Arborist Associates Ltd

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Ref: BPS0798668

6th November 2019

For the Attention of Mr. Kevin Keegan
KSN Project Management Ltd.
KSN House
4 Clonskeagh Square
Clonskeagh
Dublin 14.

Dear Mr. Keegan,

Re: An Arboricultural Assessment of the Tree vegetation Located on the Site Area on 'Scholarstown Road', Knocklyon, Dublin 16.

I inspected the trees in question on the above site area and the proposed development layout as requested and am pleased to submit the attached report and drawings which give details of my findings.

Recommendations made in this report are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the above inspections.

If you require further information please do not hesitate to contact us, and we will do our best to be of assistance.

Yours sincerely,
For Arborist Associates Ltd.

Felim Sheridan

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).

Arborist Associates Ltd.

An Arboricultural Assessment of the Tree vegetation Located on the Site Area on 'Scholarstown Road', Knocklyon, Dublin 16.

Prepared for: Ardstone Homes Limited

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

Date: 6th November 2019

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1.0 Instructions

1.1 I have been instructed by Ardstone Homes Limited (planning applicant) to assess the tree vegetation located on the site area proposed for a residential development on 'Scholarstown Road', Knocklyon, Dublin 16 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.BPS001' which has been prepared as a constraints plan for detail.

B - To assess the impact of the proposed development on the tree vegetation located within the site area indicating those for removal and retention. See 'Section 5.0' of this report and drawing 'No.BPS002' for detail.

C - To prepare this drawing as a tree protection plan to show the position of the line of protective fencing that needs to be erected around the trees to be retained at the very start of the works and be maintained until all construction works are complete. See 'Section 6' of our report and our drawing 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. 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).

3.0 Survey Data Collection and Methodology

3.1 The Arboricultural data which is presented within the attached tree schedule (see Appendix 2), has been recorded in line with BS 5837:2012. The tree survey was conducted by collecting and assessing the following information on all significant trees located on site and plotted on the land survey map provided.

- Tree Number (metal tags attached to each tree).

- Tree species both common and botanical.
- Dimensions (Trunk diameter, height, crown spread and crown clearance).
- Age Class
- Physiological Condition
- Structural Condition
- Preliminary Recommendations
- Estimated remaining contribution within their present environment
- Retention category

3.2 Each tree included within this assessment has been marked with a small aluminium tag with a reference number that relates to the main condition report. The tag numbers used range from Nos. 0849--0893 inclusive. 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.

3.3 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.

3.4 Their retention category has been assessed and categorised 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 affects 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.

3.5 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 summarises each of the categories:

Category U – Those trees in such a condition that any existing value would be

lost within 10 years. Most of these will be recommended for removal for reasons of sound Arboricultural practice/ management.

The removal of these trees would be seen as necessary either now or in the short-term as the most appropriate management option.

Any category 'U' trees within this site area have been identified on our drawings (Nos. BPS001 & BPS002) with a 'Red' donut around their trunk positions. 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.

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

These trees would be seen to have the best potential to form part of the long-term tree cover.

Any category 'A' trees within this site area have been identified on our drawings (Nos.BPS001 & BPS002) 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.

Any category 'B' trees within this site area have been identified on our drawings (Nos.BPS001 & BPS002) with a 'Blue' donut around their trunk positions. These trees would be seen as having the potential to contribute to the tree cover of these grounds for the medium to long-term.

Category C – Trees of low quality/value with a minimum of 10 years life Expectancy or of a young age class/size that can be easily replaced with new planting.

Any category 'C' trees within this site area have been identified on our drawings (Nos.BPS001 & BPS002) with a 'Grey' donut around their trunk positions. These trees would be seen as having the potential to provide tree cover for the short to medium term. These trees should not been seen as a considerable constraint on the development of these grounds, but should be considered for retention where viable.

3.6 The trees have been plotted onto the attached drawing (Dwg No.BPS001) by a land survey company and are assumed to be accurate. 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. This drawing has been developed as a constraints plan for the design team to aid the final development layout.

The constraints for each tree were worked out as per the formulas in BS5837 2012 and have been shown on this drawing using an 'Orange Circle' to aid the design team in their final development layout to ensure tree vegetation proposed for retention is retained successfully. The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works and is usually expressed as a radius in meters 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, open 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 I carried out my assessment of the tree vegetation within this site area in January 2019. The site area consists of a large open field with two private dwellings within the central position with separate entrance driveways leading into these properties off the 'Scholarstown Road' and outbuildings to the north west. The site area is adjoined to the north by rear gardens of houses within 'Dargle Wood' and to the east by the rear gardens of houses within 'Scholarstown Park'. To the south it is adjoined by the 'Scholarstown Road' and to the east by a private residential property.

4.2 With the exception of three trees (Nos.0872, 0875 & 0876) the remaining trees are located around the perimeter of the site area and the two dwelling with the bulk of them located along the boundary with 'Scholarstown Road' where they are of prominence within the treescape of the area. The main tree species include Ash, Sycamore, Horse Chestnut, Beech and Oak with lines of Leyland Cypress, Douglas Fir and Monterey Cypress planted around the boundary of one of the properties within the site area in order to screen it off and along the western boundary on the adjoining property side. There is also a line of Leyland Cypress trees planted within the open field in from the northern boundary creating a subdivision.

4.3 Within the site area, 55No. trees were tagged individually and one tree plus 6No. Tree Lines, 3No.Tree Groups and 3No.Hedges were numbered numerically. The following table gives a breakdown of the category grading allocated to this vegetation in accordance with the category grading system of BS 5837 2012:

Category Grade	No. of trees
Category U **6 Trees**	**Tree Nos.** 0854, 0872, 0875, 0885, 0886 & 0891.
Category A **7 Trees**	**Tree Nos.** 0856, 0857, 0862, 0863, 0865, 0876 & 0882.
Category B **20 Trees** **+ 1 Tree Group**	**Tree Nos.** 0849, 0850, 0853, 0858, 0860, 0864, 0866, 0870, 0873, 0887, 0555, 0556, 0557, 0558, 0559, 0560, 0561, 0562, 0563 & 0564. Tree Group No.3.
Category C **23 trees** **+ 6 Tree Lines** **+2 Tree Groups** **+ 3 Hedges**	**Tree Nos.** 0851, 0852, 0855, 0859, 0861, 0867, Tree No.1, 0868, 0869, 0871, 0874, 0877, 0878, 0879, 0880, 0881, 0883, 0884, 0888, 0889, 0890, 0892 & 0893. Tree Line Nos. 1, 2, 3, 4, 5 &6. Tree Group Nos. 1 & 2 Hedge Nos. 1, 2 & 3.
Total	**56 Trees + 6 Tree Lines + 3 Tree Groups + 3 Hedges**

5.0.0 Arboricultural Implication Study

5.1.0 Introduction

5.1.1 This section of the document is designed to assess the impact of the proposed development layout on the tree vegetation within this site area on the Scholarstown Road, Knocklyon, Dublin 16 and to look at the necessary measures that will need to be undertaken to help retain the tree vegetation shown for retention free from adverse impacts for the duration of the construction period.

