation of adventitious buds.

Root protection area (RPA) : layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.

Survey Results

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
The tree survey starts in the south east corner of the site, along the right of way. The dominant tree species are Ash, which are subject to infection with Ash Die back. The extend of infection is graded from class 1 – 4, for details see appendix one.									
256	Ash <i>Fraxinus excelsior</i>	16.2	800	N5.0 S6.0 E7.0 W9.0	Fair	M	20+	A large specimen, it has low laterals to the west, it has very dense ivy cover and is class 1.	C
257	Ash <i>Fraxinus excelsior</i>	17.8	300 300	N5.0 S5.0 E6.0 W7.0	Fair	M	10+	A twin stem tree with very dense ivy cover, it has multiple scaffolds forming a high crown, it has scattered deadwood. (Class2)	C
258	Ash <i>Fraxinus excelsior</i>	15.0	300	N3.0 S3.0 E8.0 W7.0	Poor	M	10+	A tree in poor condition, infected with Ash die back. It has ivy at its base and has scattered deadwood. (Class 3)	C
259	Ash <i>Fraxinus excelsior</i>	15.0	400	N4.0 S3.0 E6.0 W6.0	Poor	M	10+	A weak tree with drawn up stems, it has ivy at its base, it has significant deadwood, it is infected with Ash die back (Class 3).	C

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
260	Ash <i>Fraxinus excelsior</i>	15.0	400 450	N3.0 S5.0 E5.0 W7.0	Fair	M	10+	A twin stem with a distorted stem, it has dense ivy cover and scattered deadwood. It has poor form infection of die back. (class 2). Beside it is a tall, ivy clad stump, with a hazard limb – Fell.	C
261	Ash <i>Fraxinus excelsior</i>	16.3	400	N3.0 S4.0 E4.0 W7.0	Poor	M	10+	A tree with a sparse canopy, it has dense ivy cover with minor scattered deadwood. (Class 2)	C
262	Ash <i>Fraxinus excelsior</i>	16.8	450	N3.0 S3.0 E6.0 W8.0	Poor	M	10+	A tree with a single stem and a sub dominant lateral, it has dense ivy cover and is suppressed by the adjoining tree. It has significant crown die back. (Class 3)	C
263	Ash <i>Fraxinus excelsior</i>	18.0	450	N6.0 S6.0 E7.0 W7.0	Fair	M	20+	A tall drawn up tree, it has a bifurcated stem with co-dominant leaders. It has minor scattered deadwood and dense ivy cover. (Class 1). It has a hawthorn at its base.	C
264	Ash <i>Fraxinus excelsior</i>	16.0	600	N8.0 S8.0 E8.0 W6.0	Poor	M	<10	This tree is in major decline, it is infected with ash Die Back, (80%) of the canopy is dead. (Class 4)	U

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
265	Ash <i>Fraxinus excelsior</i>	13.0	400	N4.0 S6.0 E6.0 W6.0	Poor	M	10+	A tree with an open canopy, it has poor form. It has dense ivy cover and scattered deadwood. It has a one sided crown with large diameter deadwood. (Class 2)	C
266	Ash <i>Fraxinus excelsior</i>	17.1	400	N2.0 S4.0 E2.0 W10.0	Poor	EM	10+	A tree with dense ivy cover and a one sided, being suppressed by the adjoining tree. (Class 2)	C
267	Ash <i>Fraxinus excelsior</i>	19.0	350	N6.0 250 S6.0 280 E7.0 250 W9.0	Poor	M	<10	A group of stems with very dense ivy cover, it has tall drawn up stems. It is infected with Ash Die Back, it has scattered deadwood. (Class 1)	C
268	Ash <i>Fraxinus excelsior</i>	13.5	350	N4.0 S3.0 E4.0 W6.0	Fair	EM	10+	A tree with dense ivy, it is suppressed by adjoining trees and some infection of Ash Die Back.	C
269	Ash <i>Fraxinus excelsior</i>	9.7	400	N4.0 S1.0 E5.0 W5.0	Fair	EM	10+	A tree with dense ivy cover, it has a tall drawn up multiple scaffolds, it has some die back. (Class 2)	C

