Arborist Associates Ltd.

An Arboricultural Assessment of the Tree Vegetation on the Site Area at 'Clonbrone', Lucan, Co. Dublin.

Prepared for: Nacul Developments Ltd.

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1.0 Instructions

1.1 I have been instructed by Nacul Developments Ltd (planning applicant) to carry out an assessment of the tree vegetation located on the site area at 'Clonbrone', Lucan, Co. Dublin and to report on the following:

A - To assess the present condition of the tree vegetation within this site area. See 'Appendix 1' and Drawing No.CBL001 which has been developed as a constraints plan for detail.

B - To assess the impact of the proposed development layout on the tree vegetation located within the site area indicating those for removal and retention. See 'Section 5.0' of our report and Drawing No.CBL002' for detail.

C - To show the position of the tree protective fencing and other tree protection measures that will need to be put in place at the commencement of the works and be maintained in place until all construction works are complete. See 'Section 6.0' or our report and Drawing No.CBL002' for detail.

2.0 Report Limitations

2.1 The inspection of these trees has been carried out from ground level only, is a preliminary report and does not include climbing inspections, internal investigations of the timber or below ground investigations. The assessment is based on what was visible at the time of the inspection and recommendations made are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the above inspections.

2.2 This report only relates to factors apparent at the time of the inspection; as a result, further monitoring is imperative if potential problems/hazards are to be avoided. Recommendations made are intended to minimize or to help reduce potential hazards that may be associated with trees, but it is not possible to remove all such risks especially in the event of heavy winds or storms and as such, there is no guarantee or certainty that all hazardous conditions will be detected. The recommendations within this report are valid for a 12 month period only, unless otherwise stated within the recommendations of the attached report.

2.3 Before undertaking any work to these trees, it would be advisable to check whether any planning or tree preservation controls are in operation, if they are it will be necessary to obtain consent before undertaking any works (pruning or felling). It will also be necessary to comply with the Forestry Act and the Wild Life Act when carrying out works on the trees, both felling and pruning works.

3.0 Survey Data Collection and Methodology

3.1 The assessment starts at the entrance to 'Clonbrone' from Lucan-Newlands Road and works in an anti-clockwise direction around the grounds. The trees have been numbered with aluminum tag reference numbers from 0434-0465, unless referenced otherwise (see Appendix 2 for full details on these trees). The tag numbers are attached to the trees at a height of 1.5- 2m from ground level and are orientated in such a way to assist in their relocation.

3.2 The inspection of the trees involves a visual assessment from ground level only and does not include any invasive means of assessing the trees internally, their below ground parts or the aerial parts that are not visible from the ground. Good, fair and poor have been used to summarise the physiological and structural conditions of these trees with the comments giving more detail. Other items that may limit the assessment of a tree included Ivy cover, scrub vegetation and/or basal suckers.

3.3 Their retention category has been assessed and categorized according to their quality and value within the existing context (BS-4.5), and not in conjunction with any proposed development plans. In making this assessment, particular consideration was given to;

Arboricultural Value – An assessment of the trees health, structural form, life expectancy, species and its physical contribution to or effects on other features located on site.
Landscape Value – An assessment of a trees locality including its contributions to other features as well as to the site as a whole.
Cultural Value – Additional contributions made such as conservation, historical or commemorative value.

3.4 The trees have been divided into one of the following categories, in accordance with the cascade chart illustrated in table 1 of BS 5837:2012. The classification process begins by determining whether the tree falls within the (U) category, if not then the process will continue by assuming that all trees are considered according to the criteria for inclusion in the high category (A). Trees that do not meet these strict criteria will then be considered in light of the criteria for inclusion in the moderate category (B) and failing this, they will be allocated a low category (C).

The following summarizes each of the categories:

Category U – Those trees in such a condition that any existing value would be lost within 10 years.

These would be seen as trees that have little or no potential either due to their physiological and/or structural condition and their removal would be seen necessary either now or in the short-term as the most appropriate management option. Due to the condition of these trees, they should not be considered a constraint on the design layout of the proposed development of this site area.

The category 'U' trees within the site area have been identified on our drawings (Nos.CBL001 & CBL002) with a 'Red' donut around their trunk positions.

Category A - Trees of high quality/value with a minimum of 40 years life expectancy.

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the long-term and consists of trees of all age classes from semi-mature to mature.

The category 'A' trees within the site area have been identified on our drawings (Nos.CBL001 & CBL002) with a 'Green' donut around their trunk positions.

Category B – Trees of moderate quality/value with a minimum of 20 years life expectancy.

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the medium term and consists of trees of all age classes from semi-mature to mature.

The category 'B' trees within this site area have been identified on our drawings (Nos.CBL001 & CBL002) with a 'Blue' donut around their trunk positions.

Category C – Trees of low quality/value with a minimum of 10 years life expectancy

These trees would be seen as having the potential to provide tree cover for the short to medium term. As part of the future management, some of these will probably be removed for one reason or another. These trees should not be seen as a considerable constraint on the development of these lands, but should be considered for retention where viable.

The category 'C' trees within this site area have been identified on our drawings (Nos.CBL001 & CBL002) with a 'Grey' donut around their trunk positions.

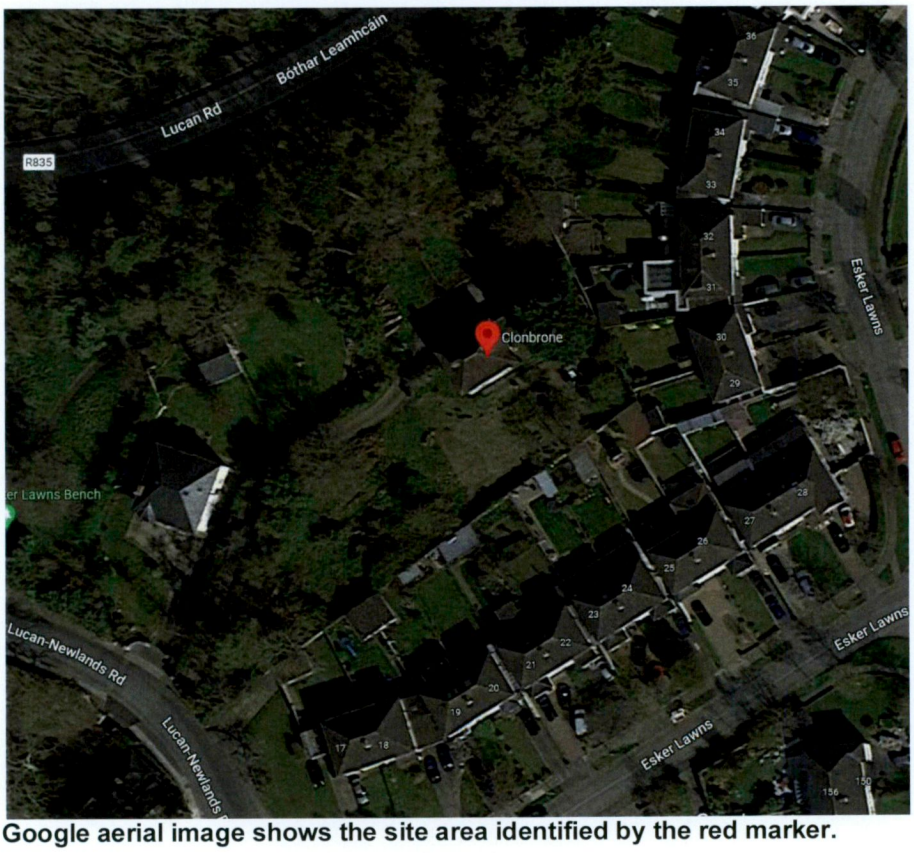
3.5 The trees have been plotted onto the attached drawing (DWG No.CBL001) by a land survey company. This drawing has been developed as a constraints drawing to aid the design team in the layout of the development and the tag numbers referred to in the condition tree report have been shown on this drawing along with their crown spreads and their retention category colour coded as recommended by BS 5837 2012. The constraint (Minimum Root Protection Area) for each tree has been shown with an 'Orange Circle' and all proposed development should be planned to be positioned outside those trees proposed for retention allowing for additional space for construction activities.