5.1.2 It is proposed to develop these lands for a new residential development and it will be necessary to allow for infrastructural works such as services. On drawing No.BPS002, I have shown the tree vegetation for removal due to the proposed development and condition/management with a 'Red Hatched' crown spread and those to be retained with a 'Green Hatched' crown spread.

5.1.3 On this drawing (No.BPS002), I have also shown the position of any necessary tree protection measures in order to protect the root zone of the tree vegetation being retained within the vicinity of where the construction works will occur. The tree protection fence line position is shown by an orange line and the work exclusion zone inside this is shown as orange hatch.

These work exclusion zones will need to be cordoned off by the erection of fencing or other means at the start of the works and this will need to be maintained in place until all works are completed. This fencing is to protect the root zone of the trees and to ensure their successful integration into the development of this site area.

5.1.4 The comments made within this impact assessment study are based on my understanding of the proposed development and what is required to allow for its construction.

5.2.0 Impact Assessment

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 **6 Trees**	**Tree Nos.**0854, 0872, 0875, 0885, 0886 & 0891. 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.
Category A **0 Tree**	**No Trees**
Category B **11Trees**	**Tree No.** 0873, 0555, 0556, 0557, 0558, 0559, 0560, 0561, 0562, 0563 & 0564.
Category C **11Trees +** **4 Tree Line + 1 hedge & c.5m of hedge No.2**	**Tree Nos.** 0851, 0852, 0855, 0867, 0871, 0874, 0877, 0878, 0879, 0880, 0881. **Tree Line Nos.** 2, 3, 4 & 5 C.5m section of hedge No.2. Hedge No.3

5.2.2 **In summary**, 28 of the 56 No. individually surveyed trees plus 4 of the six tree lines of conifers and one hedge line plus a c.5m section of another hedge are shown for removal to facilitate the proposed development works on this site area or as part of management.

The 28 individual trees for removal are made up of the following category grades:

No. of trees for removal	Category Grade
6No.	category **'U'** trees,
0No.	category '**A'** tree,
11No.	category **'B'** trees
11No	category **'C'** trees.

The loss of the above tree vegetation is to be mitigated against within the landscaping of this completed development with new tree, shrub and hedge planting that will complement the development and help provide good quality and suitable long-term tree cover. See landscape architects drawings and schedules for detail.

A range of tree sizes are proposed within the landscape plan ranging from whips to semi- mature trees and as these establish and grow in size, they will be continuously mitigating any negative impacts created in the first place and will enhance and secure the treescape of this area into the future.

5.2.3 Out of the above list of trees to be removed, tree No.0875 a large mature Sycamore which is located within a central area within the open field next to tree No.0876 a large prominent mature Oak is the most significant. This tree is in poor condition structurally with substantial basal decay present that is compromising its stability and this would make retaining this tree within any development layout for this site area very difficult.

5.3.0 Tree vegetation retention and protection

5.3.1 The remaining tree vegetation within this site area is to be retained and incorporated into the completed landscaped development.

5.3.2 To help protect their root zones, it will be necessary to erected tree protection fencing to enclose their root zones for the duration of the works. See accompanying drawing (No.BPS002) for detail on tree protection for these site works.

5.3.3 The current site layout has been finalised and modified based on the information provided in the initial condition tree assessment of the site and the creation of the tree constraints plan (Dwg No.BPS001) which has resulted in changes in the layout and its construction plan to ensure that impacts on the trees to be retained have been kept to a minimum.

5.3.4 The objective of the proposed development layout was such as to try and retain as much of the perimeter tree vegetation that was of value to the completed development and to help screen and integrate this development into its surrounds. This was achieved by the concentration of the development to the more open central part of the site area where there were few trees and in particular trees of value to the treescape of the surrounding area.

5.3.5 This approach has resulted in the retention of the main tree belt along the southern boundary with Scholarstown Road which will help blend this development into its surrounds on completion. To further minimize impact of the proposed development on the tree vegetation of the area, the overall footprint of the development was contained by the construction of the bulk of car parking spaces within a basement below the building footprint at the northern end of the site away from these important trees. This development approach is seen as most beneficial for the trees on this site area as it retains the better quality trees and has kept the bulk of the development away from them and all this will help in their future management.

5.3.6 Based on the current layout, the following are potential impacts of the proposed development on tree vegetation being retained:

- Along the 'Scholarstown Road' boundary, the front line of the buildings (blocks C1, C2, C3 & D2) encroach slightly into the calculated root zones of some of the trees, but this encroachment is minor and is not expected to impact negatively on these trees with the exception of tree Nos. 0849 & 0850 two large mature Horse Chestnut trees. This encroachment into the root zone of these two trees is not seen as significant to warrant the removal of these trees now, but these trees will need ongoing monitoring and management and they may need removal in the future if their condition declines significantly.

  The construction of these buildings will need to be well planned so that as much of the building occurs from the north side working away from the trees and we have not allowed for construction traffic within this area on our tree protection plan. The tree protection fencing needs to be erected out to the excavation line for these building and needs to stay in this position until such time as the areas of ground protection have been installed.

  This ground protection is to consist of 'CellWeb' laid on the existing ground and filled with a clean angular stone to the recommendations of the project engineers and product manufactures. Once it has been put in place, the fence position can be moved to the south side of this and the area becomes part of the construction work zone with the 'CellWeb' providing the necessary protection to the soil and roots underneath. This will need to be left in place until such time as the construction works are complete and this area is incorporated into the completed landscaped development.

- In a number of places, hard landscape surface areas and in particular paths meander through the calculated root protection areas of some of the trees. The full detail on these surfaces and their location will need to be reviewed on site and altered where possible to minimise encroachment into the root zones and where this cannot occur, these surfaces are to be installed using a No-Dig method over and above the existing ground levels leaving the root material below intact. Where necessary to provide support, a 'CellWeb' product is to be incorporated into its design and construction.

- Boundary treatments within the root zone of the trees shown for retention will need to be considerate of the tree vegetation and their root zones and preferably a fence type structure will need to form the boundary treatment where there will only be a need to dig small diameter holes for the uprights with minimal disturbance to the tree vegetation root zones.

