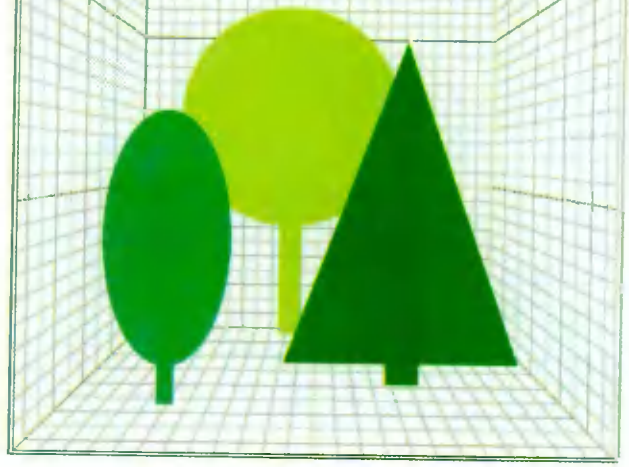
The Tree File

Consulting Arborists



Arboricultural Report

Trees at Proposed Site at
Former Filling Station
Nutgrove Avenue
Rathfarnham
Dublin 14
April 2021

The Tree File Ltd
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Contents

Associated Drawings

This report must be read in conjunction with the drawings noted below-

	Drawing Title	Drawing Subject
1)	**Nutgrove Tree Constraints Plan**	**Tree Constraints Plan** A plan depicting the predevelopment location, size, calculated constraints, and simplified tree quality category system
2)	**Nutgrove Tree Impacts Plan**	**Tree Impacts Plan** This plan represents the effects of the proposed development works on the above tree population and depicts trees to be retained and removed.
3)	**Nutgrove Tree Protection Plan**	**Tree Protection Plan** This plan depicts the nature, location and extent of tree protection measures required to provide for sustainable tree retention.

1 Report Summary

1.1 In keeping with most development sites, modern Planning requirements to attain maximum densities and to provide a common standard of services ranging from underground infrastructure (including existing wayleaves to be maintained) and drainage, through to DMURS compliant vehicular access and parking means that there is great competition for site space from the outset.

1.2 The site supports a diverse tree population regarding age, size and condition The sustainability and suitability for retention of many of the trees is compromised. Examples of this relate to the young Sycamores arising from footing of existing structures. The removal of those structures as part of site development will damage and undermine the trees or, if retained, the ongoing growth of those trees will result in damage to structures. An example of this relates to the young trees arising from wall footing to the south of the site. A similar scenario relates to the already large Sycamore to the west of the site. This tree is growing in immediate proximity to the boundary wall and to the gable wall of the adjoining property which it greatly overhangs. Ongoing growth of this tree presents a tangible threat of mechanical damage, notwithstanding the fat that the tree has suffered recent failure and collapse of much of its northern crown

1.3 Many trees on the site are relatively small and might be considered simple to replace and accordingly should not be regarded as a major constraint to development.

1.4 In respect of tree nos.173 to 184, subsrantial concern relates to their proxixity to the 300mm asbestos watermain in that area. In respect of these trees, it is noted that under current "Irish Water" guidance, (Standard Details 6, 6a, 12 and 12a) then these trees would not be allowed to be installed at such ranges for fear of damage to the underground infrastructure. For this reason and because of the risk of damage, these trees cannot be regarded as sustainable or suitable for retention.

1.5 To the east of the site, there is a Tulip Tree. The tree's canopy illustrates ongoing decline and deterioration, with an apparently diminishing level of vigour and vitality. Considering the trees context and location beside the alignment of the existing watermain, it appears likely that this tree was substantially damaged at watermain installation time. Review has shown that the tree is in an ongoing state of collapse with much of the tree's southern and south-western crown having failed in recent years. The tree is also supported on a substantially decayed and cavity affected stem.

1.6 The Tulip Tree presents an existing and tangible threat to both the subject site and the adjoining Scout Den, it's vehicular access and parking area and would not typically be considered compatible to the developed use of the proposed site to the west. The Scout Den have gained independent advice on the tree, that has concluded that further investigation would be required before considering the tree safe for retention. In light of this, they are currently considering the removal of the tree.

1.7 Combining the above factors and considerations then little existing tree material can or should be retained within the context of the proposed development. For this reason, the design team has progressed a strategy incorporating an ethos of replacement, as opposed to retaining existing material.

1.8 In respect of tree protection during construction, much relates to seperation provided by existing structures. This applies particularly to Norway maple no.201 to the west of the site, whose root system was found not to extend beyond the historic boundary wall alignment (see Appendix 4). Similarly, the nature of the boundary wall to the site and its demarcation of differing site levels suggests that no tree roots will be encountered inside the site from tree nos.202 or 203. Therefor and regarding trees 201, 202 and 203, the existing boundary structures will effectively act as tree protection. In respect of tree no.172, tree protection will comprise a combination of temporary fencing and controlled works.

2 Introduction

2.1 This report was commissioned by-
Sirio Homes.

This report has been prepared by-
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Report Brief

2.2 An Arboricultural report has been requested in respect of the proposed development. As "BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations" is the accepted frameworks for such reports, then its composition, inclusions and recommendations have been followed, as a general basis for such reporting.

Report Context

2.3 This report includes a Arboricultural review of the proposed development project. This includes an assessment of the sites existing tree population within its current context, as well as an assessment of their potential for sustainable retention in the post-development scenario and the likely effects and repercussions of the development and construction process upon those trees. It also provides information regarding the necessary tree protection and the avoidance of damage to trees during the construction process, necessary to achieve sustainable tree retention.

2.4 This assessment summarises the Arborists findings and recommendations, arrived at after reviewing the proposed project details as provided, and after an evaluation of trees as defined and described in the tree survey at "Appendix 2". This report also includes a preliminary "Arboricultural Method Statement" at "Appendix 1" as well as a Tree Protection Plan that illustrates the requisite conservation and protection methodologies necessary to maintain tree sustainability. This report is not intended as a critique of the proposed development but is an impartial assessment of the development implications relating to the sustainable retention of trees, whether that be any, some, or all trees. This report is for planning purposes only and may be deficient for construction phase use.

Report Limitations

2.5 This report relates the Arborists interpretation of information provided to him before the report compilation and gained by him during the undertaking of the site review and tree survey. The site review data is subject to the limitations as set out under "Inspection and Evaluation Limitations and Disclaimers" in "Appendix 2" of this report. The findings and recommendations made within this report are compiled, based upon the knowledge and expertise of the inspecting Arborist.

2.6 The "Implication Assessment" element of the report builds on assumptions and estimates, particularly in respect of how construction works might proceed on a day to day basis and appreciates the "design" stage of the project, as opposed to "detail design" or "construction" detail.

2.7 In line with the "design" stage of the development proposals, many elements of the "Arboricultural Method Statement" are deliberately broad and generic. They will require review, amendment and consolidation at the construction stage, for example in respect of the size and nature of the equipment, plant and machinery that might be utilised by any potential building contractor and any details as may change at "detail design" or "construction detail" stages.

2.8 Accordingly, this assessment is premised on all its elements/recommendations, and the omission or alteration of any part of it, particularly the application of tree protection methodologies, can radically alter outcomes in respect of sustainable tree retention.

3 Site Description

3.1 The site is broadly rectangular, longest about its east to west axis. The site is bounded to the north by Nutgrove Avenue, to the east by Rathfarnham Scouts Den and to the west and south by residential dwellings, access roads and open space.

3.2 The site area was originally a petrol station, though the above-ground site structures have been previously demolished. The site appears broadly flat, notwithstanding minor local topographical features relating to prior site use. Much of the site comprises hard standing, with the eastern part of the site supporting the largest area of soft landscape. It appears likely that the site still supports substantial underground infrastructure and foundations relating to its prior usage.

3.3 The trees associated with the site are of irregular format. Many suggest compliance with a prior landscape scheme, whilst a number appear to be naturally arising as a result of the non-use and non-management of the site.

4 Pre-Development Arboricultural Scenario

4.1 The site's tree population is diverse in respect of age, quality and condition. Many specimens appear to be deliberately planted, while others have arisen naturally as part of the dereliction and non-management of the site.

4.2 The footprint of the original petrol station supported several grassed verges, many of which have been colonised by spurious weed, scrub and tree growth. Part of this includes the apparent arising of Sycamore and Common Alder, many of which are of poor quality and offer minimal sustainability. This typically relates to their growth context, that being from amongst structures that will require removal or against other structures, such as boundary walls, that will inevitably be damaged if the trees are retained. It is advised that all such material, including nos.186, 192, 193, 194, 195, 197, 199 and 200 be considered unsuitable for retention.

