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## Arboricultural Impact Assessment

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**Prepared for:**

Glenveagh Homes Limited

**Proposed site:**

Drumbiggle, Ennis, Co. Clare

**Prepared by:**

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# 1 Summary

1.1 This arboricultural report has been commissioned by Glenveagh Homes Limited to provide information to assist with the planning process in relation to a proposed development at the above location.

1.2 This report includes:

- an assessment of the trees, their quality and value in accordance with BS 5837:2012 - Trees in relation to design, demolition and construction;
- the site context and observations on the trees;
- local planning policies relevant to the consideration of trees on the site;
- the impact of the proposed development upon the tree population in and around the site;
- methods of reducing impacts on trees; and
- measures to be taken to protect trees during the proposed works.

1.3 My conclusion is that the proposed development is acceptable in both arboricultural terms and in relation to local planning policy as it relates to trees. The loss of trees/hedgerows has been kept to a minimum and the impact on the character and appearance of the immediate surrounding landscape is negligible. Tree/hedgerow protection measures have been specified in accordance with best practice and are sufficient to safeguard retained trees/hedgerows during the proposed works.

## 2.0 Introduction

### 2.1 Instructions

Arbor-Care Ltd (Professional Consulting Tree Service) was retained to undertake an on-site tree and hedgerow survey of all trees and hedgerows that could be potentially be impacted by the development works within the site extents (Figure 1), the findings of the report will be used to inform design of development works and support a planning application for same.

The objective of the impact assessment was to identify the areas that contained trees, groups of trees, and to ensure where possible that these areas would be retained and to identify the trees that are to be removed to facilitate the development.

The survey commenced on the 8<sup>th</sup> June 2022. The survey concentrated on the trees within and adjacent area the development area.

The below impact assessment report is based on the British standard *BS 5837:2012 Trees in relation to design, demolition and construction recommendations*, this standard gives recommendations and guidance on the principles to be applied to achieve a satisfactory juxtaposition of trees, including shrubs, hedges and hedgerows, with structures. It sets out to assist those concerned with trees in relation to construction to form balanced judgements. This impact assessment report will be accompanied by an inventory of trees and hedgerows on site and a tree protection plan. The Arboricultural Impact Assessment and a tree protection plan was prepared for the site identifying trees that may be impacted on by the proposed development based on the proposed design.

### 2.2 Methodology

An initial tree survey and visual condition assessment was on the 8<sup>th</sup> June 2022. The purpose of this report and in accordance with *BS 5837: 2012 Trees in relation to design, demolition and construction. Recommendations* only trees with diameters of 75mm or greater were surveyed. Also in accordance with section 4.4.2.3 of the British standard document where trees formed obvious groups these were assessed and recorded as groups. All trees were individually tagged with a metal disc. This was placed on the northern side of the tree where practical.

*Section 4.4.2.3 of BS 5837: 2012 states:*

*Trees growing as groups or woodland should be identified and assessed as such where the arboriculturist determines that this is appropriate. However, an assessment of individuals within any group should still be undertaken if there is a need to differentiate between them, e.g. in order to highlight significant variation in attributes (including physiological or structural condition).*

*NOTE: The term “group” is intended to identify trees that form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or wood pasture), in respect of each of the three subcategories.*

The survey concentrated primarily on the significant trees/hedgerows and groups located within and adjacent to the proposed development area and has been based on the topographical survey plan provided. Please note not all trees and hedgerows were picked up on the topographical survey provided, therefore the locations of certain trees are estimated.

The objective of this survey was to gather information regarding the trees within or adjacent to the development area and the impact the proposed scheme may have on the trees. **Please refer to Appendix A for the tree inventory.**

Significant trees can be equated as those trees whose visual importance to the surrounding area are sufficient to justify special efforts to protect/preserve and whose loss would have an irremediable adverse impact on the local environment. Significance can also be placed depending on the trees age, another variable to imply significance can be the aesthetic merit of the tree based on its unusual size, intrinsic physical features or outstanding appearance or occurring in a unique location or context, and thus provides a special contribution as a landmark or landscape feature.