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is usually expressed as a radius in metres measured from the tree stem. Any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection for the root system:

a) The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures, drainage ditches and underground apparatus);
b) Topography and drainage;
c) The soil type and structure;
d) The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

4.0 Findings

4.1 The site area is irregular in shape and is made up of the grounds of a property known as 'Clonbrone' with a small area from the neighboring property known as 'Clonard'. It is accessed via the Lucan-Newlands Road along its western boundary and is bordered by the Lucan Road to its north, the grounds of a private residential property 'Clonard' to the north-west and the rear gardens of houses within 'Esker Lawns' to its east and south.



Google aerial image shows the site area identified by the red marker.

4.2 The site area was initially laid out formally with lawn areas, shrub borders and a working garden, however, it has lain derelict for a number of years and this lapse in management has resulted in the grounds becoming overgrown with the establishment of self-seeded weeds, scrub vegetation and trees. Some clearance works have been undertaken in order to open up the grounds of this property to allow for access.

4.3 To the east of the entrance there was a lawn area and working garden which have not been maintained and has now become overgrown with scrub species such as Elder and Bramble. The main tree species within this area include Cherry, Ash, Laburnum, Larch, Holly, Beech, Norway Maple, Birch, Bay Laurel and Hawthorn. The bulk of the Ash have established here from seed since management has lapsed and many of these are growing from the base of the boundary walls with the potential to cause structural damage to these walls as they grow in size. The Ash are also likely to become infected by 'Ash Dieback' Disease *(Hymenoscyphus Fraxineus)* and this will limit their long-term potential.

4.4 Located outside the northern boundary of the site area is a linear woodland belt situated on lands that run in an east to west direction which slopes steeply down to the Lucan Road. This linear woodland extends into the adjoining properties to the east and west and forms a prominent/visual belt of trees of value to the trees cape/sylvan character of this and the surrounding area. It consists of mainly coniferous tree species being dominated by mature Larch with some pockets of mature Corsican Pine. On the upper slopes of this tree belt bordering with the site area, there are two mature Oak trees (Nos.0460 & 0461).

4.5 Within the overall site area, 31No.Trees were tagged individually, with two Hedges numbered numerically along with one Linear Woodland Belt and one Scrub Area.

The following table gives a breakdown of the category grading allocation as per the cascade chart in BS5837 2012:

Category Grade	No. of trees
Category U **8 Trees** **+ 1 Hedge**	**Tree Nos.** 0434, 0435, 0438, 0445, Tree No.2, 0450, 0455 & 0458 Hedge No. 1
Category A **1 Tree**	**Tree No.** 0460
Category B **2 Trees**	**Tree Nos.** 0449 & 0461
Category C **20 Trees** **+ 1 Hedge** **+ 1 Scrub Area**	**Tree Nos.** 0436, 0437, 0439, 0440, 0441, 0442, 0443, 0444, 0446, 0447, 0448, Tree No.1, 0454, 0456, 0457, 0459, 0462, 0463, 0464 & 0465 Hedge No.2 & Scrub Area No.1
Total	**31 Trees + 2 Hedges + 1 Scrub Area**

5.0.0 Arboricultural Implication Study

5.1.0 Introduction

5.1.1 It is proposed to develop this site area for a new residential development of seven houses with their own private gardens and it will be necessary to allow for infrastructural works such as services on this site area at 'Clonbrone', Lucan, Co. Dublin.

5.1.2 This document is designed to assess the impact of the proposed development layout on the existing tree vegetation on this site area and to look at the necessary measures that will need to be undertaken to help retain the trees shown for retention free from adverse impacts for the duration of the construction period.

5.1.3 On the accompany drawing (DWG. No.CBL002), I have marked the trees for retention with 'Hatched Green' crown spreads and those for removal either directly as a result of the development layout, condition or as part of the most appropriate management with open 'Red' crown spreads.

5.1.4 I have also shown on this drawing using 'Orange Hatching' the position of the tree protective fencing that needs to be erected at the very start of the works and be maintained in place throughout the construction works period around those trees to be retained.

5.2.0 Impact on Tree Vegetation

5.2.1 **Tree Loss:**

To facilitate the proposed development, it will be necessary to remove the following vegetation:

Category Grade	No. of Trees for Removal
Category U **8 Trees** **+ 1 Full Hedge**	**Tree Nos.** 0434, 0435, 0438, 0445, Tree No.2, 0450, 0455 & 0458 Hedge No. 1 These trees will need to be removed as part of management, either now or in the short-term due to their condition physiologically and/or structurally irrespective of the development of this site area.
Category A **0 Trees**	**No Trees** --
Category B **1 Tree**	**Tree No.** 0449
Category C **14 Trees + 1 Hedge + c. 7 linear meters of Hedge No.2 + scrub areas**	**Tree Nos.** 0436, 0437, 0439, 0440, 0441, 0442, 0443, 0444, 0446, 0447, 0448, Tree No.1, 0454 & 0459. Hedge No.1 & c.7m of Hedge No.2 and Scrub Area No.1.
Category C **2 Trees**	**Tree Nos.** 0456 & 0457 are not directly affected by the proposed development layout, but are being recommended for removal as part of management to prevent structural damage occurring to the boundary wall with the neighbouring properties and due to the fact that the tree species are likely to grow too large for this urban environment.

5.2.2 **In summary**, 25 of the 31No. individually tagged trees included within this assessment area along with 1No. full hedge plus c.7m linear meters of another hedge will need to be removed to facilitate the proposed development works on this site area with a further two trees also being recommended for removal as the most appropriate management option due to their species and growing location.

The 25No.Trees for removal are made up of the following category grades:

- 8No. **category 'U'** trees =100%
- 0No. **category 'A'** trees =0%
- 1No. **category 'B'** trees =50%
- 16No. **category 'C'** trees =80%

As can been seen from the above break down of category grade for trees to be removed, all with the exception of one (Tree No.0449) are of low quality and their loss is to be mitigated against within the landscaping of this completed development with the use of trees, shrubs, herbaceous plants, bulbs and hedging. See landscape architects drawings and schedules for detail.

This planting as part of the landscaping will complement the development and will help with its incorporation into the surrounding area. It will also help to provide good quality and sustainable long-term tree cover and as it establishes and grows in size, it will be continuously mitigating any negative impacts created with the loss of the existing tree vegetation to facilitate the proposed development.