4.3 Of the remaining trees, we have two apparent groups, including historical trees, possibly relating to the late 19th century or early 20th century context of "Nutgrove House", and more recent landscape planting, assumed to relate to the ornamentation of the previous site use.

4.4. The Tulip Tree No.177 appears to relate to a more historical context and is likely to be of an age in the order of 75 to 100 years. At planting, this tree would have been an "exotic" and would only have been found in collections of the garden of more affluent owners. Unfortunately, the tree's condition is poor. The tree has suffered substantial failure and limb loss and is subject to deterioration and decay, both within the crown and at ground level. It appears likely that the tree was badly damaged by the 300mm watermain that runs to the west of the tree stem. The tree's sustainability is substantially impaired, as is its trustworthiness in respect of site safety. Accordingly and while the

tree need not be removed to facilitate the completion of any works within the site area, it would nonetheless be advised that the tree be removed by its owners, on safety grounds.

4.5 The site supports several relatively young trees including Ash, Oak, Silver Birch, Sitka Spruce and Lawson Cypress. Some of these trees are of a good condition and, dependant upon context, may offer substantial degrees of sustainability, however, many have capacity to grow into particularly large trees and therefor may not suit a close-knit or urbanised context.

4.6 Many of the Lawson Cypress are becoming suppressed and offer minimal sustainability. Similarly, the Sitka Spruce, commonly regarded as a commercial forestry species, is not regarded suitable for use in the landscape. The Oak were found to be in broadly good condition and undoubtedly offer some degree of sustainability. However, it must be noted that they will reach great heights and crown spreads. Therefore, there suitability for retention will be dependent on the availability of larger open spaces. Additionally and considering the current spread of Chalara Canker in Ireland, there is a possibility that the Ash will be lost to this disease.

4.7 To the east of the site, the alignment of trees including numbers 173 to 184 are all potentially compromised by their proximity to the existing asbestos 300mm water main. All these trees are growing at ranges where there is a risk of tree root intrusion and damage. It should be noted that under the guidance od Irish Water standard details 6, 6a, 12 and 12a, the planting of these trees at these ranges would not be condoned.

4.6 To the west of the site, we note two large trees including Sycamore No.197 within the site and Norway Maple No.201 just outside of the site boundary and arising from within the garden of the adjoining property to the west.

4.7 At first sight, the Sycamore appears to be of good health, however, repeated and long-term dumping around its base, together with extensive sucker growth prevents detailed inspection at present. The tree's proximity to the boundary wall (and the neighbouring home) and its potential for continued growth, then considerable concern arises with respect to the potential for growth-related damage and disturbance. Accordingly, this tree should be regarded as offering limited sustainability only.

4.8 The Norway Maple can only be reviewed visually from outside the adjoining property, but the tree appears to be of a broadly good condition, and its management would be under the jurisdiction of the neighbouring property.

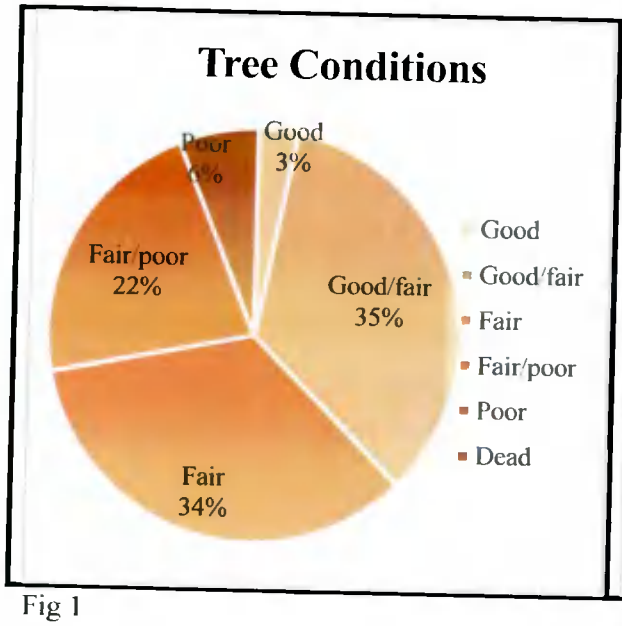

Fig 1

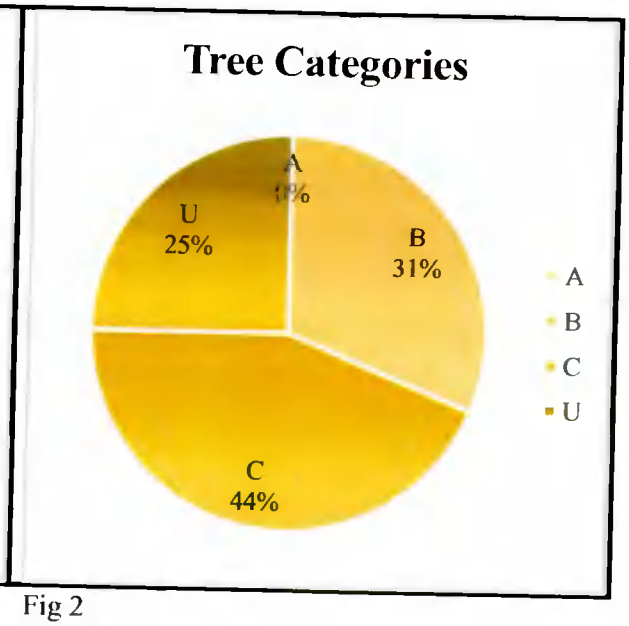

Fig 2

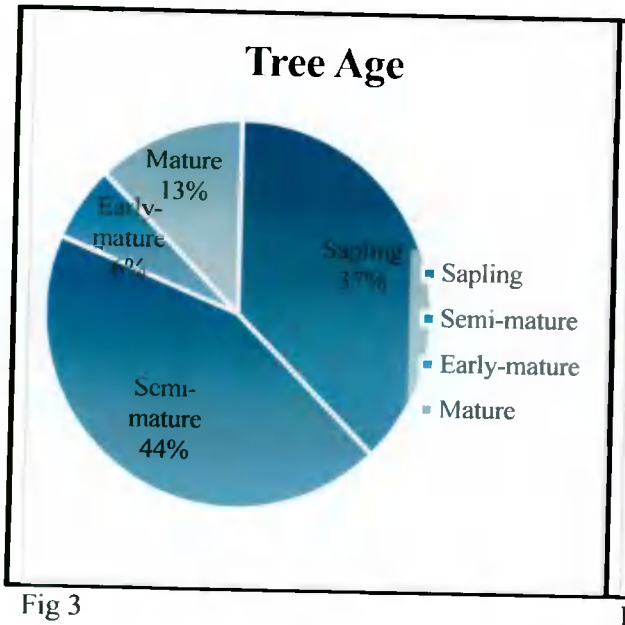

Fig 3

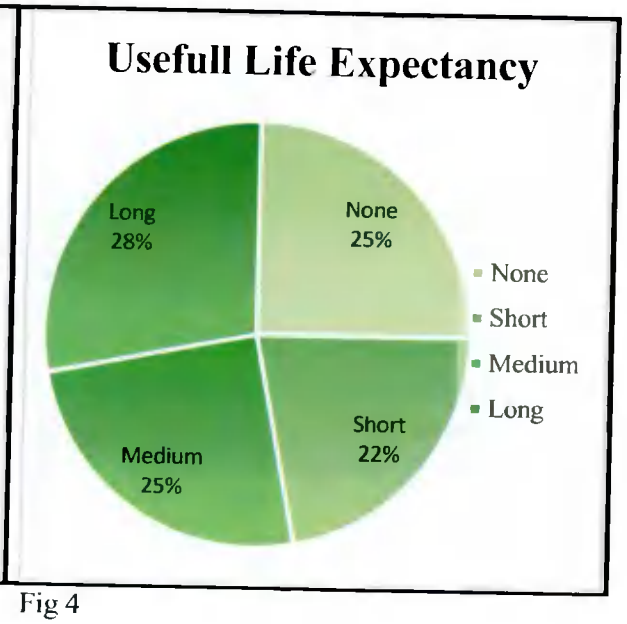

Fig 4

4.9 As can be seen from the graphs above, there is great diversity in all respects, across the tree population. Note is made that the age profile is dominated by sapling and semi-mature trees, illustrating recent planting and naturally arising trees. Tree conditions and categories provide a reasonable spread, as does the useful life expectancies, notwithstanding contextual issues. The species breakdown (fig 5) is dominated by Sycamore, suggesting that numerically, a lot of trees on the site where not deliberately planted. Equally, the species diversity illustrates the otherwise planted landscape, assumed to have been installed in line with the prior petrol station use.