5.3.7 The main items for consideration during the proposed construction process regarding the tree vegetation on this site area can be grouped under the following headings:

Item	Comments
Tree Pruning	All tree felling and pruning work need to be carried out by qualified and experienced tree surgeons *before* any construction work commences; all tree work should be in accordance with *BS3998 (2010) Tree Work – Recommendations.* All trees for removal will need to be felled to stumps and 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. As part of the initiating works, the crowns of some of the trees being retained are to be pruned to clean out 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.
Tree Protection	Trees 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.BPS002) **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. It is to be of a strong robust build capable of withstanding the works that are proposed within its vicinity. The fencing will need to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see 'Appendix 1' for detail) using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres and onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps. 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 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

Item	Comments
	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 vegetation being retained.
Services	See project engineer's drawings for detail for service routes. From my understanding of the service drawing provided to me for assessment (Nos.SCH-DBF-ZZ-XX-DR-3102 & 3103), there are no conflict between these and what is proposed to be retained. Prior to the installation of any services routed near trees or hedges, they are to be marked out on site for review by the project Arboriculturist and a detailed 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.
Boundary	It is my understanding that all boundary treatments along by the

Item	Comments
Treatments	tree vegetation being retained is to be of a fence type structure where there will only be a need to excavate small diameter holes for the fence uprights and these will need to be dug manually or with an augur with no machinery allowed to operate within the work exclusion zones fenced off by the tree protection fencing. The working ground area required during these works will need to be protected from impacts/damage by a suitable ground protection such as scaffold planks laid butt jointed on a bed of woodchip.
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. **Paths and Surfaces–** In a number of areas, there are pedestrian paths and hard surface areas which will encroach into the marked out root zones of the trees and the positions of these will need to be reviewed once marked out on site to look at altering their positions to avoid the root zones in the first place and if this is not possible, then the sections of these paths and surfaces which encroach in on the root zone of the trees will need to be installed using a No-Dig method to protect the underlying rooting material and soil. Where support is required along any sections of these paths, play areas or work areas which encroach into the root zone of trees being retained, a structural support system such as 'Cell Web' will need to be incorporated into its construction. See detail within section 6.8.0 of this report on installing surfaces within the root zone of trees using a No-Dig method. 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 arborist. .

5.4.0 Monitoring

5.4.1 Any construction works within close proximity to retained tree vegetation 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 advise 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 (Drawing No. BPS002) a copy of BS 5837(2012) and NJUG 4 (2007) should all be kept available on site during the construction works and all works are to be in accordance with these documents.

5.4.4 On the completion of the construction works, all tree vegetation 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 contractor/site manager on how the tree vegetation needs 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 (Dwg No.BPS002), for the position of the protective fencing and other mitigation measures.

6.3 The protection of the 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 this retained vegetation.

Stage 1:

6.4.0 Pre-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.

6.5.0 Site meeting

6.5.1 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 to identify and finalize the vegetation for removal and the line of the protective fencing and other protective measures.

6.6.0 Tree works

6.6.1 The client 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.

6.6.2 **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.

6.6.3 **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.

6.7.0 Erection of the protective fencing

6.7.1 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. BPS002.

6.7.2 The fencing will need to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail on Dwg No.BPS002 & within 'Appendix 1') using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres and onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.

6.7.3 Signs need to be attached to these fences warning people to 'keep out'. See detail within drawing No.BPS002 & Appendix 1.

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

6.7.5 **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.

6.8.0 Ground Protection Installation for Pathways and Working Areas

6.8.1 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.

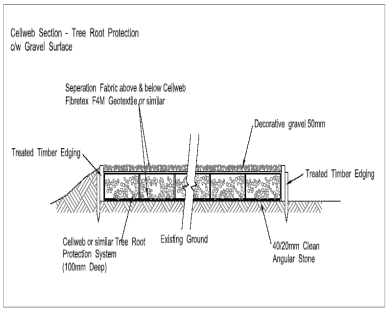
Step 3 – Place constraints along the edges to contain the fill material. These can be of such material as treated timber or railway sleepers.

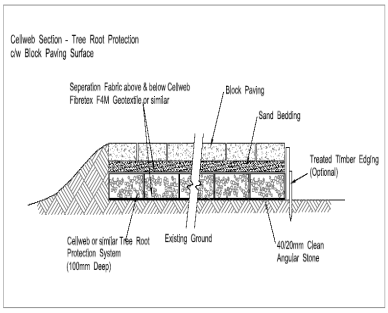
Step 4 – Place the required cellular confinement system (Cell Web150-200mm) over the geotextile and pin/anchor the cell walls open for infilling.

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.

Pictures show the Cell Web being installed on the ground.
The below shows a diagram of how the Cellular confinement system should be installed.





Stage 2:

6.9.0 The Construction Works Stage

6.9.1 **Protective fencing -** During the course of the works, special attention must be paid to ensure that these fences and all other tree protection measures are kept in place, in good order and 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 must be informed in advance of the works taking place and the mitigation measures required to reduce impact on the tree vegetation agreed. These mitigation measures will include the supervisions of these works by the project Arboriculturist.

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

6.9.2 **Excavations -** The excavation works are only to commence once the protective fence line and all other protection measures are 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 will be required to protect the tree vegetation 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 vegetation 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.

6.9.3 **Working within the RPA** *(Root Protection Area)* – If it becomes necessary to carry out works within the RPA of a tree or other vegetation being retained, 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.

6.9.4 **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.

6.9.5 Other items

6.10.1 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.

Stage 3

6.10.0 Post Construction Works

6.10.1 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.

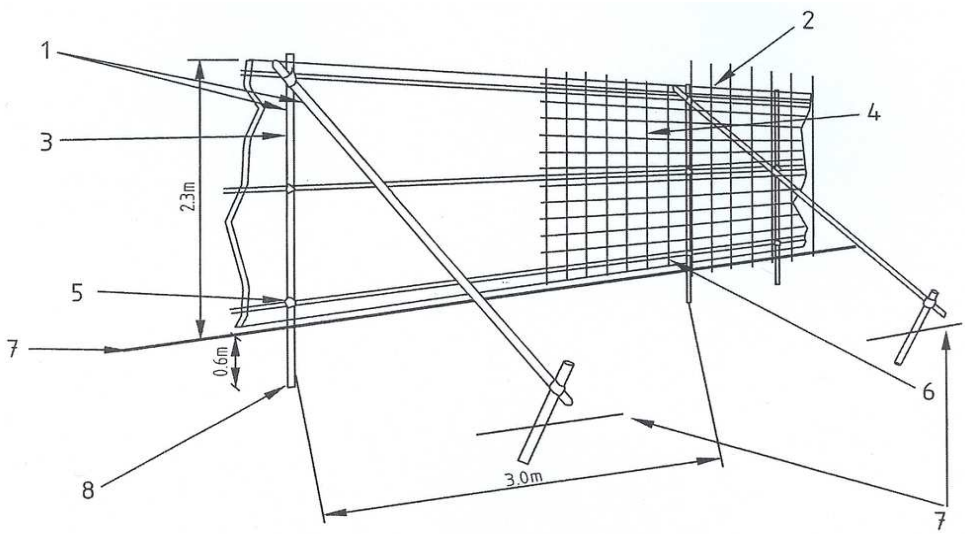
Signed Felim Sheridan Date 6/10/2019

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.