5.3.0 Tree Retention

5.3.1 The tree vegetation outside the northern boundary of the site area which is made up of the linear woodland belt is not being impacted upon by the proposed development. On the boundary of this linear woodland belt with the site area, is a mature Oak, Tree No.0460 which is located on the site side of this linear woodland. This tree will have some minor encroachment of the development into its calculated root zone for the end of the turning head/road and a pedestrian path within the open space and to minimize impact from these construction works, both are to be installed using a 'No-Dig' method bringing the surfaces over the existing levels without a need to dig down which could cause soil and root damage to this tree. These surfaces can be designed to include the use of a cellular confinement system to provide structural support and this will need to be installed in accordance with 'Arboricultural Guidance Note 12', 'The Use of Cellular Confinement Systems Near Trees – A Guide to Good Practice'. See general installation notes under 'Section 6.45 of this report. The levels within this area will allow this method of construction as the finished ground levels are higher than the existing.

There is also a need for boundary treatment to run through the root zone of this tree which has been called up as a railing where there will only be a need to dig small diameter holes for the fence uprights within the root zone of the tree. These holes will need to be dug manually or with the aid of an auger and kept to a small size so to minimize any potential root damage to this tree. All machinery used will need to be kept outside its root zone and where works are occurring; ground protection in the form of planks or mats will need to be used to protect the soil within these areas for damage/compaction.

The service layout as shown on the engineer's drawings within this area will need some twigging on site as the surface water manhole extends into the root zone of Tree No.0460, and this will need to be pulled back or moved to the side to be located outside the root zone of this tree.

5.3.2 Tree Nos.0462-0465 are located outside the site area and will not be impacted upon by the proposed development with the exception of an encroachment into the root zone of Tree No.0465 for the entrance road and boundary treatment which may cause some root damage, but would not be significant to warrant its removal now.

5.3.3 For all the trees proposed for retention, the necessary mitigation measures will need to be put in place in order to prevent or reduce impact to its very minimum. Mitigation measures used will need to include the erection of protective fencing at the very start of the works, monitoring of the site works by the project Arboriculturist throughout the construction process and the use of tree friendly techniques and products for the construction process.

5.3.4 The following are the main areas for consideration during the Proposed development/ construction works:

Item	Comments
Tree Pruning	As part of the initiating works, the crowns of some of the trees are to be pruned to remove dead/unstable growth, the pruning of individual limbs/branches or entire crowns to reduce size due to structural weaknesses or to improve their juxtaposition within the built environment. A preliminary list of these works is given within the condition tree assessment in 'Appendix 2' of this report and these are to be reviewed on site prior to being carried out. All tree felling and pruning work need to be carried out by qualified and experienced tree surgery firm *before* any construction work commences; all tree work should be in accordance with *BS3998 (2010) Tree Work – Recommendations.* All trees for removal will need identified by the project arboriculturist and to be felled to stumps. All stumps in particular those which are located within the root zone of trees being retained are to be ground out using a mechanical stump grinder taking care not to cause root damage to the trees being retained.
Tree Protection	The tree and hedge vegetation being retained will need to be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff. Ground protected by the fencing will be known as the 'Work Exclusion Zone' and sturdy protective fencing will need to be erected along the points identified in the Tree Protection Plan (DWG No.CBL002) **prior** to any soil disturbance and excavation work starting on site. This is essential to prevent any root or branch damage to the retained trees. The British Standard BS5837: *Trees in relation to design, demolition and construction (2012)* specifies appropriate fencing, see 'Appendix 1' for details. All weather notices will need to be erected on the fences with words such as: "Tree Protection Fence — Keep Out". When the fencing has been erected, the construction work can

Item	Comments
	commence. The fencing should be inspected on a regular basis during the duration of the construction process and shall remain in place until heavy building and landscaping work have finished and its removal is authorized by the project Arboriculturist.
Construction	It will be important that good housekeeping is in place at all times so that the site does not become congested. All construction works are to be well planned in advance so as not to put pressure on the protective zone around the trees. All works are to occur from outside the protective zones. Where work space between the building lines and the protective fence lines is limited/ restricted, alternative work methods will need to be looked at so as to keep the work areas to their minimum in order to reduce the extent of soil and root damage occurring to the trees proposed for retention. See section 6.2.3 of BS5837 2012 for detail on working within the RPA and ground protection. For light access works within the work exclusion zone, the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable. These are to be reviewed with the project Arboriculturist and installed to their recommendations. See detail in 'Appendix 1' of this report for sample. Care will need to be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, cannot be discharged within 10m of a tree stem. Fires cannot be lit in a position where their flames can extend to within 5 m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction. Notice boards, wires and such like cannot be attached to any trees. Site offices, material storage and contractor parking will need to be located outside the work exclusion zones of the tree and hedge vegetation being retained.
Services	Services entering and leaving the site area are to be routed so they run outside the work exclusion zones (fenced off areas) of the trees being retained. There is sufficient space on the site to allow this to occur and in consultation with the project engineers a satisfactory juxtaposition can be achieved. See project engineer's drawings for detail for service routes.

Item	Comments
	Prior to the installation of any services, these are to be marked out on site for review by the project Arboriculturist and a detail method statement is to be prepared by the installation contractor in conjunction with the project Arboriculturist on how these services are to be installed while providing protection to the tree vegetation shown for retention.
Landscaping	The existing ground levels within the RPA of the trees are to be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels. All soft and hard landscaping within the RPA of the trees to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA's of these trees. It will be important within these areas that all works are carried out manually with minimal intervention with machinery and where machinery is required; this will need to be of a small light weight type and all works will need to be supervised by the project Arboriculturist. Where this machinery needs to transverse the root protection areas of trees, the route for this will need to be protected by boarding or other means to meet the requirements of 'Section 6 of BS5837 2012'. The path and road surfaces which run through the root zone of trees being retained will need to be installed using a 'No-Dig' method over the existing ground levels to avoid causing damage to the soil and roots underneath. It will be important to use a cellular confinement system such as 'CellWeb' within the construction of these paths. See 'Section 6.8.0' of our report for general detail on the installation of such a product and the guidance of the Arboricultural Practice Note 12 'The use of cellular confinement systems near trees - A guide to good practice'.
Boundary Treatments	Some of the new proposed boundary treatments come within the RPA of the trees to be retained and where this occurs, these are to be of a fence/rail type structure where there will only be a need to excavate small diameter holes for the uprights. To accommodate these works, it will be necessary for the pruning of the undergrowth in particular and in some instances the lower crowns of trees to facilitate these fences/railings and their erection. Again this pruning will need to be kept to a minimum and will not impact on the trees.

Item	Comments
	For the boundary fences/ railings where they run through the root zone of trees small diameter holes will need to be dug for the uprights either manually or with the aid of an augur with no machinery allow to work within the root zone of the trees. Work zones within the root protection areas for these trees will need to be protected during the construction of the boundary fences by boarding as per section 6.2.3 of BS 5837 2012.

5.4.0 Monitoring

5.4.1 Any construction works in close proximity to retained trees are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist is recommended to be retained by the principal contractor or site manager to monitor and advice on any works within the RPA of retained trees to ensure successful tree retention and planning compliance.