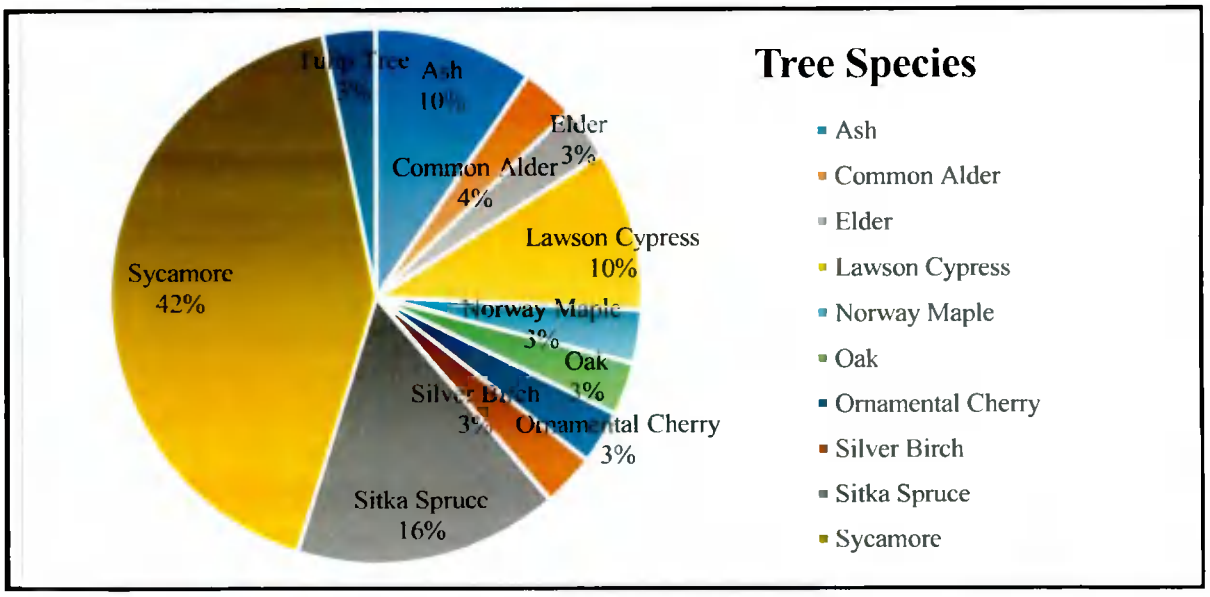

Fig 5

5 Planning Scenario in Respect of Tree

5.1 In respect of trees as they relate to planning within the **South Dublin County Council** area, note is made of two areas of guidance including - **The South Dublin County Council Development Plan 2016-2022** and **South Dublin County Council's Tree Management Policy 'Living with Trees'.**

5.2 **South Dublin County Council's Tree Management Policy 'Living with Trees'** "and the Amendments to Tree Management Policy 2015-2020 'Living With Trees' (as well as an interim internal review in February 2019) that incudes substantial amounts of information in respect of tree management, planting and pertinent to this application, information pertaining to trees on development sites as outlined in Section 7, Trees and Development.

5.3 Within the **South Dublin County Council Development Plan 2016-2022**, trees and tree issues are dealt with regularly, including **Chapter 4, Economic Development and Tourism,** section 4.3.3, ET3 Objective 5 calling for the retention of trees on commercial development sites. Under Chapter 6, Transport and Mobility notes that the design of urban roads and street should incorporate tree planting.

5.4 As expected, trees are mentioned widely in **Chapter 8, Green Infrastructure**, with objectives to protect, and preserve trees and woodlands as per G2 Objective 9 and G6 Objective 1 and well as to include new tree planting as per Objective G2 Objective 11.

5.5 Also, **Chapter 10, Heritage, Conservation and Landscapes**, mentions trees, particularly HCL10 Objective 3, HCL11 Objective 5, HCL15 Objective 3 and HCL17 Objective 1. Within Chapter 10, trees are also mentioned specifically in respect of Section 9.2.4 GRAND CANAL where trees are considered an integral part of the canal landscape.

5.6 Specifically, **Chapter 10, Heritage, Conservation and Landscapes**, includes Section 9.5.0 Tree Preservation Orders, including their application as well as defining the 4 existing orders located at, St. Brigid's (now Newlands Garden Centre), New Road, Clondalkin, Beaufort Downs, Rathfarnham, Townland of Quarryvale and Brooklawn, Palmerstown and Newcastle Road, Lucan.

5.7 In **Chapter 11, Implementation** and under "Masterplan Considerations", "Open Space and Landscape" and particularly "Section 11.5.5 Landscape" again mentions the importance of retaining trees and hedges.

6 Construction Activities and their Effect on Trees

General

6.1 Tree retention is costly in respect of available space. There is a substantial difference between physically retaining a tree in situ and gaining any realistic expectation of it surviving into the future and remaining safe, the latter being dependent upon the extent and nature of protection it can be afforded.

6.2 Trees are living organisms and are highly reliant upon a continuity of environmental factors, the changing of which can easily undermine health and sustainability. As a perennial plant, a trees nature is to necessarily become larger on an annual basis. The survival of the plant and its funding of continued growth requires a minimum import of water and various nutrients, which are provided by the soil in which the tree is rooted.

6.3 A tree is highly dependent upon the ground from which it arises. The nature of that ground and a continuity of conditions and provisions that that ground provides are of particular importance to maintaining tree health and sustainability. Any change extending beyond the short-term, has the potential to affect a tree's metabolism, health, and sustainability.

6.4 Development works can easily result in the loss, changing or denaturing of this ground upon which a tree is dependant. Any action that removes, disturbed or denatures the existing soil environment in respect of gas flux, hydrology, soil strength or bulk density can damage tree roots and render a soil incapable of supporting plant root function. Therefore, these effects must be avoided in the areas upon which a tree is reliant.

6.5 Any structure or activity that results in the issues noted above must be regarded as contrary to sustainable tree retention. Where such issues arise within the minimum "root protection area" as defined under "BS5837-2012", then the affected tree is likely to be regarded as unsustainable and unsuitable for retention.

Construction Specific Issues

6.6 New buildings, roads, or other structures or their foundations (and/or basements) require the excavation of ground space. Foundation digs are often substantially larger

than the building footprint, with depth often requiring safety related battering or benching of the excavation edges to avoid collapse. Many structures, including roads and paths, require that the ground beneath is compacted to provide a necessary bearing ratio. The combination of these typically results in the loss or denaturing of the soil volume that a tree would be reliant upon. Underground services require excavation and trenching, with the added complication that gravity led systems can often require the modification of ground levels to achieve necessary gradients and minimum overburdens, a factor that can often influence the finished levels of both the roads and buildings.

6.7 Most modern construction involves the use of substantial plant, equipment, and vehicles. The movement and activity of such machinery quickly denatures the ground, destroying the soil profile and structure, making them inhospitable and of no use the to the supported trees.

6.8 Though beyond the scope of this report, consideration might be given the broader changes to the ground environment, for example relating to possible hydrological changes about the broader development area.

Contextual Issues

6.9 Some tree losses may be justified because of poor-quality, ill-health or other deterioration. In such instances, the potential for, and suitability for their retention, would be limited regardless of any site development. However, some poorer-quality trees, if located in areas of reduced sensitivity, might offer some degree of limited retention, dependant on the retention context and the threat they may present.

6.10 Where the site context changes in respect of occupation and use near trees, repercussions may include a requirement for greater scrutiny and management. Some trees may require specific attention, including structural pruning improve their safety status within the changed context as well as to deal with issues of exposure and shelter loss.

6.11 Tree canopy cover varies by species and can change by season. Therefore, their relationship with the post development site must be considered in respect of additions issues, including shadow-cast and light admission and littering.

6.12 Tree retention close to buildings should consider the blockage of views and light, and the possible effects on daylight analysis. Trees can have a material effect on these issues and can lead to post development request for more tree removal, for example based on a requirement for artificial light during daylight hours.

6.13 Deciduous tree shed leaves each autumn that can be subject to local wind patterns, creating local drifts and accumulations. Such issues may require management and can lead to drainage issues including the blockage of drains and gullies, or to the creation of slippery surfaces.