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
270	Ash <i>Fraxinus excelsior</i>	19.0	300 300	N4.0 S5.0 E6.0 W7.0	Fair	M	20+	A twin stem which is fused, it has dense ivy cover and scattered deadwood. The upper stem bifurcates, there is no signs of Ash Die Back. (Class 1)	C
271	Ash <i>Fraxinus excelsior</i>	15.5	450	N6.0 S8.0 E6.0 W6.0	Fair	M	20+	A tree with a single stem, it has multiple scaffolds and some ash die back. It has very dense ivy cover. (Class 2)	C
Next group are along the northern boundary (part 1)									
272	Ash <i>Fraxinus excelsior</i>	17.3	800	N7.0 S8.0 E8.0 W9.0	Fair	M	20+	A tree with a single stem, it has a wound on its stem with necrosis of the cambium. It has multiple scaffolds with dense ivy cover. It has an open crown. It has large diameter deadwood.	C
273	Ash <i>Fraxinus excelsior</i>	9.4	700	N6.0 S6.0 E5.0 W5.0	Fair	M	10+	A squat specimen, it has very dense ivy cover. It has crown die back and has multiple scaffolds. (Class 2)	C
274	Ash <i>Fraxinus excelsior</i>	17.3	1100	N8.0 S10.0 E10.0 W13.0	Fair	M	10+	A tree with multiple scaffolds, with very dense ivy cover, it has scattered deadwood. It has a wide canopy. (Class 2)	C

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
275	Ash <i>Fraxinus excelsior</i>	12.2	250	N3.0 S3.0 E3.0 W3.0	Fair	EM	20+	A tall drawn up stem with co-dominant leader. It has dense ivy, it appears to free from ash die back infection. (Class 1).	C
276	Ash <i>Fraxinus excelsior</i>	15.4	500	N8.0 S5.0 E5.0 W5.0	Poor	EM	<10	A tree with a single stem, and multiple scaffolds. It has dense ivy cover. It is infected with Ash die back. (Class 3)	C
<i>Central hedge</i>									
H277	Hawthorn <i>Craetagus monogyna</i>	8.0- 14.0	-	E6.0 W6.0	Fair	M	40+	A mature hedge of Hawthorn, it has not been managed, and has been allowed grow freely, it has reach its maximum height. The large specimens have very dense ivy cover. The lower canopies are swamped with dense bramble at the northern end.	C
278	Birch <i>Betula pendula</i>	12.5	450	N5.0 S5.0 E7.0 W7.0	Fair	M	20+	A tree with a very dense ivy cover, it has no apical leader and has a wide canopy. It has multiple scaffolds and has poor form.	C

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
<i>Southern Hedge</i>									
H279	Hawthorn <i>Crataegus monogyna</i> Elder <i>Sambucus nigra</i>	7.0	-	N 5.0 S 3.0#	Fair	M	20+	At the western end are trees retained against the block wall which defines the boundary with the adjoining housing estate. The hedge has been successfully retained, some sections have very dense bramble and rose, especially at the western end.. The form is weak, having had no active management. The eastern end is sparse, with some dense pockets of bramble. It is proposed to retain this hedge, it will need to be trimmed and reshaped.	C
<i>Western Hedge</i>									
280	Birch <i>Betula pendula</i>	16.7	500 400 400	N8.0 S8.0 E8.0 W5.0	Fair	M	20+	A stand of three stems with very dense ivy cover. No defects noted. They have very minor scattered deadwood. Part of this boundary is defined by a block wall, on the site side is the remanent hawthorn hedge with very dense ivy cover . Dense bramble extends into the field and over the hedge. The Hawthorn are weak and have not been managed.	C

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
								After the Ash (281) the hedge separates two fields, it has Hawthorn and Blackthorn, dense bramble with Seedling Ash and sycamore and three early mature Ash with die back.	
281	Ash <i>Fraxinus excelsior</i>	16.5	1000	N12.0 S8.0 E10.0 W10.0	Poor	M	<10	This tree has extensive basal decay on its root plate infected with the decay fungus Ganoderma. It has wounds on its stem with decay. It has an open decurrent canopy with extensive crown die back. It has moderate to dense ivy cover. Northern hedge At the western end of the Northern hedge are mature Ash, Hawthorn and early-mature which have die back, there is also Elder and Willow.	U
282	Ash <i>Fraxinus excelsior</i>	20.2	800	N9.0 S8.0 E3.0 W7.0	Fair	M	20+	The stem bifurcates low to form a twin stemmed tree with dense ivy cover, it has narrow one sided canopy. (Class 1). Either side are early-mature Ash infected with significant die back.	C
283	Ash <i>Fraxinus excelsior</i> Hawthorn <i>Crataegus monogyna</i>	14.0	1000	N4.0 S4.0 E4.0 4.0	Fair	EM	20+	An old stem with very dense ivy, it has multiple scaffolds. It has a hawthorn growing in it.	C

TREE SURVEY | SITE AT MONKSLAND, ATHLONE, CO. ROSCOMMON.