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 Type 1 Protective Fence –

Sample of Type 2 Protective Fence –

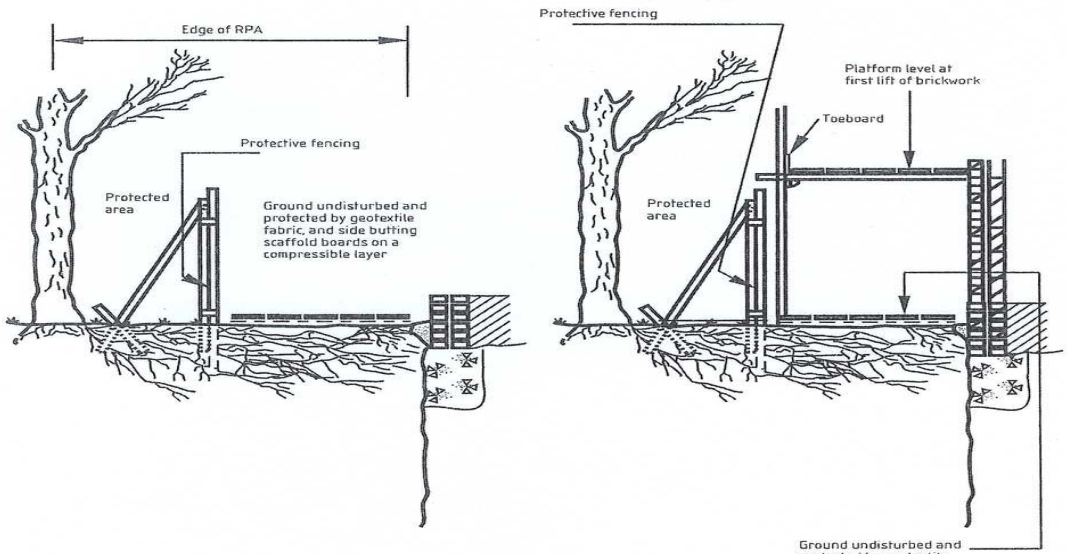


Figure 3. – Scaffolding within the RPA

Appendix 2

Condition Tree Assessment

A Condition Assessment of the Trees within the Site Area on 'Scholarstown Road', Knocklyon, Dublin 16.

Date: 31st January 2019

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:

Physiological Condition

Good: A tree with no major defects, but possibly including some small defects.
Fair: A tree with some minor defects such as bark Wounds, isolated decay pockets or structure affected due to overcrowding.
Poor: A tree with more serious defects such as extensive deadwood, decay or effective to the point of being dangerous.

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

Estimated Remaining Contribution 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 millimetres (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	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S-**south **E-**east **W-** west	**A-** average		
		An arboricultural assessment of the trees on the site area on 'Scholarstown Road', Knocklyon, Dublin 16. **The site area is laid out as a large open paddock with two houses and outbuildings located within the central positions.**									
		The assessment starts to the right (east side) of the entrance to 'Beechpark' and works westwards along the boundary with the 'Scholarstown' Road. It consists of a line of mature, prominent trees including Oak, Ash, Horse Chestnut and Sycamore with an undergrowth of Bramble. They are prominent within this area and some new tree planting has been added over the years in order to bulk up this tree line. These trees may have suffered some impacts from previous works carried out on the roadside and also during the construction of the boundary wall.									
		The following two trees are growing up together and form part of the one group canopy formation.									
0849	**Horse Chestnut** *Aesculus hippocastanum*	18	1840	10N 8S 9E 3W	0	Mature	Fair / Good	Fair It forms part of the group canopy formation with tree No. 0850 with an asymmetrical crown as a result. The lower limbs/ branches have been pruned back in the past, in particular on the roadside in order to maintain clearance with the overhead utility lines. There is light Ivy cover on the main trunk. It has a low crown formation extending out over the surrounding grounds/ site area.	Remove dead/ unstable growth from within its crown and lighten in heavy overextended side limbs/ branches by 1-2 meters (m). Carry out pruning to maintain clearance over the surrounding surfaces.	20+	B2
0850	**Horse Chestnut** *Aesculus hippocastanum*	16	820	9N 8S 6E 7W	3	Mature	Fair/ Good	Fair It forms part of the group canopy formation with tree No. 0849 with an asymmetrical crown as a result. It contains heavy side branches with a low crown formation out over the site area. It has received pruning on the roadside	Remove dead/ unstable growth from within its crown and lighten in heavy, overextended side limbs / branches by c.1-2m.	20+	B2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								in order to maintain clearance with the road and the overhead utility lines. There is light Ivy cover on the main trunk.			
0851	**Ash** *Fraxinus excelsior*	20	820	4N 6S 6E 6W	3	Mature	Fair	Fair It is a tall tree growing in isolation. It has received pruning in the past in order to contain its crown size and to address structural issues. There are some decay pockets at old pruning wounds where the lower scaffold limbs/ branches have been removed in the past. There is heavy Ivy cover on the lower trunk. A service trench has been dug within c.2m of it base on the east side and this is likely to have caused some root damage as a result.	Remove dead/ unstable growth from within its crown. Cut Ivy at ground level. Monitor its condition on a twelve monthly basis.	10-20	C2
		The survey continues on the left-hand side (west side) of the entrance avenue along the 'Scholarstown Road'.									
0852	**Rowan** *Sorbus aucuparia*	6	220	3N 1S 3E 1W	1	Early Mature	Fair	Fair / Poor It has been planted underneath the canopy of a larger neighbouring tree with an asymmetrical crown as a result. It has been forced up and out for the light and its structure has been affected as a result.	Retain at part of the bulking at the present time.	10+	C1
0853	**Oak** *Quercus robur*	11	880	6N 5S 4E 6W	2.5	Mature	Fair	Fair It has a squat crown formation with heavy Ivy cover on the lower trunk. It has received pruning in the past, in particular on the roadside in order to maintain clearance with the road and the overhead utility lines.	Remove dead/ unstable growth from within its crown. Prune back side branches in order to maintain clearance over the surrounding surfaces. Cut Ivy at ground level.	20+	B1
0854	**Ash** *Fraxinus*	20	900	8N 6S	3.5	Mature	Fair/ Poor	Poor It is a large size tree located in isolation. It has	I would recommend its **removal** as the most	<10	U