All above parts of the trees were visually examined. Tree diameters (DBH) were estimated at 1.5 meter above grade as per standard arboricultural practice. Tree height was measured with the use of a clinometer (Where practical). A generalised system was employed to describe the overall health of the trees. The system uses a three tier rating scale with the following descriptors:

### Specimen condition 3-tier rating system

- Poor- 1-30%
- Fair- 31-60%
- Good- 61-100%

## 3. Initial Tree Survey Overview

### 3.1 The Site

The survey area is located adjacent to an existing residential area. It is a series of large green fields, the main significant trees are located within the hedgerows, these primarily consist of large mature ash trees

**Figure 1.0 Overall Proposed site in Red**



## 4.0 The Trees.

A total of 23 individual trees plus nine hedgerows were surveyed for the entire site. A breakdown of the Tree Categories as per BS 5837 2012 is set out in the table below:

Category	Quantity	Category %
A-Tree of high quality	1	4%
B-trees of good quality	15	65%
C (Low quality or trees less than 75mm diameter)	6	26%
U (remove due to poor condition)	1	4%
Total Trees surveyed	23	100%

A breakdown of the Hedgerow Categories on site as per BS 5837 2012 is set out in the table below:

Category	Quantity	Category %
A-Hedgerow of high quality	0	0%
B- Hedgerow of good quality	6	66%
C-Hedgerow of Low quality	3	34%
U -Poor quality hedgerows	0	0%
Total Hedgerows surveyed	9	100%

## 5.0 Statutory and Non-Statutory Designations

The National Planning Framework (NPF) seeks to ensure that new development is sustainable and underlines the importance of Green Infrastructure, of which trees form an integral part. This encompasses recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaptation. The NPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity.

The site is located within the jurisdiction of *Clare County Council*. The Local Planning Authorities have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a Tree Preservation Order or other statutory designation) is therefore a material consideration. I have reviewed *Clare County Council Development Plan 2023-2029 Tree Preservation Orders (TPO's)*. There are no TPO's identified within the development site.

## 6. The Proposed Development (figure 2)

### Development Description

Permission for the construction of 285 no. residential units, 1 no. childcare facility to accommodate 60 childcare places., the provision of landscaping and amenity areas, an amenity walkway, central open spaces and play equipment and all associated ancillary infrastructure and services including 1 no. vehicular access point onto Circular Road, parking, lighting, 2 no. ESB substation, drainage and 1 no. pumping station at Ballymacaula, Drumbiggle, Circular Road, Ennis, Co. Clare.





## **7.0 Analysis of the Proposal in Respect of Trees**

### **Arboricultural Impacts**

- 7.1 Loss of trees – Please review Appendix A
- 7.2 Arboricultural works – No additional pruning works required at this stage
- 7.3 Following the completion of the development, a tree condition assessment should be carried out on all retained trees for health and safety purposes.
- 7.4 Tree protection measures - All retained trees can be successfully protected during the proposed development by using robust fencing which complies with the recommendations outlined within BS5837:2012.
- 7.5 No materials or equipment other than those required to install tree protection will be delivered to the site until all fencing is in place.
- 7.6 For details of the tree protection measures required during construction, please refer to the Tree Protection Plan.
- 7.7 Compound area – The proposed site compound has not been designed; there is sufficient space available throughout the site to avoid any unnecessary impacts to retained trees, provided the tree protection measures as detailed within this report are carried out.
- 7.8 Site access There will be no access issues.
- 7.9 Daylight and sunlight levels - Shading by trees have not been assessed in relation to this proposal.
- 7.10 Drainage and services – All new service runs should be located outside the RPAs of retained trees to avoid impacting their condition. If it is found necessary to locate services within tree RPAs, it is recommended that these works are carried out under arboricultural supervision. Methods of work should follow the recommendations in the NJUG guidance. BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances.
- 7.11 Boundary treatments – Please refer to the landscape plan for further information
- 7.13 Landscape operations - Landscaping operations will typically take place at the end of the construction period. These works will normally require the removal of protective fencing to facilitate access for works. There is a risk that plant and machinery may damage soil

structure where tree roots are growing. These risks can be managed by maintaining good professional standards of work and working to a method statement. The principle of avoiding soil disturbance or changes in levels within the RPAs of retained trees should be followed unless arboricultural advice has been sought.