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade
284	Ash <i>Fraxinus excelsior</i>	15.0	400 500	N5.0 S5.0 E5.0 W5.0	Poor	EM	<10	A tree with very dense ivy cover, it is infected with Ash die Back, it has Elder and Willow at its base. (Class 3).	C
H285	Ash <i>Fraxinus excelsior</i> Hawthorn <i>Crataegus monogyna</i> Elder <i>Sambucus nigra</i>	8.0- 12.0		14.0	Fair	M	20+	To the east of the green lane (Right of way). Is the a hedge, which is mainly Hawthorn with some ash growing on a low raised bank. The boundary to the adjoining houses is a concrete slab and post fence. The ground falls away to the east. The hedge has not been managed, the ash have some Ash Die Back. At the has near the southern end is Lonicera and Privet.	C

Ash Die Back

Ash dieback is a serious disease of ash trees caused by the invasive fungal pathogen *Hymenoscyphus fraxineus* (previously known as *Chalara fraxinea*), which originates in Asia and was brought to Europe in the early 1990's. Today, the pathogen covers most of the natural range of ash in Europe causing high mortality rates of ash trees.

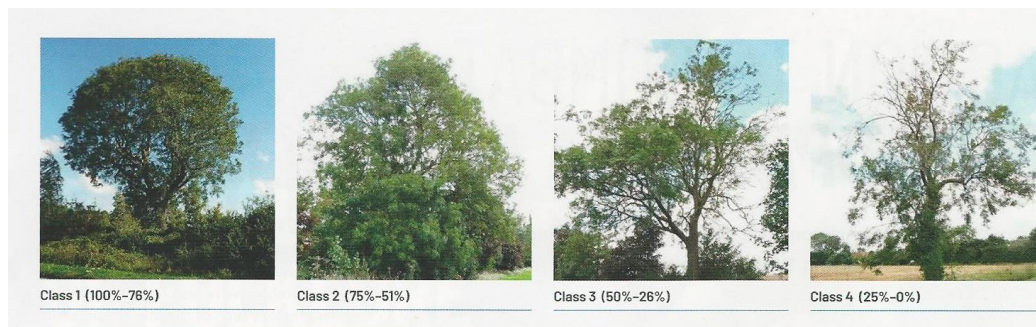
Ash dieback was first detected in the Republic of Ireland in October 2012 on plants imported from continental Europe. The disease is now prevalent throughout most of the island of Ireland and is likely to cause the death of the majority of the ash trees over the next two decades, it is estimate that 5% of trees may hold resistance.

The disease causes leaf loss and crown dieback in affected trees and can lead to the death of the tree. The disease can affect ash trees of any age and in any setting. The disease can be fatal, particularly among younger trees. Ash dieback is more severe in wet sites, where it is more likely to cause collar infections in ash trees.

Ash die back, *Hymenoscyphus fraxineus* is an ascomycete fungus that causes ash dieback, a chronic fungal disease of ash trees in Europe characterised by leaf loss and crown dieback in infected trees. The fungus was first scientifically described in 2006 under the name *Chalara fraxinea*. Four years later it was discovered that *Chalara fraxinea* is the asexual (anamorphic) stage of a fungus that was subsequently named *Hymenoscyphus pseudoalbidus* and then renamed as *Hymenoscyphus fraxineus*. The asexual stage (anamorph) grows in affected trees attacking the bark and encircling twigs and branches, causing the die back.

The disease affects the native, indigenous trees in different ways, some trees are more susceptible and succumb to the infection quicker which results in very rapid decline. Trees can be re- infected.

A paper published in the Arb magazine in 2020 by Paul Hanson has defined the stages of die back into four class.



Grades of Ash die back (Paul Hanson & ADRGS)

Assumptions and Limitations

This tree survey was carried out from the ground, no invasive or destructive evaluation techniques were used; all findings observations and recommendations are based on the knowledge and experience of the undersigned a qualified Arboriculturalist. Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of the inspection.