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
	excelsior			5E 6W				received pruning in the past with decline/ dieback evident throughout its crown. It is infected at its base by the fungus 'Ustulina deusta' with areas of dead bark present, as a result, the stability and safety of this tree is of concern. There are some decay pockets at the old pruning wounds and it is infected within its crown by the fungus 'Inonotus hispidus'. It has received pruning in the past to remove dead/ unstable growth.	appropriate management option.		
0855	**Pear** *Pyrus communis*	4	330	6N 2S 3E 2W	2	Mature	Fair	Fair/ Poor It is growing from underneath the canopy of neighbouring trees with an asymmetrical crown as a result. The lower branches have been cut back in the past in order to raise up its crown.	Retain as part of the bulking within this area.	10-20	C1
		The following trees form part of the one continuous line and form a prominent feather within the treescape of this area.									
0856	**Beech** *Fagus sylvatica*	16	520	4N 4S 4E 3W	1	Early Mature	Good	Fair/ Good It has a slightly asymmetrical crown due to its group growing environment and is reasonably well structured. The lower branches have been pruned back on the roadside in order to maintain clearance with the overhead utility lines.	Carry out any additional pruning in order to maintain clearance over the surrounding surfaces and structures.	40+	A1
0857	**Oak** *Quercus robur*	19	800	9N 8S 5E 5W	2	Mature	Fair/ Good	Fair/ Good It is a prominent tree within this area with a broad spreading crown formation. It contains deadwood within its crown and the lower branches, in particular on the roadside have been pruned in order to maintain clearance with the road and overhead utility lines.	Remove dead/ unstable growth from within its crown. Carry out any additional pruning in order to maintain clearance with the surrounding surfaces and structures.	40+	A1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0858	**Sycamore** *Acer pseudoplatanus*	16	810	5N 5S 5E 6W	4.5 N 3S	Mature	Fair	Fair It forms part of the group canopy formation within this tree line. There are suckers growing from its base with light Ivy cover on the main trunk.	Remove dead/ unstable growth from within its crown and carry out pruning to maintain clearance over the road and the surrounding surfaces/ structures.	20+	B1
0859	**Oak** *Quercus robur*	10	580	3N 5S 3E 3W	2N 3S	Mature	Fair/ Poor	Poor It is growing up within a group environment and has suffered storm damage. It has been heavily cut back in the past and this has impacted on its crown structure creating a poorly structured crown. Its crown is impacting on the development of tree (No. 0860) which has better long-term potential.	Due to structure, prune back the remaining heavy side branches to leave leaving a tall stump with smaller side growth.	10+	C1
0860	**Beech** *Fagus sylvatica*	9	310	4N 5S 5E 3W	1	Semi Mature	Fair	Fair It is being slightly overcrowded by the trees on either side and would benefit from more space to grow/ develop.	Carry out pruning in order to maintain clearance with the surrounding surfaces, structures and in particular, over the road.	40+	B1
0861	**Sycamore** *Acer pseudoplatanus*	18	810	7N 6S 6E 4W	4.5	Mature	Fair / Poor	Fair It is growing up as part of the group canopy formation and has received pruning on the roadside in order to maintain clearance leaving its crown slightly more open/ exposed. The upper crown is showing signs of stress/ decline and contains deadwood throughout. There are suckers developing from its base with basal decay also present.	Remove dead/ unstable growth from within its crown. Monitor its condition on a twelve monthly basis.	10-20	C1
0862	**Beech** *Fagus sylvatica*	17	530	6N 5S 5E	1	Early Mature	Fair/ Good	Fair It is growing up within close proximity to the larger neighbouring trees and its crown	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	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
				3W				development has been slightly affected as a result. It has good potential for the future.			
0863	**Oak** *Quercus robur*	19	1060	6N 6S 8E 6W	2N 4S	Mature	Fair	Fair It is a large prominent tree with a broad spreading, slightly asymmetrical crown weighed towards the road. The upper crown is showing minor signs of stress/ decline with deadwood present throughout. It has received pruning on the roadside in order to maintain clearance with the road and the overhead utility lines. There is light Ivy cover on the lower trunk. It has possibly been impacted upon by the previous construction works, in particular during the erection of the boundary wall.	Remove dead/ unstable growth from within its crown and prune in any other heavy, exposed side limbs/ branches to address exposure. Carry out pruning in order to maintain clearance over the road and the overhead utility lines.	40+	A1
0864	**Oak** *Quercus robur*	17	800	6N 8S 7E 5W	2N 3.5 S	Mature	Fair/ Good	Fair It has a slightly asymmetrical crown due to previous storm damage and limb removal on the site side. It contains heavy scaffold/ side limbs with decay developing into some of the larger old wounds. It has received pruning in the past in order to maintain clearance over the overhead utility lines.	Remove any dead/ unstable growth from within its crown and carry out pruning in order lighten weight on the structurally weak limbs, in particular where limbs have broken out in the past by up to c.2m.	20+	B1
0865	**Beech** *Fagus sylvatica*	17	510	6N 4S 3E 4W	3.5	Early Mature	Good	Good It is a good quality replacement tree and it has been planted into this area and is being slightly overcrowded by a neighbouring tree. It has received some pruning in order to maintain clearance with the overhead utility lines. It has good potential for the future.	Requires no work at the present time.	40+	A1
0866	**Oak**	11	530	5N	1N	Mature	Fair	Fair	Remove dead/ unstable	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
	Quercus robur			6S 5E 6W	3.5 S			The top has broken out in the past and it forms a multiple-stemmed crown from a height of c.3m up. It is slightly asymmetrical due to its group growing environment. It has received pruning to maintain clearance with the overhead utility lines and with the road.	growth from within its crown. Carry out any additional pruning in order to maintain clearance with the road and the overhead utility lines.		
0867	**Portuguese Laurel** *Prunus lusitanica*	4	320/ 200	6N 3S 4E 4W	0	Mature	Fair	Fair It is a large size shrub/ small size tree with suckers developing from its base. It has been cut back in the past due to the overhead utility lines leaving its crown asymmetrical as a result. Bramble is growing up through the lower crown.	Tidy up the undergrowth at the present time.	10-20	C1
Tree No.1	**Monterey Cypress** *Cupressus macrocarpa*	12	400	5N 5S 6E 5W	3	Early Mature/ Mature	Fair	Fair It is located on the adjoining property side of the boundary fence and consists of three stems growing up together. The lower branches have been pruned/ removed in the past in order to raise up its crown. It has a small crown overhang into this site area.	Management is located outside the control of this site area.	10-20	C1