## Arboricultural mitigation

7.14 A landscape plan may form part of the proposed works has been designed as part of the proposal and may include a number of new high-quality tree. The proposed planting will mitigate the loss of trees and hedgerows on site (if so determined) and will have a positive impact on local tree population. The number trees proposed to be planted will ensure that local canopy cover will gradually increase over the years and surpass the existing canopy cover within this area. A greater diversity of tree species has also been selected and will ensure that the tree population is less vulnerable to the risks posed by climate change and pests and diseases in the future.

## Discussion & Conclusion

### General Change

8.1 My assessment is that loss of trees is principally of low quality and therefore no impact on the character and appearance of the immediate surrounding landscape; however, the proposal provides a good opportunity to carry out new high quality tree planting that will significantly enhance the tree population and have a positive impact on the visual appearance of the site and the local area in the future.

## Proposal in relation to local planning policy

- 8.2 The proposed development complies with local planning policy as it relates to trees. A tree survey has been carried out in accordance with best practice and where possible trees have been retained and can be successfully protected during construction.
- 8.3 A landscape plan which includes new high quality tree planting may form part of the proposal. New planting will mitigate the loss of trees and enhance the visual appearance of the site in the future. Please review the landscape plan for further information

## Conclusion

The arboricultural impact of the proposed development on the site will be low 7 individual trees are to be removed to facilitate the development along with 4 hedgerow removals and two partial hedgerow removals.

Where trees are proposed to be retained where careful construction methodologies will allow their retention. Trees are to be removed due to a direct conflict with the Proposed Development and where specialist methodologies or design tweaks are not considered practical to facilitate their retention.

A high-quality scheme of new tree planting as detailed in the proposed landscape plan which represents an opportunity to increase the quality, impact, diversity and resilience of the local tree stock. Please review the proposed landscape plan for further information.

## Recommendations

- 9.1 The proposal should be carried out in accordance with the recommendations outlined within this report.
- 9.2 The positioning of tree protective barriers should be installed as detailed within the Tree Protection Plan.
- 9.3 Site supervision should be carried out by an arboricultural consultant at key stages of the project to ensure that retained trees are successfully protected during the development. Details of supervision are included within the Arboricultural Method Statement at Section 2 of this report

**Table 1: Schedule of trees to be removed to accommodate the design** (To be read in conjunction with Appendix 1 and the Tree Protection Plan

Tree number	Species	Age Class	Tree category
3980	Willow	Mature	B2
T4	Ash	Mature	B2
T5	ash	Mature	C2
T8	Ash	Mature	C2
T5	Ash	Mature	B2
T6	Ash	Mature	C2
T11	Ash	Mature	C2

**Table 1A: Schedule of Hedgerows to be removed to accommodate the design** (To be read in conjunction with Appendix 2 and the Tree Protection Plan

Hedgerow number	Species	Age Class	Hedge category
HB	Ash, hawthorn bramble	Mature	C2
HC-Partial removal	Ash, hawthorn bramble	Mature	C2
He	Ash, hawthorn bramble	Mature	C2
HF	Ash, hawthorn bramble	Mature	C2
HG-Partial removal	Ash, hawthorn bramble	Mature	B2
H-H	Ash, hawthorn bramble	Mature	C2