7 Nature of Project Works

7.1 The development can be described as:

Sirio Homes intend to apply to South Dublin County Council for permission for residential development comprising a total of 28 no. apartments, in a building up to 4-storeys in height located at the former filling station site, Nutgrove Avenue, Rathfarnham, Dublin 14. The cumulative gross floor area is proposed to be 2,640sq.m on the 0.3157 hectare site.

The application area includes the site of the former filling station (0.2821 ha – under Applicant ownership) and a portion of land (0.0326ha) located to the north of the filling station site, where the existing traffic lights and pedestrian crossing are located along Nutgrove Avenue. To accommodate access to the Site, it is proposed to relocate the existing traffic lights and pedestrian crossing which traverses both South Dublin County Council and Dun Laoghaire-Rathdown County Council boundaries.

The development will consist of:

i. The proposed development has an average parapet height of c.9.3m and a maximum overall height of c.11.7m with a total gross floor area of 2,640 sq.m comprising:
   - 8 x 1-bedroom apartments
   - 17 x 2-bedroom apartments
   - 3 x 3-bedroom apartments;

ii. Communal amenity space (433 sq.m) and public open space (286 sq.m) located to the rear and western side of the Site;

iii. At grade car parking is proposed to the rear of the site which will provide 16 no. residents' car parking spaces (including 2 no. electric vehicles spaces and 1 no. accessible spaces) and 2 no. motorcycle parking spaces;

iv. Two (2) resident waste bin storage areas are proposed along the north-western and north-eastern corner of the Site, fronting Nutgrove Avenue (Total 25 sq.m);

v. A new vehicular entrance from Nutgrove Avenue;

vi. A total of 62 no. surface level bicycle parking spaces comprising 48 no. spaces located at the rear of the Site and 14 no. spaces within the residents' communal area, located along the north-western portion of the Site;

vii. Relocation of the existing traffic lights and pedestrian crossing located on Nutgrove Avenue to the west of its existing position to accommodate access to the Site; and

viii. All ancillary site development works including installation of drainage and water supply infrastructure, lighting and provision of an ESB substation and switch room.

7.2 Considering the scope and scale of the propsed development, it is considered likely that most of the issues dealt with at "Construction Works and Trees" above, will apply at various points and particularly regarding-

a) Direct conflict with proposed structures, thus requiring tree removal.

b) A partial conflict where the "Root Protection Area" is encroached upon by works or ground amendments and cannot be preserved/protected in full.

c) Environmental damage e.g. compaction, capping, sealing – changing the existing ground environment to one that can no longer support tree root function.

d) Construction activity and the use of large plant and machinery that can denature the ground.

e) A change in site context or a change in occupation or use that makes a tree unsuitable for retention.

8 Specific Issues and Arboricultural Concerns

8.1 The intention to develop the site intrinsically requires the consumption of space. As the basis for sustainable tree retention is the conservation of specific areas of ground, then tree constraints are typically contrary to development. Considering the constraints asserted by trees in combination with their locations across the site, it appears impossible that the site could be developed without affecting and requiring the loss of some trees.

8.2 Of greater importance are issues affecting the potential to keep trees regardless of site development. Many trees offer no realistic sustainability and some present threats of harm through failure or damage through ongoing growth. While appreciating that many specimens are of good health, they offer impaired and limited sustainability at best, and the nature of development works including the various discipline specific requirements will require that they are further disturbed. It is therefore difficult to justify the attempted retention of existing trees when such retention may be limited to the extreme short term only.

9 Design Iterations and Arboricultural Considerations

9.1 An earlier tree survey, undertaken in June 2019 updated in February of 2021. Accordingly, there is an appreciation of the site's tree cover, its quality, condition, and the constraints it presented.

9.2 Concerns regarding the proximity of works to some trees led to additional investigations. This applied particularly to Norway Maple no.201 and an exploratory pit was opened up adjoining the tree to identify if tree root development extended beyond the boundary wall alignment. This proved not to be the case as illustrated by the information at Appendix 4.

9.2 The tree survey and its quantification of tree qualities was made available to the broader design team at an early stage. However, when considering the poor quality of many specimens, as well as sustainability and suitability for retention issues, it was quickly appreciated that the Arboricultural future of the site and any development of it would be heavily reliant on new and replacement tree planting.

10 Identification of Development Impacts to Trees

10.1 The expected tree impacts have been represented graphically on the tree impacts drawing "**Nutgrove Tree Impacts Plan**", as well as within the narrative of this report. This drawing combines the tree constraints plan information with the current stage development details including the architectural and services layouts below, thereby allowing for simple direct comparisons to be made between the existing site context and the development proposals in respect of new structures.

10.2 In this drawing, trees denoted with "Broken Pink" crown outlines are to be removed and those denoted with "Continuous Green" crown outlines are to be retained.

10.3 Detail of the development proposals where gained from drawings provided by-

- Horan Rainsford Architects – Architectural Layouts
- Punch Consulting Engineers – Drainage and Engineering information overlaid on Masterplan
- Murphy Sheanon Landscape Architects – Landscape Design

10.4 The evaluation is primarily based on minimum protection ranges as defined paragraphs 4.6.1, 4.6.2 and 4.6.3 of BS 5837:2012. Any structure, action or apparent need to enter or otherwise disturb/convert the "root protection area" of a site tree has been considered likely to have a negative impact, with the potential to render a tree wholly unsuitable for retention, unsafe or unsustainable.

10.5 The broader assessment attempts to consider both direct and indirect implications, based on perceived construction requirements, as well as how a tree will likely interact with the development in respect of growth, hazard development, light blockage and other social concerns in respect of the changing context, including its effect on tree amenity value.

11 Tree Retention and Loss

11.1 The drawing "Nutgrove Tree Impacts Plan" comprises the tree survey drawings overlaid by the development drawings, thus providing a graphic representation of the relationship between tree constraints and the development elements. In this drawing, the trees that will be removed, are highlighted in "pink dashed" outlines.

11.2 The review area supports a total of 32No. individual trees, including 27No. within the site area and 5No. outside the site area, with a qualitative breakdown of-

- 0 category "A" trees,
- 10No. category "B" trees,
- 14No. category "C" trees,
- 8No. category "U" trees.

11.3 Normally, all category "U" trees will be removed (many need removal regardless of development) (8 items cumulative, but one specimen (no.177) is beyond the jurisdiction of the site and removal would be the responsibility of others)

11.4 Of the site's "fair" quality, category "B" trees, the development works will require the removal of tree Nos.178, 179, 180, 183, 188, 197 (6 items cumulative)