Findings are based on a visual report from ground level only and it should be borne in mind it is subject only to faults visible at the time of inspection, certain pathogens only produce seasonal fruiting bodies and consequentially may not have been noted during this assessment. All trees should be monitored on a regular basis for signs of defects and should be reported to a person qualified to diagnose them and to recommend treatment.

In the event of adverse weather conditions, there is the possibility of any tree, despite having a good report, falling over or suffering crown damage. In the event of a falling tree causing damage to residential or non residential buildings in their proximity, or to any person, any property public or private, or any mechanical vehicle or otherwise no liability will attach to this firm.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future. The author takes no responsibility for any actions taken by the landowner or their agents by reasons of this report unless subsequent contractual arrangements are made.

This report is intended solely for the benefit of the parties to whom it is addressed and no responsibility is extended to any third party for the whole or any part of its contents. All trees mentioned in this report should be subject to reassessment every two years to assess physiological and environmental changes.

PART TWO - ARBORICULTURAL IMPACT ASSESSMENT

General Description of Site and Surroundings

The site is comprised of two enclosed fields used for grazing cattle. To the east is a green lane (right of way) with a double hedge. There houses to the east, south and part of the western boundary. The northern boundary and part of the western boundary have a shared boundary with open fields. The site is divided by a mature hedge.

Description of Proposed Development

The development comprises of : construction of 53 no. residential units which comprises of (a) Type A- 10 no. two storey 2 bed semi-detached houses (b.) Type B - 22 no. two storey 3 bed semi-detached houses. (c.) Type C - 15 no. two storey 2 bed Terrace units (d.) Type D - 2 no. single storey 3 bed detached houses. (e.) Type E-4 no. single storey 2 bed semi-detached houses with all associated site development works including widening of existing site entrance, construction of access roads and footpaths, public & private open spaces, car parking spaces, electric car charging points, boundary wall/fence, pedestrian link, street lighting, ducting for utilities, hard & soft landscaped areas, removal of existing trees and planting of new native trees, hedges and shrubs , formation of new connections to existing foul services and to pumping station, attenuation tank for surface water drainage and connection to existing utilities.

Designations Relating to Trees

There are no Tree Preservation Orders on the site. There is no objective in the County Development plan to protect and preserve trees and Woodlands at locations within the site.

Implications of Proposed Development

The current proposal under consideration has the following impact on the existing trees.

(1) Direct Loss of Trees

The following trees will have to be removed due to a direct impact; 268, 269, 270, 271, 278 and H 277

Summary Table of survey trees

Grade	Total No.	No. to be removed	% of all trees (27)
U (worst – remove)	2	2	7.4%

Grade	Total No.	No. to be removed*	% of grade	% of all trees (27)
'V' Veteran	0			
'A' (best quality)	0			
'B' (moderate quality)	0			
'C' (low quality)	25	10	40%	37%
Total	27	12		

(2) Indirect Impacts

Changes in Ground Level / Changes in Ground Surface within Root protection area (RPA).

Along the northern boundary in will be necessary to construct a retaining wall. This will impact 82 and 283 and the ash and Hawthorn hedge. Tree 274 will be too close to the proposed house to be successfully retained.

Services

The proposed underground services will be close to trees 272 and 273 to make there retention impractical.

Condition

Trees 264 and 281 are in such a condition that they need to be removed irrespective of any development being undertaken.

Change in Site Use and Tree Management Implications

Above ground constraints

The retained trees are in locations where they will not be affected by the proposed buildings, roads or services.

Potential Root Damage to Infrastructure

Modern construction techniques, soil types together with the species and age of the retained trees and their location make damage to infrastructure unlikely.

Potential Nuisance

The proposed development is being constructed within a green field site, there will no risk of potential nuisance from retained trees that might cause concerns and a requirement to remove them. All retained trees will have appropriate remedial tree surgery works, to remove all deadwood and potential hazard branches from their canopies prior to the development being occupied and will have normal ongoing arboricultural management.

Construction Implications

General precautions in storage or mixing of materials that may be injurious to trees will need to be taken. All toxic materials, (cement, mortar, bitumen, diesel, bonding agents, etc) will be stored 10m from root protection areas. No wash out facilities will be provided for ready mix concrete/mortar deliveries. All fuels stored on site will be bunded to prevent spillage or leakage.