Hedge No.1	**Leyland Cypress** *Cupressocyparis leylandii*	**It is low hedge cordoning off the site area from the adjoining garden of the gate lodge.** It is of a mature age class in fair condition both physiologically and structurally. It has been regularly trimmed/ maintained as a low hedge with some sections being suppressed out due to overcrowding/ competition.							Continue present maintenance.		C2
0868	**Pencil Cedar** *Juniperis Virginiana*	11	580	2N 1S 2E 1.5W	2	Mature	Fair	Fair It has a nice conical habit and is located out in the middle of the paddock. It has suffered a lot of bark wounding on the lower trunk and base caused by the grazing livestock within this area exposing the underlying timber to decay pathogens and this may have an impact on its health and stability in the long-term.	Requires no work at the present time. Cordon off the area around its base to protect the soil from compaction and further bark stripping.	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0869	**Horse Chestnut** *Aesculus hippocastanum*	22	1110	8N 7S 10E 8W	3	Mature	Fair	Fair/ Poor The visual assessment has been limited to the site side only. It is located at the gable end of the gate lodge and is a large size tree. It situated on the corner with the boundary fence running into the centre of the main trunk, so ownership of questionable. It forms a twin-stemmed tree from c.3m up with an acute union formation between stems with included bark present and I suspect that there is a split occurring where it subdivides into twin-stems. There is a decay wound on one stem with strips of dead bark on the main trunk due to infection by 'Bleeding Canker' of Horse Chestnut. Decay is developing into the old wounds.	Ownership will need to be established prior to carrying out any works. It would benefit from a more detailed assessment and from remedial works to address health and safety issues.	10+	C2
Tree Line No.1	**Western Red Cedar** *Thuja plicata* **Lawson Cypress** *Chamaecyparis lawsoniana* **Monterey Cypress** *Cupressus macrocarpa* **Sycamore** *Acer pseudoplatanus*	**It extends up along the western and part of the northern boundaries of the site area and is cordoned off from the site area by a three rail fence.** They are of an early-mature age class and consist of a line of Conifers consisting of Western Red Cedar, Lawson Cypress, Monterey Cypress and broad leaf Sycamore. They are all located on the adjoining landside of the boundary fence extending up along the entrance avenue to the front of the neighbouring house. There is scrub vegetation developing on the site side consisting of predominately Snowberry and Bramble. They have a small crown overhang into the site area and the visual assessment is limited to the site side only. They have value along this boundary for screening. 12 | 400 | 5N/5S/6E/5W | 3							Management is located outside the control of this site area. Tidy up the scrub vegetation on the site side.		C2
Tree Group	**Lawson Cypress cv.** *Chamaecyparis*	A15	A240 X10	A5N A5S	A 0.5	Mature	Fair	Fair They are located on the adjoining landside of	Management is located outside the control of this	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
No.1	*lawsoniana cv.* (2 in total)		stems	A5E A5W				the boundary fence in front of the neighbouring house. They are multiple-stemmed from base with a small crown overhang into the site area. The visual assessment has been limited to the site side only. They are of value for screening/ privacy within this area.	site area.		
Tree Group No.2	**Wild Plum** *Prunus domestica* **Cherry Plum** *Prunus cerasifera* **Lawson Cypress** *Chamaecyparis lawsoniana*	A9	A300	A4N A4S A4E A4W	A 1.5	Mature	Fair	Fair/ Poor It extends in an eastwards direction from Tree Group No.1 and is located on the adjoining landside of the boundary fence. Scrub Bramble is developing on the site side. They provide screening and privacy to the front of the existing neighbouring house.	Management is located outside the control of the site area. Tidy up the undergrowth on the site side.	10-20	C2
Tree Group No. 3	**Monterey Cypress** *Cupressus macrocarpa* **Scots Pine** *Pinus sylvestris* **Larch** *Larix decidua*	A18	A450	A5N A5S A5E A5W	A2	Mature	Fair	Fair They extend in a northwards direction away from the northern boundary of the boundary fence. They form a prominent group of trees within this treescape with a small crown overhang on the site area. Some trees have heavy Ivy cover on their main trunks.	Management is located outside the control of the site area. Tidy up the undergrowth and scrub on the site side.	20+	B2
		The following trees are located around the stable yard. Due to the area around the stable yard being out of active use for some time, natural seedling trees , in particular Sycamore and Ash have developed and are becoming overgrown due to lapsed management and are dominating this area.									
0870	**Ash**	12	240	3N	1.5	Early	Good	Good	Requires no work at the	20-40	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
	Fraxinus excelsior			4S 4E 2W		Mature		It is possibly self-seeded and is growing close to the boundary fence. It is establishing well and is being slightly overcrowded by the trees within Tree Group No.3.	present time.		
0871	**Sycamore** *Acer pseudoplatanus*	8	120/ 170/ 90/ 100	4N 3S 4E 2W	1	Early Mature	Fair	Fair/ Poor Multiple-stemmed from base and is self-seeded into this area and is growing up through the boundary fence within a confined space. Some stems have been cut in the past in order to take them back from the stable building.	Maintain basal suckers at the present time.	10-20	C1
Tree Line No.2	**Leyland Cypress** *Cupressocyparis leylandii* **Lime** *Tilia sp.* **Beech** *Fagus sylvatica*	**It runs in an east to west direction, subdividing the site into two parts.** It is of a mature age class in fair condition physiologically and in fair/ poor condition structurally. It consists of a line of Leyland Cypress with some Lime and Beech trees inter planted throughout and these are being suppressed out by the faster growing Leyland Cypress trees. They are growing up together and are prominent within the treescape of this area. Their lower branches have been grazed off by the livestock sheltering/ grazing within this area. Storm damage is evident and they are likely to be prone to further storm damage due to structure. A16 | A650 | A6N/A6S | A1							They are best maintained/ managed within their group environment. Tidy up the storm damage and cut Ivy at ground level where it is heavy on the trees.		C2
0872	**Oak** *Quercus robur*	19	900	8N 8S 9E 8W	4	Mature	Poor	Poor It has reached an advanced stage of decline and is infected by the fungus 'Meripilus Giganteus' at its base with basal decay also evident. The ground levels have been altered around its base in recent times. It is located within the middle of the paddock and has no future potential.	I would recommend its **removal** as the most appropriate management option.	<10	U
		The following two trees are located at the gable end of the house (Beechpark) on the edge of the driveway/ avenue.									