## Key to Abbreviations Used in the Survey

Ref No	Specific identification number given to each tree or group. T=Tree/H=Hedge/G=Group/W=Woodland/S=Shrub.	
Tag No.	Tree marked with individual tree tag of this reference number on site.	
Species	Common name followed by botanical name shown in <i>italics</i>	
RPA	Root Protection Area (As defined by BS5837)	
Stem diameter	Diameter of main stem, measured in millimetres at 1.5 m above ground level. (MS = Multi-stem tree measured in accordance with BS5837 Annexe C)	Av / Average:  indicates an average representative measured dimension for the group or feature
Spread	The width and breadth of the crown. Estimated on the four compass points in meters.	
Crown clearance	The estimated height (in meters) above ground level of the lowest significant branch attachments.	
#	Estimated dimensions	
*	Indicates estimated position of tree (not indicated on topographical survey).	
Category	Categorisation of the quality and benefits of trees on Site as per Table 1 and 2 of BS5837:2012. 1=Arboricultural quality/value 2=Landscape quality/value 3=Cultural quality/value (including conservation)  A=High quality/value 40yrs+ (light green). B=Moderate quality/value 20yrs+ (mid blue) C=Low quality/value min 10yrs/stem diameter less than 150mm (grey). U=Unsuitable for retention (dark red).	
Life stage	<b>Young (Y):</b> Newly planted tree 0-10 years. <b>Semi-Mature (SM):</b> Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size). <b>Early Mature (EM):</b> Tree in the second third of its normal life expectancy for the species (some potential for future growth in size) <b>Mature (M):</b> Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size). <b>Over Mature (OM):</b> Tree beyond the normal life expectancy for the species. <b>Veteran (V):</b> Tree which is of interest biologically, aesthetically or culturally because of its condition, size or age.	
Structural condition	<b>Good:</b> No significant structural defects <b>Fair:</b> Structural defects which can be resolved via remedial works. <b>Poor:</b> Structural defects which cannot be resolved via remedial works. <b>Dead:</b> Dead.	
Physiological condition	<b>Good:</b> Normal vitality including leaf size, bud growth, density of crown and wound wood development. <b>Fair:</b> Lower than normal vitality, reduced bud development, reduced crown density, reduced response to wounds. <b>Poor:</b> Low vitality, low development and distribution of buds, discoloured leaves, low crown density, little extension growth for the species. <b>Dead:</b> Dead <b>Fair/Good =</b> Indicates an intermediate condition <b>Fair – Good =</b> Indicates a range of conditions (e.g. within a group)	
Preliminary management recommendations	Works identified during the tree survey as part of sound arboricultural management, based on the current context of the Site (where relevant reference has been made to tree management based on the potential future context of the site).	
Impact of the development	Tree works identified as necessary to facilitate the Proposed Development following a desk top analysis of the proposals in relation to tree constraints.	

## Appendix A: Tree Survey Schedule

Tree	Species	Age class	Size (mm)	Height (M)	Crown Sp.(M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A Radius
T1	Ash <i>Fraxinus excelsior</i>	M	600	14	N=5 S=5 E=5 W=5	1	Good	A large mature ash tree displaying a good overall condition. Given its roadside location it will have a high amenity value	Retain-no impact	Retain	B2	7m
T2	Sessile Oak <i>Quercus petraea</i>	M	500	10	N=5 S=5 E=5 W=5	1	Good	A large mature Oak contained within hedgerow A. This is a significant tree of high ecological value.	Retain-no impact	Retain	B2	6m
T3	Beech <i>Fagus sylvatica</i>	M	480	10	N=4 S=4 E=4 W=4	1	Good	A mature beech, contained within hedgerow G. This may be removed to facilitate the development. As it is located internally within the site its amenity value is less.	Retain-no impact	Retain	B2	5.8m
T4	Ash	M	600	18	N=3 S=3 E=3 W=3	1	Good	A large mature ash located . This tree is will not be impacted on by the development	Remove to facilitate the development	Remove	C2	
T5	Ash	M	300	8	N=5 S=5 E=5 W=5	1	Good	Represents two ash trees located within hedgerow I.	Remove to facilitate the development	Remove	C2	