5.4.2 It is advised that tree protection fencing, any required special engineering and supervision works must be included in the main tender documents, including responsibility for the installation, cost and maintenance of tree protection measures throughout all construction phases.

5.4.3 Copies of the tree retention and protection plan (DWG No.CBL002) a copy of BS 5837(2012) and NJUG 4 (2007) should all be kept available on site during development. All works are to be in accordance with these documents.

5.4.4 On the completion of the construction works, all trees retained are to be reviewed by the project Arboriculturist and any necessary remedial tree surgery works required to promote the health of the trees and safety are to be implemented.

6.0 Arboricultural Method Statement/Tree Protection Strategy

6.1 The objective of this arboricultural method statement/tree protection strategy is to provide information for the main building contractor/site manager on how trees need to be protected during a construction project and so that they can prepare their own site specific detailed method statement for their works.

6.2 It is necessary for tree protective fencing to be erected and all other mitigation measures required to be put in place prior to the development works commencing on site and these are to enclose and protect the root zone of the tree vegetation proposed for retention. See drawing No.CBL002, for the position of the protective fencing and other mitigation measures.

6.3 The protection of the tree vegetation shown for retention within this proposed development is divided into three main sections starting with the preconstruction stage right through to post construction and the reassessment of the retained trees.

6.4.0 Stage 1 - Pre-Commencement of the Construction Works

6.4.1 Prior to the main construction works commencing on site the following needs to be planned:

1. The developer or main contractor needs to appoint an Arboriculturist for the duration of the project. The Arboriculturist is to make regular site visits to ensure that the tree protection measures are in place and adhered to.
2. The main contractors and all sub-contractors work force are to be briefed on the tree protection and ensure that these measures are to be kept in place throughout the construction period.
3. All personnel are to adhere to the recommendations of the appointed Arboriculturist.
4. Any issues in relation to the trees shown for retention must be discussed with the appointed project Arboriculturist and the necessary mitigation measures put in place without delay and prior to the works being carried out.

6.4.2 Site meeting

Prior to any works commencing on site, it is necessary that a meeting be arranged between the project manager, site foremen, the project landscape architect, the project Arboriculturist and local authority parks department to identify and finalize the trees for removal and the line of the protective fencing.

6.4.3 Tree works

The developer or the main contractor is to appoint a tree surgery company competent of carrying out the remedial tree surgery works and tree felling that are required on this site. The tree surgery contractor is to produce a method statement detailing how he plans to undertake the works and informing the site foreman of the process so the necessary steps can be taken to ensure the works

are carried out safely and efficiently. The works are to be carried out by appropriately trained personnel taking account of the recommendations of BS3998 2010.

Tree removal - Trees for removal are to be identified by the project Arboriculturist and the method of removing the stumps is to be carried out to the recommendations of the project Arboriculturist. The trees in the way of the development layout are to be removed in such a manner not to cause damage to those being retained. Where necessary to avoid damage to the trees to be retained, these are to be removed in sections by a tree surgeon (Arborist). Where necessary, the roots and stumps are to be dug out with a digger except where the stumps are located within the RPA (root protection area) of trees being retained. In this instance, the stumps are to be ground out with a mechanical stump grinder taking care not to cause damage to the roots of trees being retained.

Remedial tree surgery works - The necessary remedial tree surgery works required to promote health and safety of the trees to be retained is to be carried out. A schedule of these works is to be produced by the project Arboriculturist taking into consideration the trees within their new built environment and prior to these works being carried out; they are to be agreed with the local authority.

6.4.4 Erection of the protective fencing

Once the trees have been removed, the line of the protective fencing that is required around the trees being retained **must be** erected as per DWG. No. CBL002.

The fencing needs to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail on drawing No.CBL002 & appendix 1) using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.

Signs need to be attached to these fences warning people to 'keep out'. See detail within drawing No.CBL002 & Appendix 1.

Once the protective fence line is erected, then the main construction works can commence on site.

Storage of Material, Work Yards and staff car parking - These areas must be identified on the work drawings prior to the construction works starting. These must be positioned outside the root protection areas around the trees being retained.

6.4.5 Ground Protection Installation for Road, Pathway Surfaces and Working Areas

The ground protection is to take the form of a product such as 'CellWeb' and this will need to be installed in the following manner under the guidance of the project Arboriculturist and engineer:

Step 1 - The existing ground cover vegetation (e.g. grass/weeds) if necessary is to be killed off using an appropriate herbicide (see Pesticides Handbook [15]). Herbicides that can leach through the soil, e.g. products containing sodium chlorate, are not be used.

The soil surface is not to be excavated to establish a sub base for the finished surfaces.

Loose organic matter, woody vegetation and/or turf are to be removed carefully using hand tools.

If there is a delay in installing the surface following clearing, the soil surface once prepared is to be covered immediately either with hessian sacking or plastic to prevent the surface drying out until the new surface is installed.
Step 2 – Place the geotextile separation filtration layer over the prepared ground surface. Use a Fibretex F4M non-woven geotextile with dry joints overlapping by 300mm.

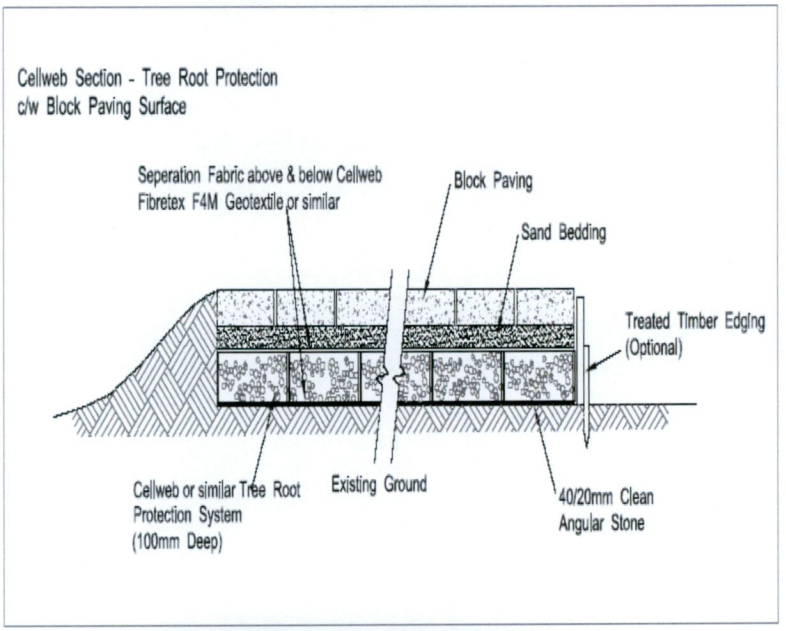
Step 3 – Place constraints along the edges to contain the fill material. These can be of such material as treated timber or railway sleepers.

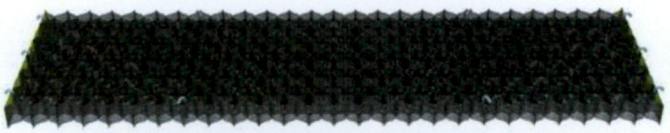
Step 4 – Place the required cellular confinement system (Cell Web150-200mm) over the geotextile and pin/anchor the cell walls open for infilling.