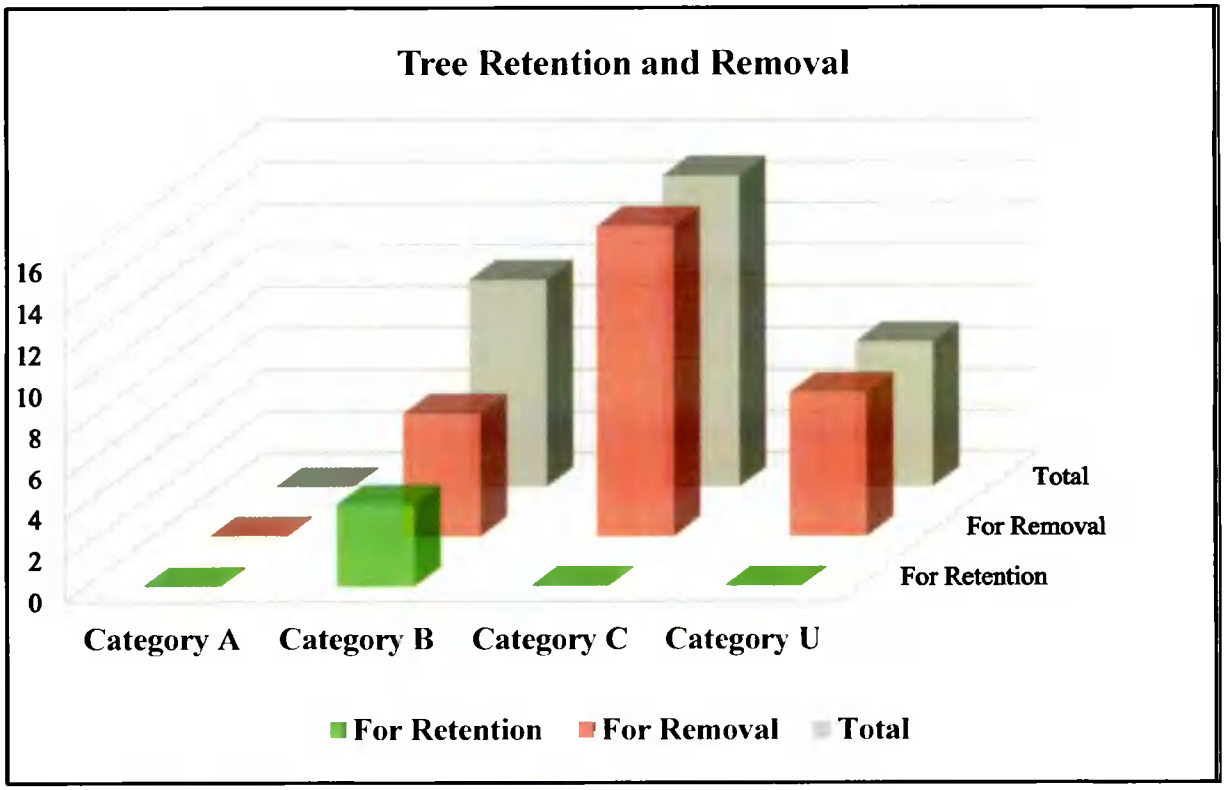

Fig 5 Graphic Representation of Tree Loss/Retention Scenario

11.5 Of the site's category "poor" quality "C" trees, the development works appears to require the removal of Nos.173, 174, 175, 176, 181, 182, 184, 186, 187, 189, 190, 191, 196 and 198. (14 items cumulative).

11.6 The tree loss breakdown for the site will be-

- 7 No. Category U trees (1 Additional Off-site tree is recommended for removal)
- 6 No. Category B trees
- 14 No. category C trees

12 Tree Protection within the Scope of a Development

12.1 The design and management recommendations as set out in "BS5837:2012" are considered as "best practice" regarding the selection, retention, protection, and management of tree within the scope of new developments.

12.2 In respect of tree protection, whether vertical or horizontal, all must conform or equate to the recommendations of Section 6, BS5837: 2012, must be fit for purpose and commensurate with the nature of development and the expected day-to-day activities of the site works.

12.3 This report provides a "Preliminary Arboricultural Method Statement" at "Appendix 1" to this report, as well as the associated "Tree Protection Plan" drawing "Nutgrove Tree Protection Plan".

12.4 In the drawing, the "Construction Exclusion Zone" is defined by an orange hatching with bold "Orange" lines representing the proposed location of the primary protective "Construction Exclusion Fencing".

12.5 The above drawing provides only a representation of the protection locations and extents that must be located, positioned and erected under the guidance of the project Arborist. This drawing may require referral to a figured and dimensioned, "construction stage" version of the "Tree Protection Plan" drawing. All recommended protection measures will be installed before the commencement of any site works and must remain in situ (unless under the guidance of the site Arborist) until the completion of all site works.

13 Preliminary Management Recommendations

13.1 Provided in the tree survey table (Table 1) are "Preliminary Management Recommendations". These recommendations relate to the trees as they existed at the time of the tree review. Therefore and in line with the changing context of the site, such recommendations may no longer apply. Examples include where the felling of trees or other specific works are necessary to facilitate development requirements.

13.2 Many of the concerns raised in the tree survey relate to evidence suggesting mechanical failure to trees, ill-health or contextual issues. These may continue to a point where a trees suitability for retention may change over time.

13.3 Additionally, any development related loss of trees can result in exposure and shelter loss issues. Therefore all retained trees must be reviewed immediately after the primary site clearance works. This will allow for the updating and amending the "preliminary management recommendations" of the primary survey. Such amendments would address such issues as may arise and may include additional structural pruning works . Regular reviews of all retained trees must be maintained, so that early and prompt intervention and action can be applied as required.

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A1 Appendix 1 - Arboricultural Method Statement (and Tree Protection Plan)

Method Statement Outline

A1.1 This method statement intends to provide guidance in respect of tree protection on a development site. This is a broad and prescriptive method statement, intended to provide general advice and guidance in respect of trees and tree protection on a typical development site, dealing with issues known at planning stage.

A1.2 Any inability to conform to the recommendations of this method statement or the associated tree protection plan could readily change the sustainability of trees and/or their suitability for retention.

A1.3 This method statement addresses, amongst others, two primary issues, those being –

a) The avoidance/prevention of physical damage to a tree to be retained.
b) The avoidance/prevention of physical damage or disturbance to the ground/earth upon which a tree is reliant.

Drawings

A1.4 This Arboricultural Method Statement must be read with the associated "Tree Protection Plan" drawing, "Nutgrove Tree Protection Plan". The "planning stage" drawing must be updated for "Construction" stage purposes, to include tree protection ranges/dimensions as defined for that tree within the tree survey table or unless otherwise defined by the project Arborist.

Method Statement Use

A1.5 This Method Statement should be used under the direct guidance of the project Arborist. As limited "construction stage" detail was available at planning stage, it may require amendment and adjustment to address construction stage issues.

Amendments and Modifications to Tree Protection Plan

A1.6 Any amendment to the tree protection plan must be agreed with the project Arborist, including the adoption of specific methodologies and/or procedures and structures for access into/use of certain parts of the above defined "Construction Exclusion Zones". Such procedures, including the provision of suitable ground protection may allow for the relocation of the "Construction Exclusion Fencing" to provide access to and across the previously protected areas.

Works Related Impacts

A1.7 In respect of any necessary and unavoidable structures/works required within or entry into the "RPA" zone, all efforts must be made to minimise impacts. Aerial issues may

require "access facilitation pruning" or clearance pruning. Subterranean works that require excavation must, by design, location, and action, minimise impacts to trees.

Tree Works Specification Updates

A1.8 Many of the tree management recommendations stipulated within the "Preliminary Management Recommendation" section of the primary tree survey, relate to the "as was" site scenario. Because of changing site contexts, these may no longer apply and may require modification to account for the changes that the built project will cause.

General Method Statement

1.0) Overview and Implementation

1.1 **Prior to any site works or construction/demolition related works or access, this method statement will be addressed and discussed by all member of the construction team management.**

1.2 The project Arborist or another suitably qualified person will oversee the application of all tree protection measures and any necessary modifications to this Method Statement (any issues as may have arisen in respect of planning conditions or details as may have changed between the design stage) to provide a basis upon which tree protection will be managed on the construction site.

1.3 Any situation that requires entry into the "root protection zones" of a tree intended for retention must be brought to the attention of the Project Arborist regarding the adoption/amendment of suitable tree protection measures.

1.4 As unforeseen tree losses may compromise project planning permissions, it is imperative that issues relating to tree protection and/or tree damage be brought to the immediate attention of the project Arborist for review and possible discussion with the relevant planning authority.

2.0) Works Sequence

2.1 No construction related works or mechanised site access will occur until the agreed level of tree protection, in accordance with the "Tree Protection Plan", is completed.

2.2 The only exception to the above will relate to the undertaking of tree works and felling as defined in the Arboricultural report and/or grant of permission.

2.3 On completion of tree felling/site clearance works, the tree management plan will be reviewed, accounting for (if necessary) the updating of the "preliminary Management Recommendations" stipulated in the original Tree Survey.

2.4 Any revised pruning/cutting works will be agreed with the local authority and applied at the earliest possible opportunity.

2.5 After the completion of primary tree clearance, but prior to the commencement of construction works, all "Construction Exclusion" and "Protective" fencing must be erected and "signed-off" as complete, by the Project Arborist.

2.6 Only on completion of all construction works will any/all tree protective measures be removed, and only then in a manner, that does not compromise the "Protection Zones". Such works must be agreed and overseen by Project Arborist.

2.7 At construction works completion stage, all retained trees will be reviewed regarding their condition and longer-term management recommendations and regarding site hand-over.

3.0) Tree Protection

3.1 All tree protection measures and locations must be agreed, overseen, and verified by the Project Arborist prior to works commencement.

3.2 All construction, works or access areas must be enclosed and defined by protective fencing, this comprising the "Construction Exclusion Zone" based upon drawings "Nutgrove Tree Protection Plan" (Construction Stage version).

3.3 Unless specifically stipulated by the project Arborist, the default minimum range of the protective fencing from a tree is the range stipulated for that tree within the "RPA" (root protection area) column of the original survey.

3.4 Such a fence must be fit for purpose and commensurate with the nature of activity expected upon the site and should comply with "Section 6.2" of BS5837: 2012.