T6	Ash	EM	200	6	N=2 S=2 E=2 W=2	2	Good	A semi-mature ash contained within hedgerow H.	Remove to facilitate the development	Remove	C2	3m
T7 *(Note: outside site ownership)	Ash	M	650	20	N=4 S=4 E=4 W=4	2	Good	A large mature ash, this is located outside the development area and will not be impacted on	Retain-no impact	Retain	B2	7.5m
T8	Ash	M	300	8	N=2 S=2 E=2 W=2	1	Poor	A mature ash that has been severely topped in the past it is now effectively an overgrown stump	Remove	Remove	U	
T9	Sycamore	M	350	12	N=3 S=3 E=3 W=3	2	Good	A mature sycamore located within private property	Retain	Retain	B2	4.5m
T10	Sycamore	M	350	12	N=3 S=3 E=3 W=3	2	Good	A mature sycamore located within private property	Retain	Retain	B2	4.5m
T11	Ash	M	300	8	N=3 S=3 E=3 W=3	2	Good	A mature ash tree displaying a good overall condition	Remove to facilitate the development	Remove	B2	
3980	Willow	M	380	8	N=4 S=4 E=6 W=6	1.5	Good	A large mature willow	Remove to facilitate the development	Remove	B2	
T12	Ash	M	300	14	N=3 S=3 E=3 W=3	2	Poor	A mature ash displaying symptoms of advanced ash dieback	No impact	Consider for removal	C2	4m

T13	Ash	M	300	14	N=3 S=3 E=3 W=3	2	Poor	A mature ash displaying symptoms of advanced ash dieback	No impact	Consider for removal	C2	4m
T14	Ash	M	300	14	N=3 S=3 E=3 W=3	2	Poor	A mature ash displaying symptoms of advanced ash dieback	No impact	Consider for removal	C2	4m

## Appendix A: Tree Survey Schedule – Cahircalla Road

Tree	Species	Age class	Size (mm)	Height (M)	Crown Sp.(M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A Radius
307	Sycamore	M	800	14	N=6 S=6 E=6 W=6	2	Good	A large mature sycamore located within private property	Unknown	Retain	A2	9m
308	Sycamore	M	700	12	N=3 S=3 E=3 W=3	2	Good	A large mature sycamore located within private property	Unknown	Retain	B2	8m
309	Sycamore	M	560	12	N=4 S=4 E=4 W=4	2	Good	A large mature sycamore located within private property	Unknown	Retain	B2	6.6m
310	Sycamore	M	600	14	N=4 S=4 E=6 W=6	2	Good	A large mature sycamore located within private property	Unknown	Retain	B2	7m
311	Oak	M	400	8	N=2 S=2 E=2 W=2	1	Good	A mature it has been suppressed by the larger sycamores	Unknown	Retain	B2	5m

Tree	Species	Age class	Size (mm)	Height (M)	Crown Sp.(M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A Radius
312	Oak	M	560	14	N=2 S=2 E=2 W=2	2	Good	A mature oak on private property	Unknown	Retain	B2	6.6m
313	Beech	M	400	10	N=2 S=2 E=2 W=2	1	Good	A mature beech on private property	Unknown	Retain	B2	5m
314	Beech	EM	250	5	N=3 S=3 E=4 W=4	1	Good	A mature beech on private property	Unknown	Retain	B2	3.5m

## Appendix 2– Hedgerow inventory

Hedge #	Species Botanical Name	Age Class	Dia Size (mm)	HT	Hedge width	Crown Cl.(M)	Condition	Structural/Physiological Observations &PMR	Impact of development	Remedial works	Category	R.P.A. (M Radius)
HA	<i>Crataegus monogyna</i> Hawthorn <i>Corylus avellana</i> Hazel	M	200	10m	N=3 S=2 E=2 W=3	1	Good	This is the highest quality hedgerow on the site	No impact	Retain	B2	To the dripline
HB	Hawthorn Bramble	M	150	3-5m	N=2 S=2 E=2 W=2	1	Poor	A low quality hedgerow, however a portion does back onto residential house that affords them screening	Remove to facilitate	Remove	C2	
HC	Hawthorn <i>Acer pseudoplatanus</i> Ash Willow	M	200	310m	N=2 S=2 E=2 W=2	1	Good	A good quality hedgerow, consisting of hawthorn ash and willow	Partial removal to facilitate development	Remove highlighted section	C2	To the dripline