Step 5 – Place the infill material of a 20-40mm clean sharp stone in the open cells of the Cell Web pushing the infill ahead of you so that the machinery is driving on the filled Cell Web. Compact the infill material to the desired density.

Step 6 – Slightly surcharge the Cell Web product with 25mm of 40/20mm clean angular stone and place the finished wearing course over this.

Pictures show the CellWeb being installed on the ground.





6.5.0 Stage 2 -The Construction Works Stage

6.5.1 **Protective fencing -** During the course of the works, special attention must be paid to ensure that these fences remain upright, rigid and complete at all times. They must be checked daily by the main contractor/foreman and any damage noted must be fixed immediately.

If works need to take place inside the protective fence lines, then the project Arboriculturist and the parks department must be informed in advance of the works taking place and the mitigation measures required to reduce impact on the trees and hedges agreed. These mitigation measures will include the supervisions of these works by the project Arboriculturist.

The protective fencing is to remain in place throughout the construction works phase and must only removed when all the works are complete and at this stage incorporated into the finished landscape.

6.5.2 **Excavations -** The excavation works are only to commence once the protective fence line is in place.

The excavations need to be viewed on site once marked out with the project manager, site foreman and the project Arboriculturist in advance of excavation to determine the extent of the impact and the work space required to allow for the construction works to proceed and to assess what additional mitigation measures if any will be required to protect those trees to be retained. In certain areas, it may be necessary to use an alternative method of excavating to prevent encroachment into the RPA of the trees to be retained and this may include such methods as retaining walls or similar.

Where roots of trees to be retained are exposed during the excavation works, these are to be assessed by the project Arborist and pruned back beyond damaged material. The excavated face is then to be covered with soil or with Hessian sacking to prevent further drying out and death of root material. Where the Hessian sacking is used, it will be necessary to keep this moist especially during dry periods.

6.5.3 **Working within the RPA** *(Root Protection Area)* – If it becomes necessary to carry out works within the RPA of a tree/trees, these must be discussed and agreed with the project Arboriculturist. All works must be carried out manually. Root pruning is to be undertaken by an Arboriculturist using proprietary cutting tools such as a secateurs or hand pruning saw.

The ground within the RPA of the trees must be protected from damage as per the recommendations of **section 6.2.3** of BS5837 2012. See detail within appendix 1 on ground protection using boarding for pedestrian loading.

6.5.4 **Finished ground levels/Landscaping -** The existing ground levels within the RPA of trees must be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into

the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.

All soft and hard landscaping within the RPA of the trees to be retained must be carried out manually and the soil levels must not be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 must be adhered to during the landscaping within the RPA of the trees being retained.

6.5.5 Other items

The following is a list of additional activities ***that are not allowed*** within the RPA or within the vicinity of the trees being retained.

1 - Storage of equipment, fuel, construction material, or the stockpiling of soil or rubble.
2 - Burning rubbish
3 -The washing of machinery
4 - Attaching notice boards, cables or other services to any part of the tree.
5 - Using neighbouring trees as anchor points.
6 - Care is required when using machinery such as Tele-porters, cranes or other equipment close to trees so as not to damage the crown or any other parts.

6.6.0 Stage 3 - Post Construction Works

6.6.1 This project is not to be considered complete until all retained trees have been re-examined by the project Arboriculturist and the remedial works necessary to ensure the health of the trees and the immediate safety of the end user of this development are implemented.

This report has been produced as part of a planning application for these lands and is for the sole use of the above named client and refers to only those trees identified within. Its use by any other person(s) in attempting to apply its contents for any other purpose renders the report invalid for that purpose.

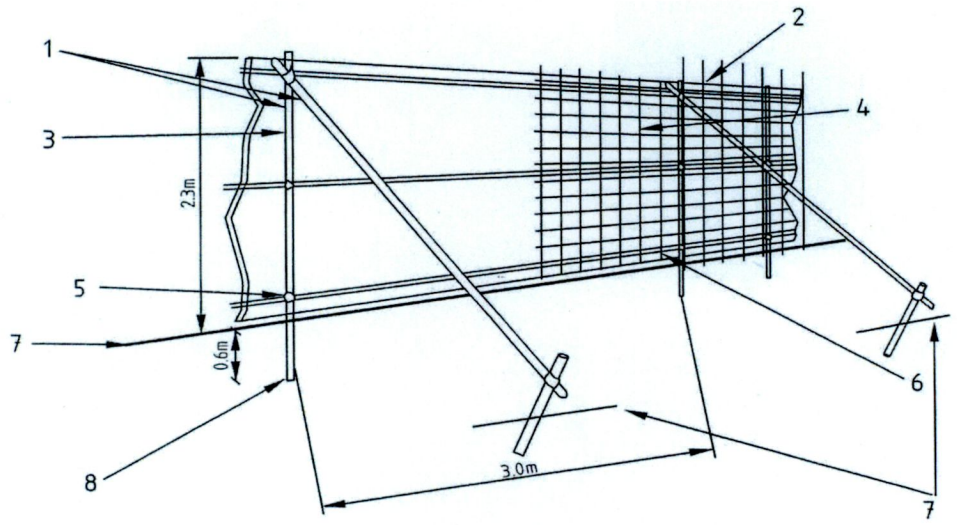
Signed *Felim Sheridan* Date 19/08/2022

Felim Sheridan
F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture

Felim Sheridan's qualifications:
Fellow of the Arboricultural Association (F. Arbor. A), Professional diploma Arboriculture (RFS), National diploma Arboriculture (ND) and National certificate Horticulture (NCH).

Appendix 1

Sample of Temporary Tree Protection Fencing Detail and Ground Protection.



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 2. – Protective fencing for RPA

Sample of signage to be placed on fence pannels.