3.5 The fence should be affixed with notification signs such as "TREE PROTECTION AREA - KEEP OUT"

3.6 Structures such as "lock-ups", offices or other temporary site building, not requiring excavation or underground ducting, might be positioned such as to comprise part of the "Construction Exclusion Zone" fencing. All remaining fencing must be continuous with such features and effectively prevents access to protected ground.

3.7 If entry into the "RPA" (Root Protection Area) zones becomes unavoidable, ground protection systems agreed with the project Arborist, will be utilised.

3.8 No amendment, alteration, relocation, or removal of the tree protection fencing shall occur without prior liaison and approval from the Project Arborist.

4.0) Provision of Ground Protection (If Required)

4.1 No vehicular/mechanised access whatsoever will be allowed onto unprotected "Construction Exclusion Area" ground.

4.2 Ground protection can comprise the use of proprietary materials/structures (installed to manufacturer's specifications and recommendations) or procedures that avoid ground damage/disturbance/compaction, or the use of procedures that avoid such effects e.g. manual/pedestrian installation procedures.

4.3 Any system utilised must effectively spread load-weight, avoid compaction, maintain drainage/percolation/aeration, and be installed in a manner that avoids these issues.

4.4 Newly provided access will be strictly limited to the area of the new protection structure.

4.6 Protection installation will require a progressive laying down of ground protection, with previously laid material providing vehicular access to the next zone will be accepted as an approved methodology.

5.0) Works within "RPA" Zone

5.1 Only works and construction practices, agreed with the Project Arborist prior to commencement, will be allowed in the "RPA" area.

5.2 All works will be undertaken under the supervision and guidance of the Project Arborist who will have the authority to stop works if activities are considered such as to have the potential to damage trees.

5.3 Preference must be given to manual labour and techniques within the fenced "RPA" zone.

5.4 On completion of the required works, the area will be inspected by the Project Arborist regarding the reinstatement of the original protection and the relocation of the protective fencing to a position relating to the original "RPA" area.

6.0) Service Installation

6.1 The "Project Arborist" must be consulted for advice and procedural recommendations, in respect of any installation of services within or requiring entry into the "Root Protection Area" of any tree intended for retention.

6.2 Any such works found to be unavoidable, must be undertaken with special care, incorporating the recommendations of both "BS5837: 2012 and the National joint utility groups, guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG 10)

6.3 Preference must be given to trench-less techniques including Mole-piping, Directional-drilling manual hydro-trenching (high-pressure water), "Air-Spade" or broken-trench techniques.

7.0) Tree Management and Works

7.1 All tree works should be undertaken under the guidance of the project Arborist

7.2 The primary site clearance and felling should be undertaken at the earliest stage of the overall development works, to enable the re-assessment of all ostensibly retainable trees and the updating of the "Preliminary Management Recommendations" to account for context changes and construction access and/or other issues coming to light.

7.3 All Tree Works must adopt safe work procedures and must be undertaken by staff suitably trained for the purpose at hand and compliant with all legislative, safety and insurance requirements.

7.5 All additional works will be agreed with the local authority and/or other stakeholders and applied at the earliest possible opportunity.

7.6 On completion of site works, the retained tree population will be reviewed and re-evaluated regarding its ongoing condition and the likely requirements of any ongoing or future monitoring or management needs.

8.0) Demolition

8.1 All demolition procedures must be agreed and overseen by the Project Arborist or other suitably skilled staff to monitor for damage and to protect exposed roots/cut-trim exposed roots/oversee backfilling of exposed roots.

8.2 Where access into unprotected "RPA" zone becomes unavoidable then suitable ground protection, provided in accordance with an engineer's direction and agreed with the Project Arborist will be installed.

8.3 Care will be taken to avoid damage to soil volumes beneath and adjoining demolished structures that may contain tree root material.

8.4 Whilst existing foundations/structures may provide temporary protected access to areas within the "RPA" zone, preference must be given to the location of demolition plant outside of the "RPA" zone.

8.5 Where tree(s) exist near a structure to be demolished then the demolition should be undertaken inwards within the footprint of the existing building (top down, pull back).

8.6 Underground structures (services etc.) within the "RPA" zone should be reviewed with regards to decommissioning and retention in situ in the interest of avoiding tree damage.

8.7 Preference should be given to the retention existing sub-bases where hard surfaces are removed, particularly if the hard surface is to be replaced.

9.0) Ancillary Precautions

9.1 The methodologies as set out in this document apply to all undertakers of work upon or adjoining the site as may require access to the "Construction Exclusion Zone" or the "RPA" area of any tree.

9.2 This document will be disseminated to all persons requiring access to the work site, with all persons undertaking works either before or after the principal development (site investigation works, Landscape Contractors) are subject to the above requirements.

9.3 Works outside the "Construction Exclusion Zone" must be controlled to create no potential secondary hazard to tree health.

9.4 Large loads accessing the site must be reviewed regarding clearance and potential tree damage.

9.5 Care must be taken regarding materials that may contaminate the ground. No concrete mixings, diesel or fuel, washings or any other liquid material may be discharged within 10 metres of a tree.

9.6 No fires can be lit within 5 metres of any tree canopy extent.

9.7 No tree will be used for support regarding cables, signs etc.

9.8 The trees should be reviewed on a regular basis throughout the development process and on completion. At that time, additional recommendations regarding tree management may be required.

9.9 Any issue that has the potential to affect site trees must be brought to the attention of the Project Arborist for review and comment.

9.10 Any circumstances that become known whilst the development project is ongoing that either involves trees or access to/works within the construction exclusion zone must be brought to the attention of the Project Arborist for evaluation and advice regarding approach and methodology.

9.11 It is possible that liaison/agreement will be required with the Local Planning Authority regarding compliance with, as well as the verification of the required tree protection measures.

A2 Appendix 2 - Tree Survey

Nature of Survey

A2.1 The criteria put forward in "BS5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations" have provided a basis for this report.

A2.2 The data collected has been represented in table form as "Table 1" within "Appendix 1" to this report. This appendix includes a Survey Methodology, Survey Key, Survey Abbreviations, Condition Category Definitions and a brief resume of the typical application of Tree Protection measures as defined within the above standard and as relates to the "RPA" zones defined both within the survey table and on the "TCP" drawing.

A2.3 The survey, its findings and management recommendations relate to the site and the conditions thereon at the time of the survey. It relates to a "do nothing" or "as is" scenario and intends to provide an impartial representation of the site's tree population, regardless of any possible development works. It is likely that changes in site usage, development or other environmental changes will require an amendment of any tree's potential retention status and its preliminary management recommendations, and in some instances, may require the re-classification of a tree's suitability for retention.

Drawing References

A2.4 The survey must be read with the "Tree Constraints Plan" drawing "Nutgrove Tree Constraints Plan" regarding the representation of tree positions, crown forms, "RPA" extents and colour reference to category systems. Trees omitted from the supplied drawing may be "sketched in" to "Nutgrove Tree Constraints Plan". Any such trees should be located and plotted by professional means to identify the constraints such trees have upon the site.

A2.5 A green coloured outline represents each tree crown. It is scaled to represent the north, east, south, and west crown radii as denoted in the survey table. Each tree (categories A-green, B-blue, and C-grey only) have been apportioned a "Root Protection Area" (RPA see below) denoted as a dashed orange circle.

A2.6 The development of a Tree Constraints Plan (TCP) provides a design tool regarding tree retention. Such a plan combines the topographical land survey drawing with additional information as provided by the tree survey. The aspects of the tree's existence recorded on the "TCP" are, firstly, the tree canopies, represented by the four cardinal compass point radii (Sp: R in survey Table 1). Secondly, and following paragraphs 4.6.1, 4.6.2 and 4.6.3 of BS5837: 2012, we represent each tree's "Root Protection Area" (RPA). For design purposes, it approximates the position of the tree protection fencing to be erected before the commencement of any site works, thus excluding all site

activities other than those dealt with by way of the "Arboricultural Implication Assessment" and "Arboricultural Method Statement".

A2.7 The "Tree Constraints Plan" (TCP) depicts the extent and location of constraints, placed upon the site by the trees. The "TCP" represents both the true canopy form (north, east, south, and west radii) but also the "RPA" as defined above. These constraints are provided to advise regarding the design and layout of a proposed development.

Survey Intent and Context

A2.8 This document intends to highlight the extent and nature of the material of Arboricultural interest on the site in question.