Hedge #	Species Botanical Name	Age Class	Dia Size (mm)	HT	Hedge width	Crown Cl.(M)	Condition	Structural/Physiological Observations &PMR	Impact of development	Remedial works	Category	R.P.A. (M Radius)
HD	Hawthorn	M	200	10m	N=3 S=2 E=2 W=3	1	Fair	A low quality hedgerow it bounds the golf course and therefore provides a buffer between the two sites	No impact	Retain	B2	To the dripline
HE	Hawthorn Bramble	M	150	3-5m	N=2 S=2 E=2 W=2	1	Poor	A small hedgerow which contains no trees of significance	Remove to facilitate	Remove	C2	
HF	Hawthorn Ash Willow	M	200	8m	N=2 S=2 E=2 W=2	1	Good	A T-Boned shaped hedge of good quality hedgerow, consisting of hawthorn ash and willow	Remove to facilitate	Remove	C2	

Hedge #	Species Botanical Name	Age Class	Dia Size (mm)	HT	Hedge width	Crown Cl.(M)	Condition	Structural/Physiological Observations &PMR	Impact of development	Remedial works	Category	R.P.A. (M Radius)
HG	Hawthorn	M	200	6m	N=3 S=2 E=2 W=3	1	Good	A small internal hedgerow of good quality	Remove to facilitate	Remove	B2	
Hedge H	Hawthorn	M	200	10m	N=3 S=2 E=2 W=3	1	Fair	A low quality hedgerow consisting of a stone wall overgrown by brambles	Remove to facilitate	Remove	C2	
Hedge I	Hawthorn	M	200	10m	N=3 S=2 E=2 W=3	1	Fair	A low quality hedgerow consisting of a stone wall overgrown by brambles	No impact	Retain	C2	

## Section 2: Arboricultural Method Statement

### Introduction

This report has been prepared in accordance with British Standard 5837: Trees in relation to design, demolition and construction – Recommendations (2012) which provides a methodology for the assessment and protection of trees and other significant vegetation on development sites.

### Sequence of Operations

- Carry out the proposed tree works.
- Installation of tree protection measures.
- Enabling works.
- Construction of proposal and the installation of drainage and services.
- Landscaping.

*Alternative sequences can be discussed and agreed with the local authority and project manager if required.*



## Supervision

All key / critical activities that will affect trees during construction will be inspected and monitored by the approved arboricultural consultant *if so requested by the local authority*.

- Pre-commencement meeting with site manager and local authority to confirm location of tree protection measures.
- Inspection of all tree works and tree protection measures prior to the commencement of works.
- Supervision during the excavation works within the RPAs of retained trees.
- Supervision during the installation of all services within tree RPAs.
- Supervision during any other works that may affect retained trees.
- Inspection upon completion.

<b>Arboricultural Method Statement</b>	
<b>Scope</b>	<b>Methodology</b>
<b>Pre-commencement meeting</b>	<p>Prior to the commencement of works, a meeting between the arboricultural consultant, local authority and the site manager will be held in order to discuss the tree protection measures and proposed works required in close proximity to trees. (if requested)</p> <p>Contact details of all parties will be circulated to ensure all team members are able to communicate correctly.</p> <p>The site manager will be responsible for the protection of all retained trees for the duration of the project. Whenever necessary, the site manager will engage the arboricultural consultant to ensure trees are adequately protected.</p> <p>The appointed arboricultural consultant will be available for verbal advice throughout site works.</p>
<b>Tree Works</b>	<p>Please refer to the Tree Work Schedule at Appendix A for a list of all proposed tree works. The location of trees to be removed are highlighted on the Tree Removals Plan at Appendix B.</p> <p>It is the responsibility of the Site Manager to ensure all tree works have been approved by the local planning authority.</p> <p>All tree works will be carried out by a reputable arboricultural contractor in accordance with the recommendations given in BS 3998:2010 – Tree Work Recommendations.</p> <p>All tree works should be carried out in accordance with Section 40 of the Wildlife Act 1976 and Section 46 of the Wildlife (Amendment) Act 2000.</p> <p>It is the responsibility of the arboricultural contractor to ensure that no protected species are harmed whilst carrying out site clearance or tree surgery works.</p>