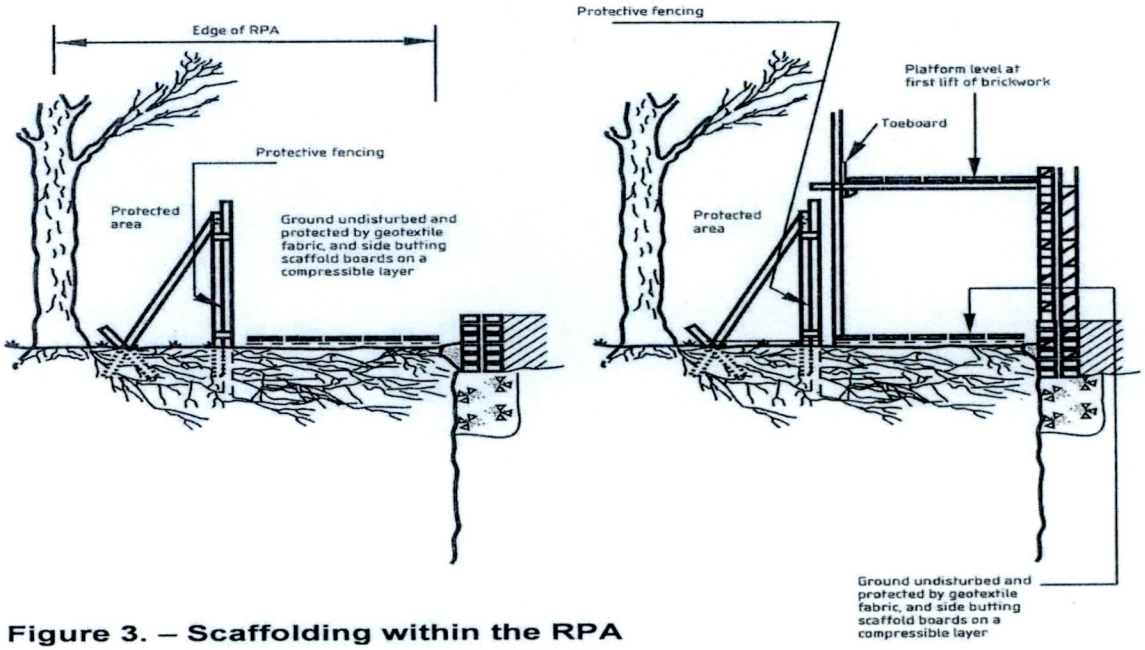
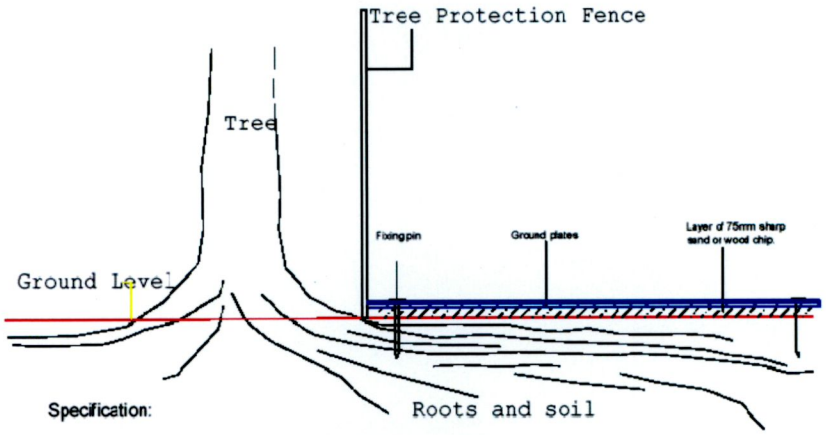


Figure 3. – Scaffolding within the RPA



Specification:

1. Lay min. 75m depth of sharp sand/wood chip over identified ground area
2. Lay side-butting scaffold boards/15mm poly propylene road plate over sand/wood chip
3. Fix ground protection cover into place with pins/pegs

Appendix 2

Condition Tree Assessment

Of the Tree Vegetation on Site Area at 'Clonbrone', Lucan, Co. Dublin.

Date: Updated 16th February 2022

Survey Notes

All codes referred to in this report are approximate and serve as a general guide only.

Reference to Numbers: The trees have metal tags attached and these correspond with the numbers in this report.

Reference to age class is as follows:

Young: A tree, which has been planted in the last 10 years.

Semi Mature A tree that is less than 1/3 the expected height of the species in question.

Early Mature: A tree, which is between a 1/3 and 2/3's the expected height of the species in question.

Mature: A tree that has reached the expected height of the species in question, but still increasing in size.

Over Mature: A tree at the end of its life cycle and the crown is starting to break up and decrease in size.

Reference to Physiological, Structural Condition and other comments:

The trees physiological condition is defined as:

Good - Good vitality: normal bud growth, leaf size, crown density, and wound closure.
Fair - Average to below average vitality: reduced bud growth, smaller leaf size, lower crown density and reduced wound closure.
Poor - Low vitality: limited bud growth, small chlorotic leaves, spares crown, poor wound closure.
Dead - No longer alive.

Structural condition and other comments –
This records noted visual defects and other information about the trees health and structure.

Estimated Useful Life Expectancy (ULE) in years

This is based on an Arboricultural assessment of the tree and is estimated based of the findings noted at time. Trees still need to be reviewed on a regular basis, preferably annually.

Less than (<) 10 years remaining contribution
10 + years remaining contribution
20 + years remaining contribution
40 + years remaining contribution.

Retention Categories

The purpose of the tree categorization method is to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained should development occur.

It is carried out in accordance with section 4.5 (Tree Categorization Method) of BS 5837 2012.

Summary

Main categories.

Category U – Those trees in such a condition that any existing value would be lost within 10Years. Most of these will be recommended for removal for reasons of sound Arboricultural practice.

Category A - Trees of high quality/value with a minimum of 40 years life expectancy.

Category B – Trees of moderate quality/value with a minimum of 20 year life expectancy.

Category C – Trees of low quality/value with a minimum of 10 years life expectancy

Sub categories

1 – Mainly Arboricultural Values
2 – Mainly Landscape values
3- Mainly Cultural and conservation value

Note: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.

If a layout design places Category U trees in an inaccessible location such that concerns over public safety are reduced to an acceptable level, it may be preferable or possible to defer the recommendation to fell.

The terms 'Group, woodland or tree line' 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 to each of the three subcategories.

Reference to Crown spread, Height and Trunk Diameter:

This gives a guide to the area taken up by the tree.

Trunk diameter is the diameter of the main trunk taken at a height of 1.5m and is recorded in millimeters (mm).

Height records the overall height of the tree and is given in meters (m).

Crown Spread records the extent of the branches normally in a north, south, east and west direction from the base of the tree and is given in meters (m).

Clear crown height records the distance between the ground and the first branch form the base of the tree and is given in meters (m).

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E**-east **W**-west **Ht.** - Height **Phy. Con.**- Physiological Condition	**A**- average **C-Ht**- Crown Height **Dia.**- Diameter **Cat.**- Category		
		A Condition Assessment of the trees located within the site area at 'Clonbrone', Lucan, Co. Dublin. The grounds of this property have lain derelict for a number of years and have become overgrown with self-seeding trees and scrub. They were initially formally landscaped and maintained with tree and shrub planting.									
Hedge No. 1	**Leyland Cypress** × *Cuprocyparis leylandii*	**It is located along the boundary of the site with the neighbouring property.** It is of an early-mature age class in fair/ poor condition both physiologically and structurally. It has been cut back heavily over the years and this has affected its development and has removed a large portion of its live foliage with some trees now standing dead as a result. It has minimum value for screening within this area. **Average Height**: 2.5m; **Average Width**: 0.5m **The following two trees are located on the 'Clonard' Side of the boundary fence and hedge No.1.**							It would be best removed to allow for new hedge planting more appropriate for this location. .		U
Tree No.1	**Italian Alder** *Alnus cordata*	9	260	3N 3S 2E 3W	3.5	Semi Mature	Fair	Fair/Poor It is planted on a narrow strip of shrub border between the back of Hedge No.1 and the driveway into 'Clonard'. It has established well, but has been damaged by Christmas lights. The lower branches have been pruned off in the past in order to raise up its crown.	Monitor its condition on an annual basis.	10+	C1
Tree No.2	**Rowan cv.** *Sorbus aucuparia cv.*	7	130	1.5N 1.5S 1.5E 1.5W	3	Semi mature	Fair/ Poor	Poor Planted on the adjoining property side of Hedge No.1 on an open lawn area. It has failed to root properly and is rocking in the root plate and as a result, its stability is of concern. It has a compact upright crown and the lower branches have been removed previously in order to raise up its crown over grass area.	I would recommend its **removal** as part of management.	<10	U