Proposals for tree management

All retained trees will have necessary remedial tree surgery to ensure there are no hazard branches, deadwood and weak limbs. All retained trees will be subject to regular inspections.

PART THREE - ARBORICULTURAL METHOD STATEMENT

Introduction

This document sets out the methodology for all proposed works that affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contractors associated with the development proposals. Copies of this document will be available for inspection on site. The developer will inform the local planning authority within twenty-four hours if the arboricultural consultant is replaced.

The contractor shall take all precautions to ensure that any trees, which are to be retained, shall remain undisturbed and undamaged.

All works to trees and all operations adjacent to trees should be undertaken in accordance with the Method Statement. The contractor shall undertake no works to trees unless instructed by the Contract Administrator. All works within or close to the protected tree zones are to be supervised by the appointed Consultant Arboriculturalist. Two working days notice of intention to undertake such works to be given prior to any works commencing.

Root Protection Area

In accordance with the Method statement and as per the issued drawings protective fences shall be erected before the commencement of building works any works on site (other than remedial tree works and erection of the boundary fence). The area within the tree fencing should be clearly identified with signage as the 'Protected Tree Zone'. The local planning authority will be notified in writing once the fencing is in place. Strictly no access should be permitted to this zone unless instructed by the CA. The appointed Consultant Arboriculturalist should be notified of any works or access to this zone. The fencing will remain in place until completion of the main construction phase and then only removed with the consent of the local planning authority to permit completion of the scheme.

Other than works detailed within this method statement or approved in writing by the local planning authority, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing. No fires should be lit close to or within 20 metres of the trunk of any tree that is to be retained. No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained.

Code of Practice for the preservation of trees

The following code of practice is intended for the preservation of existing trees. These guidelines will help sustain vigour and minimise adverse growing conditions, for trees set out for retention.

This code will be brought to the attention of all site personnel including Main Contractor, sub-contractors and engineering specialists associated with the project. As appropriate this method statement should be translated. All operations are to be in accordance with BS 5837: 2012, *Trees in relation to design, demolition and construction*. The main contractor should purchase and make available on site a copy of the above.

Prior Notice and Tree removal

All necessary tree works are to be undertaken prior to the commencement of any other works on site. Trees must only be removed with the necessary licenses (*Forestry Act 2014*)¹ or permits. All necessary licenses and permits should be inspected by the appointed Consultant Arboriculturalist prior to commencement of works.

The Arboricultural Consultant will:

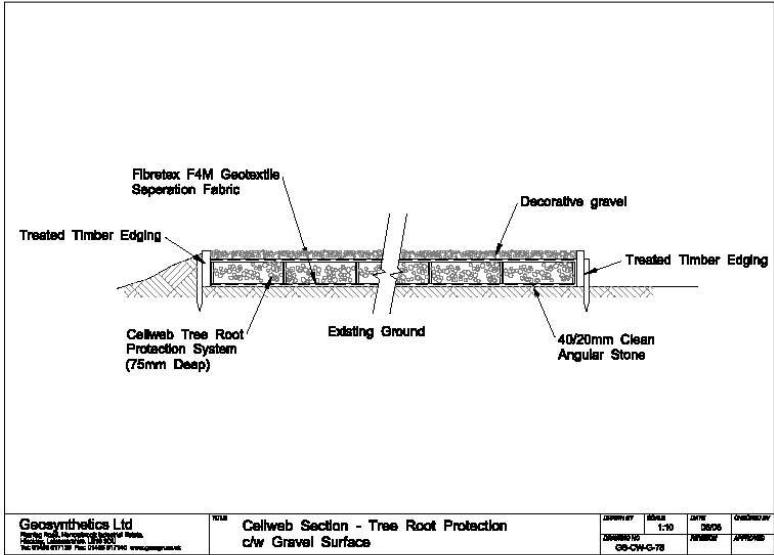
- Liaise with the relevant authorities during the project.
- Constantly monitor the project with regard to tree health to ensure that no damage is caused to the subject trees during the operational works.
- Report any negligent damage to trees, which will prejudice their health.
- Monitor works carried out by the Arboricultural Contractor and Main Contractor within the 'Root Protection Area'.