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0873	**Magnolia** *Magnolia sp.*	9	170/ 190/ 150/ 170	4N 4S 4E 3W	2	Early Mature	Fair/ Good	Fair Multiple-stemmed from low down with some lower branches/ stems removed in the past in order to raise up its crown leaving its crown slightly asymmetrical as a result. Due to structure, it may be prone to further storm damage in the future.	Requires no work at the present time.	20+	B1
0874	**Lawson Cypress** *Chamaecyparis lawsoniana*	13	280	3N 2S 3E 2W	2	Early Mature	Fair	Fair The lower branches have been pruned/ removed in the past in order to raise up its crown. It is located on the edge of the driveway with some lower branch breakage evident.	Remove hanging branch from within its crown.	10-20	C1
		The following trees are located out in the open paddock.									
0875	**Sycamore** *Acer pseudoplatanus*	17	1430	7N 6S 8E 5W	3	Mature	Fair	Poor It is a large size tree located in the middle of the paddock and is a prominent, visual tree within this area. It has an asymmetrical crown due to past storm damage with decay developing into the old wounds on the main trunk, in particular at a height of c.3-4m. Basal decay is also present and this is likely to have a knock-on effect on its health and stability. Pruning in order to contain would have a visual impact on its appearance. It is presently located within a low risk area.	Retain at the present time and monitor its condition Due to its location at the present time, it can be retained and allow nature to take its course. Due to structure, it would not be suitable for retention within a developed area where this risk would be higher. It will need to be reviewed if left within a developed area as it may require removal or pruning.	<10	U