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
		The following trees are located to the right of the entrance and our assessment works in an anti-clockwise direction around the grounds.									
0434	**Cherry** *Prunus avium*	6	510	N0 S0 E0 W0	--	Mature	Dead	Poor It is a tall stump located on a high bank. It will become decayed and unstable.	I would recommend its **removal** as the most appropriate management option.	<10	U
0435	**Ash** *Fraxinus excelsior*	11	270	N3 S3 E3 W2	3	Semi Mature	Fair	Fair/ Poor It is self-seed and growing from the base of the boundary wall with the potential to cause structural damage to the boundary wall as it grows in size. It has an asymmetrical crown weighed towards the neighbouring property.	Due to its close proximity to the boundary wall, I would recommend its **removal** as the most appropriate management option in order to prevent structural damage occurring to the boundary wall.	<10	U
0436	**Ash** *Fraxinus excelsior*	8	200	N3 S1 E4 W1	3	Semi Mature	Fair	Fair / Poor It was initially growing up within a group environment and has been drawn up and out for the light affecting its crown development / structure. It is of poor quality and the main stem leans at an angle.	Retain for the present time. Carry out pruning to address exposure and to shape its crown.	10-20	C1
0437	**Laburnum** *Laburnum anagyroides*	8	200 (6 stems)	N3 S5 E5 W4	2	Mature	Fair	Fair / Poor It is located on the top of the embankment above the entrance avenue. It is multiple-stemmed from base and the lower branches have been cut back/ removed in the past in order to raise up its crown. It has an asymmetrical crown due to its group growing environment. There is light Ivy cover on the main trunk.	Requires no work at the present time.	10-20	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0438	**Flowering Cherry** *Prunus avium*	11	250	N2 S3 E2 W1	2.5	Early Mature	Fair/ Poor	Poor It consists of a group of stems growing tight to the boundary wall with the neighbouring property. The stems lean out over the boundary wall and are resting on the wall with the potential to cause structural damage. They are being suppressed by heavy Ivy cover.	Due to their close proximity to the boundary wall, I would recommend their **removal** as the most appropriate management option in order to protect the boundary wall from structural damage.	<10	U
0439	**Larch** *Larix decidua*	17	440	N2 S3 E1 W2	5	Mature	Fair/ Good	Fair It is a tall tree growing up within a group environment. This group has become open/ exposed due to the loss of a tree on the western side. Heavy Ivy cover on the main trunk is extending up into its crown.	Cut Ivy at ground level and remove large size dead/ unstable growth. Tidy up the area around its base.	10-20	C2
0440	**Larch** *Larix decidua*	17	390	N4 S1 E1 W3	7	Mature	Fair	Fair It is a tall tree growing up within a group environment; however, this group has become more open/exposed due to the loss of a tree to its west. It contains deadwood in crown. The Ivy has been cut at ground level in the past and is now dead on the main trunk.	Remove large size dead/ unstable growth.	10-20	C2
0441	**Ash** *Fraxinus excelsior*	13	180/ 250	N1 S4 E0 W2	4	Early Mature	Fair	Fair / Poor It is a tall tree growing up within a sheltered group environment at the present time. Some neighbouring Poplar trees have been removed in the past and this has left its crown more open/exposed as a result. It forms part of the group canopy formation with Tree No. 0442. It is twin-stemmed from near base with an acute union formation between stems. Heavy Ivy cover on the main trunk is beginning to extend up into its crown.	Requires no work at the present time.	10-20	C1
0442	**Ash**	15	420/	N5	4	Mature	Fair	Fair/ Poor	Reduce its crown size by c.	10-20	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
	Fraxinus excelsior		360	S7 E6 W2				It is growing up with Tree No. 0441 and forms part of the one group canopy formation. Due to its group growing environment it has an asymmetrical crown formation weighed towards the neighbouring property. It forms a twin-stemmed tree from c. 0.5m up with an acute union formation between stems with included bark present and this has created a structurally weak union at this point. It would appear to have been cut back/ reduced to a height of c. 3.5m in the past and has since developed a crown from these pruning points. It is overcrowding the neighbouring garden and some of its lower crown overhanging into the neighbouring property has been cut back in the past.	2-3m, in particular its crown overhang into the neighbouring property. Remove dead/ unstable growth during these climbing works.		
0443	**Norway Maple** *Acer platanoides*	8	200	N4.5 S0 E4 W4	3	Semi Mature	Fair	Fair/ Poor It has an asymmetrical crown formation and was initially growing up within a group environment. It has become more open and isolated by the failure/ removal of some neighbouring trees. It has also suffered branch breakage as a result.	Remove hanging branches and dead/ unstable growth. It may benefit from some formative pruning to help improve the shape/ balance of its crown.	20+	C1
0444	**Birch** *Betula pendula*	10	400	N3.5 S3 E3 W3	3	Mature	Fair	Fair It was initially growing up within a group, but has become more isolated. Heavy Ivy cover on the main trunk is extending up into its crown. It is infected by 'Birch Polypore' *(Fomitopsis betulina)* with branch stumps remaining.	Make safe dead/ unstable growth and cut Ivy at ground level.	10-20	C1
0445	**Holly** *Ilex aquifolium*	4	210	N0 S1.5 E0 W1	4	Mature	Dead	Poor It is beginning to be heavily suppressed by Ivy and will become decayed and unstable.	I would recommend its **removal** as the most appropriate management option.	<10	U