Survey Data Collection and Methodology

The Survey

A2.9 The original survey was carried out in June of 2019 and updated in February 2021. This survey portion of the overall report is not an Implication Assessment though but provided some of the basic information regarding its compilation. The compilation of this survey was guided by the recommendations of BS 5837: 2012. This survey typically includes trees of stem diameters exceeding 150mm at approximately 1.50 metres from ground level. The survey relates to current site conditions, setting and context.

A2.10 Each tree in the survey has a consecutive number that relates directly to the survey text. Measurements are metric and defined in metres and millimetres. All trees referred to in the survey text have been measured to provide information regarding canopy height and canopy spread (north, east, south, and west radii), level of canopy base and stem diameter at 1.50 meters from ground level. The dimensions provided are intended to provide a reasonable representation of a tree's size and form. While efforts are made to maintain accuracy, visual obstruction, especially regarding trees in groups, requires that some tree dimensions be estimated only.

Inspection and Evaluation Limitations and Disclaimers

A2.11 The information set out in this report relates to the review of a tree population on the site in question. As such, the information provided is based on a general review of trees and does not constitute a detailed review of any one of the individual specimens. Such an evaluation (tree report) would require the gathering of substantially more information than that dealt with in this survey.

A2.12 The survey is not a safety assessment and the parameters reviewed within this survey context would be substantially deficient in extent to provide for a reliable safety

assessment. The survey is intended to provide a general and qualitative review to assist in gauging the suitability of an individual tree for retention within a development context. All trees are subject to impromptu failure and damage. The assessment of risk as may be presented by a tree requires the review of numerous factors more than those noted herein and as such, remains outside the scope of this document and any attempt to use the information herein for such proposes will render the information invalid.

A2.13 A competent and experienced Arborist has completed all inspection and tree assessment. The inspection involves visual assessment only, which has been carried out from ground level. No below ground, internal, invasive, or aerial (climbing) inspection has been carried out.

A2.14 Trees are living organisms whose health, condition and safety can change rapidly. All trees should be re-evaluated regarding their condition on an annual basis or after substantial trauma such a storm event, other damage, or injury. The results and recommendations of this survey will require review and reassessment after one year from the date of execution. This survey does not constitute a review of tree or site safety. Attempts to use the contents herein for such purposes will render the contents invalid.

A2.15 Throughout the undertaking of the survey, several factors acted against the inspectors, contriving to reduce the accuracy of the survey.

Seasonality

A2.16 The original survey was carried out during the summer and winter periods. Some of the signs, typically symptomatic of ill-health or defect within a tree, may not have been available to view at the time of the survey or may have been obscured by seasonality related factors. Some of the fruiting bodies of various fungi, parasitic upon or causing decay or disease in trees, may have been out of season and unavailable to view. This survey can only comment upon symptoms of ill-health or defects visible at the time of the inspection.

Survey Key

Species	Refers to the specific tree species
Age	Referred to in generalized categories including: -
Y - Young	A young and typically small tree specimen.
S/M - Semi-Mature	A young tree, having attained dimensions that allow it to be regarded independently of its neighbours but typically, would be less than 50% of its ultimate size.
E/M - Early-Mature	A specimen, typically 50% - 100% of ultimate dimensions but with substantial capacity for mass and dimensional increase remaining.

M - Mature	A specimen of dimensions typical of a full-grown specimen of its species. Future growth would tend to be extremely slow with little if any dimensional increase.
O/M - Over-Mature	An old specimen of a species having already attained or exceeded its naturally expected longevity.
V - Veteran	An extremely old, veteran specimen of a species, usually of low vigour and typically subject to rapid decline and deterioration or of very limited future longevity.
Tree Dimensions	All dimensions are in meters. See notes regarding limitation of accuracy.
Ht.	Tree Height
CH	Lowest canopy height
N, E, S, W	Tree Canopy Spread measured by radii at north, east, south, and west
Dia.	Stem diameter at approx. 1.50m from ground level.
RPA	Root Protection Area, as a radius measured from the tree's stem centre.
Con	Physical Condition
G Good	A specimen of generally good form and health
G/F Good/Fair	
F Fair	A specimen with defects or ill health that can be either rectified or managed typically allowing for retention
F/P Fair/Poor	
P Poor	A specimen whom through defect, disease attack or reduced vigour has limited longevity or maybe un-safe
D Dead	A dead tree
Structural Condition	Information on structural form, defects, damage, injury, or disease supported by the tree
PMR – Preliminary Management Recommendations	Recommendation for Arboricultural actions or works considered necessary at the time of the inspection and relating to the existing site context and tree condition. Works considered as urgent will be noted.
Retention Period	
S – Short	Typically, 0 -10 years
M – Medium	Typically, 10 -20 years
L – Long	Typically, 20 – 40 years
L+	Typically, more than 40 years
Category System	The Category System is intended to quantify a tree regarding its Arboricultural value as well as a combination of its structural and physical health.
Category U	Particularly poor quality, dangerous or diseased trees that offer no realistic sustainability
Category A	A typically a good quality specimen, which is considered to make a substantial Arboricultural contribution
Category B	Typically including trees regarded as being of moderate quality
Category C	Typically including generally poor-quality trees that may be of only limited value.

	The above categories are further subdivided regarding the nature of their values or qualities.
Sub-Category 1	Values such as species interest, species context, landscape design or prominent aspect.
Sub-Category 2	Mainly cumulative landscape values such as woods, groups, avenues, lines.
Sub-Category 3	Mainly cultural values such as conservation, commemorative or historical links.

Table 1 – Tree Data Table

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
172	Sitka Spruce *(Picea sitchensis)*	S/M	G/F	10.00	1.75	3.50	3.50	3.50	3.50	1	261	3.13	A young specimen of variable vigour and vitality, exhibiting evidence of new foliage production for 2019 but limited foliage retention from prior seasons. Tree arises from within and adjoining entrance area to adjoining scout den. Contextual issues arise regarding exposure and species predisposition towards attaining large size and potential instability when existing and isolation.		M	B2
173	Sitka Spruce *(Picea sitchensis)*	S/M	F/P	6.00	1.00	3.00	3.00	3.00	3.00	1	197	2.37	Of notably reduced vigour with low levels of foliage retention. Lower crown is suppressed by Bramble thicket development. Is of questionable sustainability. See notes above regarding contextual issues.		S	C2
174	Sitka Spruce *(Picea sitchensis)*	S	F	4.50	1.00	1.50	1.50	1.50	1.50	1	134	1.60	A young specimen where large proportion of lower crown is suppressed by adjoining Bramble thicket. See notes above regarding contextual issues.		S	C2
175	Sitka Spruce *(Picea sitchensis)*	S	F/P	5.50	0.75	1.50	1.50	1.50	1.50	1	156	1.87	A poor-quality specimen suppressed at lower levels and supporting particularly limited foliage retention, possibly indicative of health issues. Offers limited sustainability. See notes above regarding contextual issues.		S	C2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
176	Sitka Spruce *(Picea sitchensis)*	S/M	F/P	6.50	0.50	2.50	2.50	2.50	2.50	1	166	1.99	Young specimen of low vigour and limited foliage retention suggesting limited sustainability. See notes above regarding contextual issues.		S	C2
177	Tulip Tree *(Liriodendron tulipifera)*	M	F/P	14.00	2.00	6.50	5.50	5.00	3.50	1	923	11.08	What appears to be a particularly aged tree is distorted and distended by massive burr development between 1.50 and 5.00 m creating an overly large stem configuration. General vigour and vitality are fair but variable with reduced vigour about crown apex. The middle crown is affected by multiple historic failure is now subject to decay and eventual cavity development. The southern side of the lower stem supports a major lesion and extensive basal cavity accessing what is a visibly decayed lower stem. Additionally, the primary stem supports areas of exudation suggesting a likelihood of internal decay. Current stature appears to be substantially less than tree was originally, because of mechanical failure and major limb loss accordingly, structural form and weight carriage is diminished. Nonetheless, visual nature of obvious faults and an obvious history of ongoing and repeated failure raises some concern regarding suitability for attention and tree safety.	Consider early removal.	N/A	U