<b>Tree Protection</b>	<p>The position of protective fencing for construction is shown on the Tree Protection Plan.</p> <p>Protective fencing will be constructed and installed using fencing in accordance with BS5837:2012, please refer to the attached Tree Protection Plan for the specification. Alternatives to those shown must be agreed in advance by the client approved, arboricultural consultant.</p>
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	<p>Any machinery / site operative within tree RPAs must operate on the appropriate ground protection at all times, this will include the installation and removal of ground protection.</p> <p>Ground protection measures must be installed in accordance with industry best practice guidance as stated within Section 6.2.3.3 of BS 5837:2012. They must be fit for purpose and capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.</p> <p>No materials or equipment other than those required to erect protective fencing will be delivered to the site before the fencing is installed.</p> <p>Signs will be fixed to every third panel stating, <i>'Tree Protection Area Keep Out – Any incursion into the protected area must be with the agreement of the local authority or arboricultural consultant'</i>.</p> <p>The main contractor will inform the local authority and the arboricultural consultant that tree protection is in place before site clearance works commence.</p> <p>No alteration, removal or repositioning of the tree protection will take place during construction without the prior consent of the arboricultural consultant.</p>
<p><b>Compound Area</b></p>	<p>The proposed site compound area has not yet been designed; however, the considerations below must be followed:</p> <p>The site compound must be located outside the designated TPZs as highlighted on the Tree Protection Plan at Appendix B.</p> <p>No excavation works within tree RPAs are permitted to install temporary services for site cabins and facilities. Any temporary services within tree RPAs must be above ground and protected accordingly.</p> <p>No operating generators or toxic liquids will be stored within the RPAs of retained trees during construction.</p> <p>Overhanging tree canopies must be taken into consideration when transporting, installing and removing site cabins near tree crowns. A banksman will be present during this process to ensure that all operations are carried out in a controlled manner and no part of the</p>

	cabin meets overhanging tree crowns.
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<p><b>Installation of fencing within RPAs</b></p>	<p>The installation of fencing within the RPAs of retained trees will be carried out using the following methodology:</p> <p>Post holes will be carefully positioned as far away from the stem of trees as possible (minimum 50 cm) to minimise contact with tree stems and significant tree roots.</p> <p>Holes will be manually excavated with the use of hand tools only and where roots greater than 25mm in diameter or large fibrous roots are present, the position of the hole will be slightly altered to avoid potential root damage.</p> <p>If the position of the hole cannot be altered, roots greater than 25mm in diameter or large fibrous roots will be protected with flexible plastic pipes and retained within the pit.</p> <p>In some cases, individual roots less than 25mm in diameter may be pruned, making a clean cut with a suitable sharp sterile tool (e.g. secateurs or handsaw).</p> <p>Once the required depth has been excavated, the hole will be lined using 1000-gauge polythene and filled with the appropriate concrete mix.</p>
<p><b>Landscape Operations</b></p>	<p>All landscape operations within the protected area will be carried out by hand, using hand tools only, unless otherwise agreed with by the arboricultural consultant.</p>

	<p>No dumping of spoil or rubbish, parking of vehicles or plant, storage of materials or temporary accommodation will be undertaken within the TPZs.</p> <p>All tree roots within the RPAs greater than 25mm diameter will be retained and worked around.</p> <p>Soil levels will not be increased or reduced within the RPAs of trees without prior agreement from the arboricultural consultant.</p>
<p><b>General Principles to Avoid Damage to Trees</b></p>	<p>All tree works will be carried out in accordance with the recommendations given in BS 3998 (2010).</p> <p>No fires will be permitted within 20m of the crown of any tree.</p> <p>No materials, vehicles, plant or personnel will be permitted into the tree protection zones at any time without the prior consent of the arboricultural consultant.</p> <p>Any liquid materials spilled on site will be immediately cleared up and removed from the site. If liquid fuel or cement products are spilled within 2m of the tree protection zone, the contractor will report the incident to the arboricultural consultant immediately.</p> <p>The contractor will report any damage to trees or shrubs, whether caused by construction activities or from any other cause, to the arboricultural consultant immediately.</p>