Construction access

In areas where there is site access (scaffolding), permanent car parking and access for construction of xxx near trees, the ground shall be covered with Fibertex or similar geo textile fabric and a three dimensional cellular confinement system such as geoweb should be laid over the fabric. Where

¹ Note that under the Forestry Act 2014, no felling licence will be required on receipt of planning permission.

access is required within the root protection area of trees a cellular confinement system shall be put in place prior to use of the area. See construction detail attached.



Guidelines for installation of services

Where it is proposed to route underground services near trees all works shall be carried under the supervision of the consultant Arboriculturalist. Guidelines set out in the NJUG(National Joint Utilities Group) Volume 4, Guidelines for the planning, installation and maintenance of utility services in proximity to trees – 2007 will be followed together with section 7.7 Underground and above-ground utility apparatus.

Excavations near trees

Where deep excavations are close to trees, such as for attenuation tanks, the ground will be protected. As significant moisture can be lost from exposed soil profiles the exposed profile shall be protected to conserve moisture within the root zone. In winter, exposed roots are to be wrapped with dry sacking. In summer, exposed roots are to be covered with polythene or similar at all times. A suitable irrigation / drip feed system should be installed to maintain the soil moisture levels around the root zone if deemed necessary by the arboricultural consultant.

Hard Landscaping within the protection zone (cycle path)

Where permanent hard landscaping is to be provided within root protection zones, special measure shall be implemented. All existing hollows/ drains shall be filled with 50mm crushed stone, with no fines, and then overlaid with geo fabric and a cellular confinement system. The path will be worked around the stems of existing retained trees, so as to preserve existing ground levels.

Soft Landscaping within Exclusion Zones

Preparation of ground in these areas will be carried out under the supervision of the arboricultural consultant.

Guidelines for Root Pruning:

- Roots smaller than 25mm diameter may be pruned back, roots with a diameter greater should only be cut following consultation with an arboriculturist.
- Roots should be cut cleanly after excavation to promote callus formation and wound closure.
- Exposed roots to be protected where an area of work is to be left open, particularly along the face of the excavation for the underground car parking. In winter, exposed roots are to be wrapped with dry sacking overnight.
- In summer, exposed roots are to be covered with damp sacking at all times. A suitable irrigation / drip feed system should be installed to keep sacking wet at all times.
- Back filling materials used around roots are to be of a fine granular material with no toxins and not susceptible to frost heave.

Offences and Penalties

Any damage whatsoever, caused to the protected trees shall be notified to JM McConville + Associates, so that the damage can be assessed and rectified and the main contractor subject to financial penalty as per the Conditions of Contract. Value of damaged tree will be assessed using the 'Helliwell System'.

JM MCCONVILLE + ASSOCIATES
ARBORICULTURAL CONSULTANTS

Supervision and Monitoring

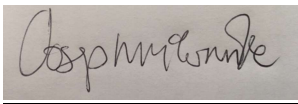
The arboricultural consultant will be responsible for monitoring of all arboricultural works and issuing a certificate of practical completion. In addition, the arboricultural consultant will inspect the protective fencing and monitor any works within exclusion zones.

A record of site visits will be maintained for inspection on site and copies forwarded to the developer / agent and to the local planning authority. The Contractor shall not fell any trees under any circumstances. All works within the protected tree zones are to be supervised by the arboricultural consultant.

Tree Protection Barrier Fencing

Tree protection barriers are to be in accordance with BS 5837:2012, clause 6.2. Barrier fencing to be 2.0 m high, comprising of 'Herras' style fence, each panel to be secured to the adjoining panel fixed to scaffold poles in with a minimum of 2 anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels are to be supported by stabilizers struts on the inside. Barrier fencing is to be installed to an agreed alignment. The Alignment is to be marked out on site and approved by the arboricultural consultant prior to erection of the barrier fencing. 'Construction Exclusion Zone' signage to be securely attached to the fence. Barrier fencing is to be maintained by the main contractor for the duration of the contract. All damage to be reported immediately to the Arboricultural consultant. Damaged fencing is to be repaired within 2 hours of the damage occurring to the satisfaction of the Arboricultural consultant.

All site operations in the vicinity of the damaged fencing are to be suspended until the fencing is repaired. During site inspections the Arboricultural consultant reserves the right to authorise the cessation of all works in proximity to the protected zones with immediate effect. A breach of such an instruction will be deemed to be a dismissible offence for the employee. As contract work progresses the protective barrier fence can only be adjusted under the supervision of the arboricultural consultant.



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