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0446	**Flowering Cherry** *Prunus avium*	10	230	N3 S2 E1 W3.5	2.5	Early Mature	Fair/ Good	Fair It is growing on the edge of the entrance avenue. It is a twin-stemmed tree from a height of c.3m up with a slightly acute union formation between stems. The lower branches have been pruned in order to raise up its crown over the entrance avenue.	Requires no work at the present time.	20+	C1
0447	**Bay Laurel** *Laurus nobilis*	9	110 (13 stems)	N3 S3 E4 W3	0	Mature	Fair	Fair/ Poor It is multiple-stemmed from base and has possibly been cut to a stump in the past and has since developed from this point with tall, poorly tapered upright limbs. It has become open/ exposed and may be prone to limb failure due to structure.	Tidy up the area around its base.	10-20	C1
0448	**Hawthorn** *Crataegus monogyna*	6	200/ 170	N2.5 S1 E4 W3	1	Early Mature	Fair / Good	Fair It is located on the edge of the entrance avenue and is growing up through the surrounding trees and its structure/ development has been affected as a result. Heavy Ivy cover on the main trunk is beginning to extend up into its crown. The lower branches have been pruned in the past in order to raise up its crown over the entrance avenue.	Tidy up the area around its base and cut Ivy at ground level.	20+	C1
0449	**Beech** *Fagus sylvatica*	14	540/ 740	N6 S5 E7 W4	2	Early Mature	Fair / Good	Fair It is located on the edge of the entrance avenue and has possibly suffered some soil and root damage during works carried out on the entrance avenue over the years. It has a broad spreading crown and is twin-stemmed from base with an acute union formation between stems, with further subdivisions above this point and further weak union formations. Heavy Ivy cover on the main trunk is beginning to extend up into its crown. It has received pruning on the west	Tidy up the area around its base and cut Ivy at ground level. It may require further pruning to address the balance of its crown and exposure issues.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								side leaving its crown more asymmetrical and weighed away from the west boundary.			
0450	**Apple** *Malus domestica*	--	--	--	--	Mature	Dead	Poor It initially formed a multiple-stemmed tree from low down and was being heavily suppressed by Ivy which is increasing the wind sail of its crown. It has in recent times collapsed and is now lying on the ground.	Tidy up the fallen tree.	<10	U
0451-0453	**Tags Missing**	-	-	-	-	-	-	-	-	-	-
0454	**Ash** *Fraxinus excelsior*	10	210	N2 S4 E4 W2	1.5	Young	Good	Good It is self-seeded into this area and is growing up through a clump of shrubs.	It would benefit from general tidying works.	40+	C1
		The following three trees are self- seeded and growing tight to the boundary wall with the adjoining properties. The crown overhang of these trees in over the site area has been pruned back in recent times as part of the tidying up of this garden area.									
0455	**Ash** *Fraxinus excelsior*	8	280	N1.5 S3 E1 W4	2	Early Mature	Fair	Fair It is self-seeded into this area and is growing tight to the base of the boundary wall, with the potential to cause structural damage to this wall as it grows in size. It has an asymmetrical crown weighed into the garden and it has been pruned back from the neighbouring property.	I would recommend its **removal** as part of management and to protect the boundary wall from structural damage.	<10	U
0456	**Ash** *Fraxinus excelsior*	8	250	N2 S2 E3 W3	2	Early Mature	Fair	Fair It is self-seeded into this area and is growing close to the base of the boundary wall. Its crown overhang towards the neighbouring property has been cut back in the past. It is growing up within a group environment. The Ivy has been cut at ground level previously. It will eventually outgrow this space with potential to cause structural damage to the boundary wall.	Due to its proximity to the boundary wall, this tree will need to be removed in the future as part of management and to protect the boundary wall against structural damage.	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0457	**Oak** *Quercus robur*	10	360	N5 S1 E5 W5	2	Semi Mature	Fair	Fair Possibly self-seeded and is growing close to the boundary wall. It is growing up with Tree No. 0546 with an asymmetrical crown as a result. It has a low branch formation and a crown overhang into the neighbouring property and has received pruning in the past. This species has the potential to eventually outgrow this space and may lead to structural damage to the wall in the future.	Due to its proximity to the boundary wall, this tree will need to be removed in the future as part of management and to protect the boundary wall against structural damage.	10+	C1
		The following vegetation is located along the eastern boundary of the site area backing out onto the rear gardens of the neighbouring properties.									
Scrub Area No.1	**Mixed Species**	It is located along the eastern boundary and contains a mixture of naturally occurring scrub consisting of Elder, Bramble and Hawthorn, along with some planted shrubs mixed throughout such as Burkwood Viburnum and Bay Laurel. It is generally overgrown due to lapsed management.							It would benefit from general tidying works. Make safe large size dead/ unstable growth.		C2
0458	**Leyland Cypress** × *Cuprocyparis leylandii*	15	330 (8 stems)	N S E W	2	Mature	Fair/ Good	Fair/ Poor It is located close to the boundary wall and its crown overhang into the neighbouring property has been heavily cut back leaving its crown asymmetrical and more open/ exposed. It subdivides into a multiple-stemmed tree from near ground level with structurally acute union formations between some of these stems and it may be prone to storm damage as a result. It is an inappropriate tree species for this location with limited long-term potential.	**Two Management Options:** **1:** To remove completely. This would be my preferred management option. **2:** Reduce in size in order to contain within this location.	<10	U
0459	**Beech** *Fagus sylvatica*	15	750	N5 S6 E4 W6	6	Mature	Fair	Fair/ Poor It is located against the northern boundary wall and its size has been substantially reduced in the past due to its position next to the rear gardens. It has a new crown developing from these pruning points; however, the re-growth is of a small size at present. It has an undergrowth	Tidy up the area around its base and cut Ivy at ground level in order to carry out a more detailed assessment of its base and lower trunk.	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								of scrub with heavy Ivy cover on the lower trunk. The visual assessment of its base and lower trunk has been limited due to dense undergrowth. I suspect that this tree has limited long-term potential due to its position and light issues with the neighbouring property.			
Woodland Belt	**Larch** *Larix sp.* **Ash** *Fraxinus excelsior* **Oak** *Quercus robur* **Pine** *Pinus sp.* **Sycamore** *Acer pseudoplatanus* **Elm** *Ulmus glabra* **Hawthorn** *Crataegus monogyna* **Bramble** *Rubus fruticosus* **Elder** *Sambucus nigra*	**This linear belt of trees is located outside the sites northern boundary and extends in an east to west direction and extends down to the Lucan Road.** It forms a prominent feature within the treescape of this area and is located on the side of a steep bank leading down to the public road. The main upper canopy is made up of predominately Larch with some Oak and Pine mixed throughout along with some self-seeded Ash, Sycamore and Elm. The undergrowth consists of Hawthorn, Bramble and Elder. A. 15 | A. 370 | A. 4 | A. 10 **The following trees are located along the boundary of this woodland belt with the site area.**							Management of this linear tree belt is located outside the control of this site area.		C2
0460	**Oak** *Quercus robur*	21	890	N5 S8 E7 W5	9	Mature	Fair/ Good	Fair It is a large prominent tree located on the southern boundary of the linear tree belt bordering with the site area. It has a broad crown and has received some pruning to address structural issues within its crown; however, it still contains a broken branch. The	Requires no work at the present time.	40+	A1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phy. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								Ivy has been cut at ground level.			
0461	**Oak** *Quercus robur*	10	410	N1 S1 E3 W4	6	Mature	Fair	Fair It initially formed part of a close knit group with some neighbouring trees being pruned/ removed in the past leaving its crown more open as a result. It has an asymmetrical crown due to its group growing environment.	Requires no work at the present time. It may require pruning depending on its location with the development of the surrounding area.	20+	B2
0462 – 0465	**Leyland Cypress** × *Cuprocyparis leylandii*	A. 10	A. 400	A. N5 S4 E6 W3	A. 1	Early Mature	Fair/ Good	Fair They are located outside the sites red line boundary and had been planted along the original boundary fence with the adjoining property 'Clonard'. They had been pruned in the past in order to reduce their crown overhang into the neighbouring property and to reduce their height. Heavy Ivy cover on their main trunks is beginning to extend up into their crowns.	They would benefit from cutting/trimming to contain size and maintain as a more formal hedge structure.	20+	C2
Hedge No.2	**Beech** *Fagus sylvatica*	**It extends at ninety degrees to Hedge No.1 on the 'Clonard' side of the boundary fence behind Tree Nos.0462-0465.** It consists of a relatively young hedge planting of Beech located on the garden side of the boundary fence in fair condition both physiologically and structurally. It is sparse in places due to the failure of some plants to establish and overcrowding by the larger neighbouring Leyland Cypress trees.							It would benefit from ongoing trimming and maintenance to ensure it establishes as a good quality hedge.		C2
Notes:											