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
178	Ash *(Fraxinus excelsior)*	S/M	G	8.00	0.00	5.00	6.50	4.00	5.00	1	382	4.58	A young and still vigorous specimen with immense potential for continued growth over time. Trees form is flawed by compression fork at junction at 1.25 m with partial bark inclusion. Vigour and vitality remain good. Tree will likely require structural and formative pruning.		L	B2
179	Oak *(Quercus robur)*	S/M	G/F	9.50	0.00	3.50	4.50	1.50	4.00	1	411	4.93	Young and vigorous but distorted as a result of suppression by near neighbours. Entire lower crown and supportive stem is enveloped in Ivy cover. General vigour and vitality appear good notwithstanding small amounts of deadwood.	Cut Ivy and review regarding retention context and possible need for crown raising type pruning.	L	B2
180	Ash *(Fraxinus excelsior)*	S/M	G/F	8.50	1.50	4.50	6.00	4.50	4.50	1	344	4.13	Young and vigorous with immense potential for continued growth. Tree is affected by equal compression fork at 1.50 m with visible bark inclusion that may predispose tree to mechanical failure in later life.		M	B2
181	Lawson Cypress *(Chamaecyparis lawsoniana)*	S/M	F	6.00	0.00	2.50	2.50	2.50	2.50	4	366	4.39	Young and vigorous but compromised by 4-way supportive stem system that will predispose tree to mechanical failure in later life.		M	C2
182	Lawson Cypress *(Chamaecyparis lawsoniana)*	S/M	F	6.00	0.00	3.00	3.00	3.00	3.00	2	407	4.89	Young and still vigorous but compromised by poor form and low-level crown fork. Tree is heavily encroached upon particularly by oak to south resulting in distorted and diminished canopy cover on southern side. Tree is of reduced quality and dubious sustainability.		S	C2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
183	Oak *(Quercus robur)*	S/M	G/F	13.00	1.00	5.50	6.00	6.00	6.00	1	442	5.31	Young and still vigorous, is effectively enveloping adjoining cypresses. Vigour and vitality are good with immense potential for continued growth over time.	Reviewed regard retention context and possible need for crown raising type pruning.	L	B2
184	Lawson Cypress *(Chamaecyparis lawsoniana)*	S/M	G/F	7.50	0.00	3.00	3.00	3.50	3.50	1	306	3.67	Young and vigorous but heavily encroached upon by No.183 with limited foliage retention about middle crown to north.	Reviewed regarding retention context.	M	C2
185	Elder *(Sambucus nigra)*	M	P	5.00	0.00	5.00	4.00	0.00	3.00	1	271	3.25	A specimen of a weed species, heavily unbalanced to north with evidence of ground disturbance to South suggesting partial instability. Would not be considered suitable for retention within the scope of a development.	Consider early removal.	N/A	U
186	Sycamore *(Acer pseudoplatanus)*	S/M	F	8.00	0.00	5.00	4.50	4.50	5.50	3	516	6.19	A distorted multi-stem specimen arising from a position within 200 mm of stone-built boundary wall to South. Tree arises from disturbed ground suggesting historic dumping and or excavation. Trees young age and small stature illustrates immense potential for continued growth with extreme proximity to stone boundary wall suggesting an inevitable potential for growth -related structural damage. This tree is considered unsustainable at this location.		S	C2
187	Sycamore *(Acer pseudoplatanus)*	S	G/F	4.50	1.25	1.50	1.50	1.50	1.50	1	89	1.07	Young, naturally arising specimen. Small stature would allow for ready replacement.		L	C2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
188	Silver Birch *(Betula pendula)*	E/M	G/F	8.50	0.50	2.50	3.50	4.00	3.50	1	283	3.40	Young and still vigorous. Has developed squat and spreading crown form. Middle crown is obscured by developing Ivy cover. Appears to comprise an element of a prior landscape planting.		L	B2
189	Sycamore *(Acer pseudoplatanus)*	S/M	F	6.50	1.50	0.50	1.00	1.00	1.50	1	124	1.49	Heavily divided and distorted through suppression. Appears to be naturally arising.	Review regard retention context.	M	C2
190	Ash *(Fraxinus excelsior)*	S	F	5.00	0.50	1.00	1.00	0.50	0.50	1	83	0.99	A younger, naturally arising specimen.		M	C2
191	Sycamore Group *(Acer pseudoplatanus)*	S	F	5.50	1.00	1.50	2.50	2.50	2.00	1	111	1.34	A close-knit group that appear to be naturally arising.		S	C2
192	Sycamore Group *(Acer pseudoplatanus)*	S	P	6.00	0.00	3.50	3.00	1.00	3.00	3	229	2.75	Naturally arising thicket like group arising from position directly adjoining footing of boundary wall. Tree is of poor quality and are not sustainable without risk of inevitable damage to wall structure.	Remove.	N/A	U
193	Sycamore *(Acer pseudoplatanus)*	S	F/P	5.50	0.50	3.00	2.50	1.00	1.50	1	153	1.83	Naturally arising sapling at position directly adjoining wall footing where continued growth is unsustainable with inevitable risk of structural damage to wall. Tree is considered unsustainable.	Remove.	N/A	U
194	Sycamore *(Acer pseudoplatanus)*	S	F	6.50	0.00	2.50	2.00	2.25	2.25	1	166	1.99	Young and vigorous but arising from kerb edge. Removal of existing structures will undermine tree sustainability. Is considered unsustainable.		N/A	U

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
195	Sycamore Group *(Acer pseudoplatanus)*	S/M	F/P	7.00	1.00	2.50	3.00	2.00	2.00	4	229	2.75	Multi-stemmed and distorted, arising from kerb edge of original hard standing. Tree is of mediocre quality and dubious sustainability.	Consider early removal.	N/A	U
196	Sycamore *(Acer pseudoplatanus)*	S	F	4.50	0.00	1.50	2.00	1.50	1.00	1	115	1.38	Young and vigorous but naturally arising and easily replace.		L	C2
197	Sycamore *(Acer pseudoplatanus)*	M	G/F	17.00	0.00	3.50	5.00	5.00	4.00	1	611	7.33	Large and apparently vigorous specimen supporting extensive in see satellite suckering at lower level. Ground level is obscured by Bramble development and extensive, historic dumping of garden debris and grass clippings that sees burial of lower stem. Tree stem is located within 250 action 200 mm of boundary wall with adjoining property raising substantial concern regarding growth related damage and distortion. Additionally, trees proximity to adjoining house and substantially encroaches upon and overhangs same. General vigour and vitality remain good suggesting good health however, spurious growth and dumped material will require removal to facilitate secondary review to confirm health status.		M	B2
198	Common Alder *(Alnus glutinosa)*	S	F	5.50	0.00	2.50	2.50	2.50	2.50	6	229	2.75	Young and vigorous but multi-stemmed configurations suggesting early life decapitation and subsequent re-suckering.	Review regard retention context.	M	C2
199	Sycamore *(Acer pseudoplatanus)*	S	F/P	5.50	0.50	1.00	1.50	1.50	1.50	3	146	1.76	Young and vigorous but arising naturally from derelict fence line. Is considered unsustainable.	Remove.	N/A	U

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
200	Sycamore *(Acer pseudoplatanus)*	S	F	6.00	0.00	2.00	3.00	2.00	2.00	1	166	1.99	Young and vigorous but arising naturally from derelict fence line. Is considered unsustainable.	Remove.	N/A	U
201	Norway Maple *(Acer platanoides "Crimson King")*	M	G/F	16.00	2.50	5.50	6.00	5.00	5.00	1	592	7.10	Heavily obscured by dense undergrowth and wall structure but appears to be of good vigour and vitality. Tree arises wholly from neighbouring property and outside of site jurisdiction.		L	B1-2
202	Sycamore *(Acer pseudoplatanus)*	E/M	G/F	13.00	3.00	4.00	4.00	4.50	5.00	1	595	7.14	Relatively young and still vigorous. Has divided from site by substantial boundary wall. General vigour and vitality remain good.		L	B2
203	Ornamental Cherry *(Prunus variety)*	S/M	G/F	6.00	2.00	3.50	3.00	4.00	3.00	1	261	3.13	Young and still vigorous but heavily divided from low level.		L	B2

Appendix 4 – photographic Evidence from Trial Pits

Photo 1

Photo 2

These photographs relate to trial pit excavations at locations depicted upon the Arboricultural drawings and adjoining Norway Maple No.201

Photograph 1 (left) illustrates the broader excavated pit. The shovel level approximately equates to soil levels with the lower end of the tape registering circa 800 mm depth. Attention is drawn to the routes in the foreground relating to on-site scrub development including Bramble and Sycamore saplings.

Photograph 2 (right) illustrates a close-up of the excavated profile. The soil profile opposite the wall is effectively devoid of any roots extending from the west. The darker stained area beneath the tape relates to a particularly hard, compacted pan like area of soil adjoining the apparent wall footing. The hardness/bulk density of the soil appears to have been impenetrable to tree roots with no evidence of root material passing beneath the wall footing.