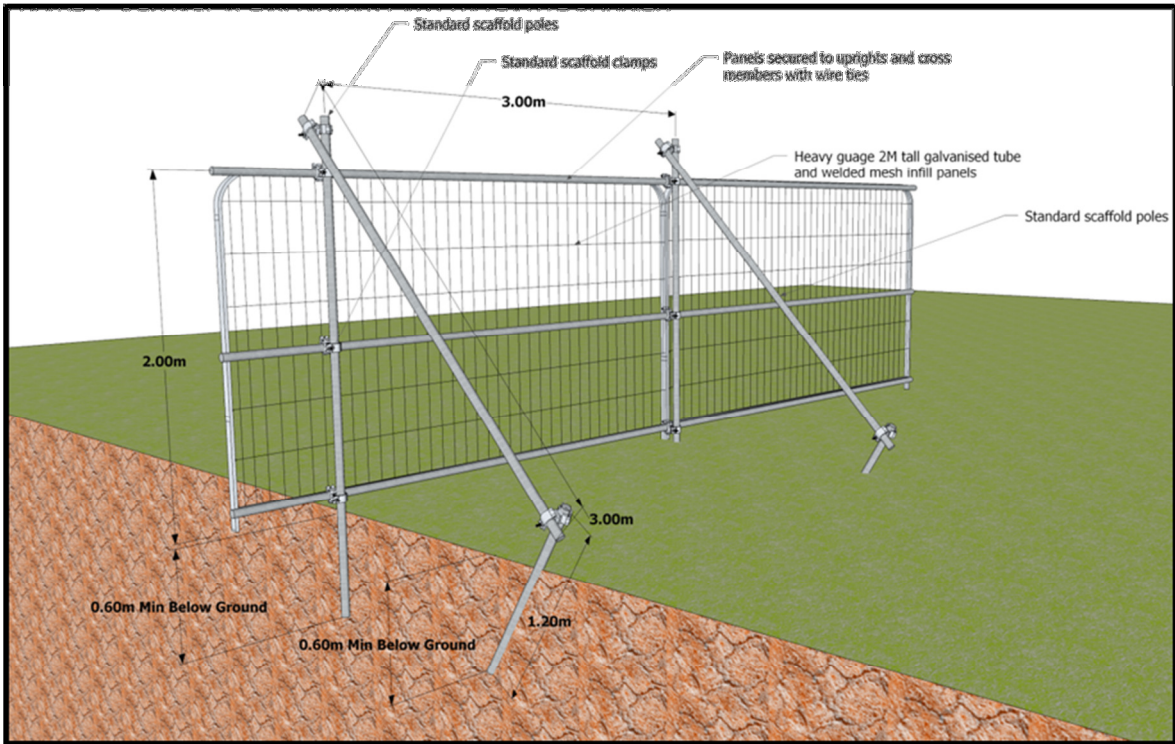
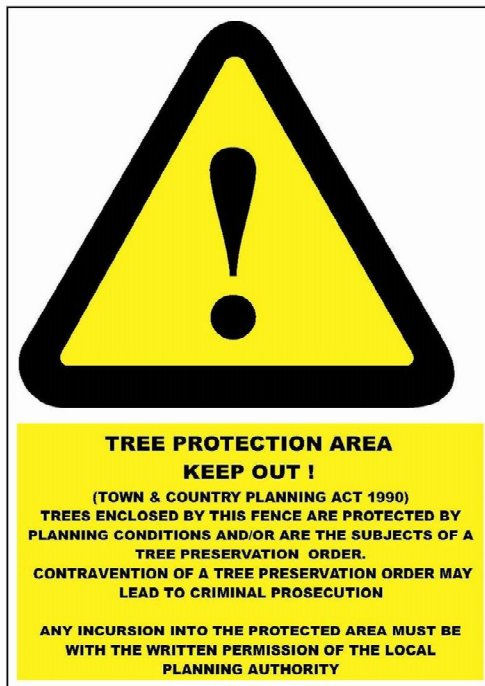


Figure 3 Default specification for tree protection barrier in accordance with BS5837:2012







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Arbor-Care Ltd, Professional Consulting Tree Service

*Yours in Conservation,*

*Michael Garry.*

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