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0876	**Oak** *Quercus robur*	17	1340	8N 9S 9E 6W	2	Mature	Fair	Fair It is a large size prominent tree located out within the paddock on its own. It has a slightly asymmetrical crown with heavy side branches. It has suffered storm damage and contains deadwood throughout. Some impacts have been caused by the livestock sheltering/ grazing around this tree over the years.	Remove dead/ unstable growth from within its crown.	40+	A1
		The following trees are located along the eastern boundary of the site area that backs onto the rear gardens of the adjoining houses (Scholarstown Park). The gardens are cordoned off from the site area by a block wall and the construction of this wall may have had an impact on these trees and along the site side of some of these trees, services have been routed in the past and most likely resulted in soil and root damage within their root zone. Some of the trees along this boundary have been heavily cut back as requested from the adjoining residents to deal with light issues. **The following gives details on these trees working from a north to south direction.**							Tidy up the undergrowth of Bramble.		
0877	**Horse Chestnut** *Aesculus hippocastanum*	8	840	4N 3S 4E 4W	1.5	Mature	Fair	Poor It was heavily cut back in the past to a tall stump and the regrowth has been repeatedly cut back over the years. It currently has a small compact crown. There are suckers growing from its base and it is being heavily suppressed by Ivy. The grounds levels have been altered around this tree with garden debris being piled into this area.	Cut Ivy at ground level at the present time. It will require repeat pruning in order to maintain.	10+	C1
0878	**Horse Chestnut** *Aesculus hippocastanum*	9	820	4N 3S 4E 4W	1.5	Mature	Fair	Poor It has been heavily reduced/ topped in the past to a tall stump and the new growth has been repeatedly pruned in order to contain size with decay developing into the old stump. It is infected by 'Bleeding Canker' of Horse	It will require repeat pruning in order to contain.	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								Chestnut. It is suckering from base.			
0879	**Horse Chestnut** *Aesculus hippocastanum*	7	790	4N 4S 4E 4W	0.5	Mature	Fair	Poor It has been cut down to a tall stump and has since been allowed to develop dense regrowth from this stump which has been cut back in the past in order to contain. It is suckering from base with decay developing into the old stump; in particular from the old cut wounds.	It will require repeat cutting in order to contain.	10+	C1
0880	**Douglas Fir** *Pseudotsuga menziesii*	18	490	5M 5S 5E 5W	3	Mature	Fair	Fair It forms part of an open group and has suffered minor branch breakage during storms. It has suffered small bark wounding on the lower trunk. There is a dense undergrowth of Bramble around its base.	Requires no work at the present time.	10-20	C1
0881	**Douglas Fir** *Pseudotsuga menziesii*	18	510	4N 5S 4E 3W	3	Mature	Fair	Fair/ Poor It is a tall tree growing up within a sheltered group environment and its structure has been affected as a result. The main dominant leader would appear to have been lost in the past with some decay present at this point	Requires no work at the present time. I would consider its removal as part of active management to open up the Oak tree (No.0882).	10+	C1
0882	**Oak** *Quercus robur*	15	640	5N 7S 6E 6W	1	Mature	Fair / Good	Fair/ Good It is a prominent tree within this area. I suspect that it has been cut/ topped at a height of c. 5m in the past with a multiple-stemmed crown developing from this point It has a low canopy formation and contains deadwood and minor storm damage throughout its crown	Remove dead/ unstable growth from within its crown.	40+	A1
0883	**Douglas Fir** *Pseudotsuga menziesii*	19	620	4N 3S 5E 4W	3	Mature	Fair	Fair It is growing up within a group and subdivides in mid -crown into multiple-stems with a slight lean on the lower trunk and base, this may be	Remove storm damage and large size deadwood from within its crown.	10-20	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								an indication of past root movement. It contains storm damage throughout its crown.	Monitor its base.		
0884	**Douglas Fir** *Pseudotsuga menziesii*	18	590	4N 4S 5E 5W	6	Mature	Fair	Fair It is growing up with tree No. 0883 and forms part of the one group/ canopy formation. It contains deadwood throughout its crown and has suffered storm damage in the past. It may have been impacted upon during the installation of services in the past with manholes located to its south-west.	Remove large size dead/ unstable growth from within its crown.	10-20	C1
0885	**Oak** *Quercus robur*	8	580	2N 2S 2E 2W	-	Mature	Dead	Poor It is becoming decayed and unstable and may have been impacted upon during the installation of services in the past. It is being suppressed by Ivy.	I would recommend its **removal** as the most appropriate management option.	<10	U
0886	**Sycamore** *Acer pseudoplatanus*	A9	A160 X 3 stems	A3N A3S A3E A3W	A2	Semi Mature	Fair	Poor Self-seeded into this area and consists of a group of stems growing tight to the base of the boundary wall of the neighbouring properties. They have the potential to cause structural damage to the wall as they grow in size.	Requires no work at the present time. The long-term management should consider their removal.	<10	U
Hedge No.2	**Hawthorn** *Crataegus monogyna* **Elder** *Sambucus nigra* **Bramble** *Rubus fruticosus* **Dogrose** *Rosa canina*	**The survey continues along the boundary with 'Scholarstown Road' and works from an east to west direction.** It is of a mature age class in fair/ poor condition both physiologically and structurally. This area has a dense undergrowth of Bramble and scrub encroaching out onto the lands limiting access. It consists of the remnants of an old hedge line and lot of this has been lost or removed over the years. The construction activities on the roadside may have resulted in soil and root damage. A2 -- A4 -- **The following trees are located within this hedge.**							Trim in all encroaching hedge species and make safe all large size dead/ unstable growth.		C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0887	**Oak** *Quercus robur*	16	920	8N 8S 9E 7W	3	Mature	Fair	Fair It is a large size tree with a broad spreading crown formation. Ivy cover on the main trunk is beginning to extend up into its crown. The lower branches have been pruned/ removed in the past, in particular on the roadside in order to maintain clearance. It may have been impacted upon by the construction of the boundary wall on the roadside with signs of decline evident throughout its crown with deadwood present.	Remove dead/ unstable growth from within its crown and prune in any other heavy, exposed structurally weak limbs/ branches. Cut Ivy at ground level.	20+	B1
0888 & 0889	**Ash** *Fraxinus excelsior* (0888) **Sycamore** *Acer pseudoplatanus* (0889)	A13	A190 X 3 stems	A4N A4S A4E A4W	A2	Early Mature	Fair/ Good	Fair / Poor They are growing at close spacing and are most likely self-seeded into this area. They are growing up through the old rail fence and are multiple-stemmed from base. They have been cut back on the roadside in recent times due to the overhead utility lines and this has impacted on their crown structures. Ivy cover on their main trunks is beginning to extend up into their crowns.	Cut Ivy at ground level and tidy up the undergrowth.	10-20	C1
0890	**Larch** *Larix decidua*	15	510	5N 4S 6E 3W	3	Mature	Fair	Fair It is a large size tree for this species. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its windsail. It has a slightly asymmetrical crown, possibly due to the loss of neighbouring trees in the past. The visual assessment has been limited due to dense undergrowth and heavy Ivy cover on the main trunk. Decline is evident within its upper crown, possibly associated with impacts from the previous construction activities.	Cut Ivy at ground level and remove to a height of c.2m. Remove the surrounding scrub vegetation to allow access in order to carry out a more detailed assessment. It may require further management pending this review.	10+	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
0891	**Elm** *Ulmus procera*	12	250/ 200/ 120	3N 2E 3E 3W	3	Early Mature	Dead	Poor It is becoming decayed and unstable and has lost a limb from its base in the past due to decay. It forms a multiple-stemmed tree from base and I suspect that an infection by 'Dutch Elm' disease has resulted in its death.	I would recommend its **removal** as the most appropriate management option.	<10	U
0892 &0893	**Ash** *Fraxinus excelsior*	A12	A200 X 2 stems	A3N A3S A3E A3W	A3	Early Mature	Fair	Fair/ Poor They are most likely self-seeded into this area and are growing up through the rail fence. They form part of the higher bulking within this hedge and are multiple-stemmed from base with acute union formations between stems. There is Ivy cover on their main trunks. They have been cut back on the roadside in the past due to the overhead utility lines and this pruning has impacted on their crown structure and appearance.	They will require repeat pruning in order to contain. Cut Ivy at ground level and tidy up the area around its base to allow a more detailed assessment.	10+	C1
Hedge No.3	**Beech** *Fagus sylvatica* **Walnut** *Juglans regia*	**This hedge extends in an east to west direction on the linear grass verge between the Scholarstown Road and the boundary wall of the site area.** It is of a young age class in fair/good condition both physiologically and structurally. It consists of a hedge of Beech which has been trimmed to contain and planted into this at equal spacing is a line of 10 Walnut trees of a young age class also establishing well. **Hedge** A1.5 | -- | A1 | -- **Trees** A5 | A140 | A5 | A2							Continue present maintenance.		C2
0555-0559	**Lime** *Tilia sp.* (5 in total)	A14	A450	A6N A6S A6E A6W	A1	Early Mature	Fair /Good	Fair/ Good They are planted between the boundary fence and the entrance driveway to the second house within this site area and are establishing well. Their crown development has been	They would benefit from general tidying, maintenance works.	20-40	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								slightly impacted upon due to competition from a line of Monterey Cypress trees on the western side of the avenue, however they have now established above the height of the Monterey Cypress trees. They have a crown overhang on the avenue side and their lower branches have been pruned in the past, in particular on the avenue side in order to raise up their crowns. They have good potential for the future.			
0560	**Sycamore** *Acer pseudoplatanus*	17	800	7N 5S 6E 6W	4	Mature	Fair/ Good	Fair It is located on the side of the entrance avenue with a crown overhang on the site side. Ivy cover on the main trunk is beginning to extend up into its crown. The visual assessment has been limited to the site side only. It is a prominent tree within this area.	Remove dead/ unstable growth from within its crown.	20+	B1
0561-0564	**Beech** *Fagus sylvatica* (4 in total)	**It consists of a short line consisting of 4No. Trees located at the gable end of the existing house.** They are of a mature age class in fair condition both physiologically and structurally. They may have been impacted upon during the construction works and the development of this house. Their lower branches have been pruned/ removed in the past in order to raise up their crowns. They are growing up within a group environment and are dependent on one another for support/ shelter. A18 | A600 | A8N/A8S/A8E/A8W | A2.5							They will require pruning to make safe large size dead/ unstable growth.	20+	B1
Tree Line No. 3	**Leyland Cypress** *Cupressocyparis leylandii*	A9	A200 X 3 stems	A10N A10S A10E A10W	A0	Mature	Fair	Fair/Poor They extend along the eastern side of the gable end of the house on the house of the boundary fence. They would have initially been cut into a hedge but have since been allowed to grow up tall and wide, particularly on the eastern side. They are now	They will require management in order to contain.	10+	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								overcrowding the house due to structure and are becoming prone to storm damage with limbs/ branches breaking out as a result.			
Tree Line No.4	**Monterey Cypress** *Cupressus macrocarpa*	A9	A500	A10N A6S A10E A10W	A0	Mature	Fair	Fair It runs in an east to west direction along the back boundary of this private house backing onto the site area. They are located on the garden side of the boundary fence with a large crown overhang into the site area. They have been topped/ cut over the years and trimmed on the private property side only and have been allowed to grow wide on the field/ site side. They have suffered storm damage in the past and are of some value for screening.	They will require management to contain in this location.	10+	C2
Tree Line No.5	**Monterey Cypress** *Cupressus macrocarpa*	A9	A500	A9N A9S A5E A9W	A0	Mature	Fair	Fair They extend in a north-south direction and are located on the left-hand side (western side) of the entrance driveway to this private property. They are growing within a confined space between the boundary fence and the driveway and are causing structural damage to the driveway surface. They have been cut/ trimmed, particularly in height and their overhang into the neighbouring property, but they have been allowed to grow wide on the site side with a broad crown on the site side as a result. They have suffered storm damage within their crowns.	They will require management to contain in this location.	10+	C2
Tree Line No.6	**Sweet Chestnut**	A5	A130	A2.5N 2.5S 2.5E 2.5W	A1. 5	Young	Fair/ Good	Fair Planted in a broken line on the linear grass verge outside the site area bordering with the public road. It consists of six trees which are	They will require repeat pruning to maintain clearance over the surrounding surfaces.	20-40	C1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								establishing well. Lower branches have been pruned to raise up their crowns over the surrounding surfaces.			
Notes:											