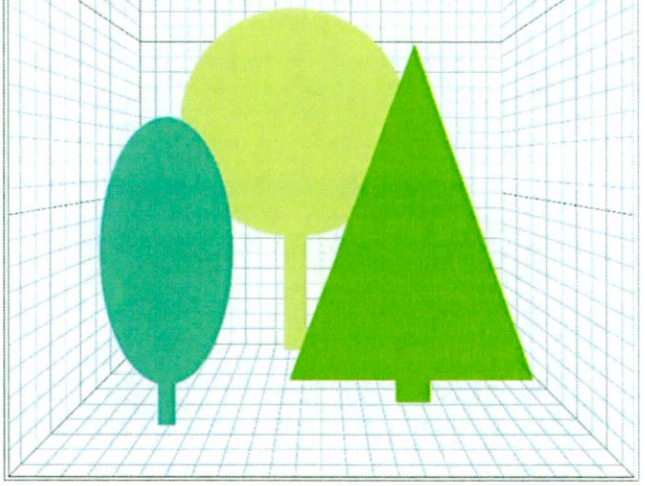
The Tree File
Consulting Arborists



Response To Request For a Additional Information
PR/0492/22

Arboricultural Report
Trees and Proposed Construction Works
Hermitage Golf Club
Ballydowd
Lucan
Co Dublin
July 2022

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Contents

Associated Drawings

This report is for reading in conjunction with the drawings noted below

	Drawing Title	Drawing Subject
1)	Hermitage Tree Constraints Plan	Tree Constraints Plan A plan depicting the predevelopment location, size, calculated constraints, and simplified tree quality category system
2)	Hermitage 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)	Hermitage Tree Protection Plan	Tree Protection Plan This plan depicts the nature, location and extent of tree protection measures required for sustainable tree retention.

1 Report Summary

1.1 The Arboricultural review of the proposed development, in line with the request for additional information (PR/0492/22) has included a review of the nearby tree population and has precipitated a change in structure location and construction methodology that means that the proposals can be achieved without a tree loss or damage.

1.2 The review of trees in the vicinity of the proposed Jim notes a broadly good quality and sustainable tree population. This population includes, particularly to the north-east and north, large and aged trees that appear to relate to those depicted on early historical ordnance survey mapping. To the north-west of the proposal, the tree population is distinctly younger, comprising predominantly naturally regenerating Sycamore. Nonetheless, and considering the existing scenario, all trees offer significant sustainability.

1.3 Review of the original construction proposals raised concerns regarding location and construction methodologies. In this respect, the current iteration includes a relocation of the proposed Gym structure in a southerly direction providing greater clearance from the trees. Additionally and of greater benefit to the trees is the fact that the Jim structure will now omit the use of standard foundations in favour of the use of screw piles, effectively providing for a suspended structure.

1.4 Considering the above, the completed structure is achievable with the provision of suitable tree protection methodologies and procedures. In this respect, it is noted that a clear majority of the new structure footprint existing position above the existing tarmacadam surface, with only a small element to the north-east and north-west overhanging the soft landscape. It is this area of the site that offers great potential for tree damage and disturbance and must be provided with proprietary type tree protection during the construction period.

1.5 Considering the lack of excavation associated with the construction practice, it is assumed that much of the construction process can be achieved above ground. Punctuations associated with the screw piles are considered broadly insignificant and are unlikely to result in any long-term ill effects. Nonetheless, it is appreciated that some of the structure exists above soft landscape and therefore access into these areas must be controlled and managed. Particularly, we must avoid the denaturing of the ground environment this best being achieved by the provision of temporary ground protection systems. In this instance, it appears likely that the modular ground protection plates or roll out roadway will best facilitate such access, effectively accommodating load spreading and avoiding the compaction/compression of the underlying ground.

1.6 In respect of the existing car parking surface, it is considered that this has historically and continues to provide adequate ground protection notwithstanding the nominal calculation of tree root protection zones. In reality, it is likely to be found that the ground environment beneath the tarmacadam, because of its capped, sealed and compressed nature in effect supports minimal root activity a factor that when combined with the existing provision of a durable vehicular access surface means that access onto this area is considered irrelevant in respect of tree protection.

1.7 Structural complex with the trees appear likely to be minimal if at all. Nonetheless, and in line with the overall tree protection plan, it would be advised that a project arborist be in attendance at site setup in respect of the provision of adequate tree protection but also in respect of evaluating adjoining trees with regard to any need for access facilitation pruning. Similarly and with regard to works completion, the tree should be reviewed in respect of any localised damage and pruning works required at that time.

1.8 Note should be made that minimal recommendation has been made for tree management at this time, this relating to the broadly young and or good condition of the subject trees. Nonetheless, it would be recommended that all such trees be monitored on a regular basis throughout the future.

2 Introduction

2.1 This report was commissioned by-
Hermitage Golf Club.

This report was prepared by-
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Report Brief

2.2 The Tree File Ltd has been requested by Hermitage Golf Club to provide an Arboricultural review of the proposed Gym development, to provide recommendation and to compile an Arboricultural Report in response to the "Request for Additional Information" ((PR/0492/22).

Report Context

2.3 As "BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations" is the accepted framework for such reports, its composition, inclusions and recommendations being followed as a general basis for this report. An arboricultural review of the proposed development project is included in this report. The report includes an evaluation of the existing tree population at the site in its current context. The report evaluates their chances of long-term retention in the post-development scenario. The report also discusses the potential effects and consequences of the development and construction process on those trees. It also provides information on the necessary tree protection and avoidance of tree damage during the construction process, which is required to achieve long-term tree retention.

2.4 The report conclusions were created after studying the design team's proposed project specifics and evaluating trees as specified and presented in "Appendix 2". Appendix 1 has a preliminary "Arboricultural Method Statement" and a Tree Protection Plan. This plan depicts the necessary conservation and protection methods to ensure tree sustainability. However, this paper is not meant to criticise the proposed development, but rather to examine the development's implications for the sustainable retention of trees. This report is only for planning and may not be suitable for building.

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 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, unavoidably associated with the "design" stage of the project. This report cannot address issues that may arise at "detail design" or "construction" detail stage or in respect of how construction works might proceed on a day-to-day basis. Equally, this report cannot address issues that may arise in respect of changes or amendments required to address or comply with any conditions of a grant of permission.

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 regarding sustainable tree retention.

3 Site Description

3.1 The site in question comprises a small area of the broader Hermitage Golf club lands. Particularly, the proposed works area relates to the northern edge of an existing car park circa 70 m north of the existing

3.2 The site area supports 2 distinct contexts. The 1st, to the south relates to previously developed car parking area segregated into separate car parking spaces on top of an existing tarmacadam surface. Surrounding this area to the north-west, north and north-east there is an area of soft landscape of that supports a substantial number of trees.

3.3 Review of the site area in respect of available historic mapping would suggest a high correlation between some of the larger and older trees, particularly to the north and north-west of the site and those depicted on the early 6 inch and 25 inch historical maps. Accordingly, these trees may relate to mid 19th and early 20th century landscapes.

4 Pre-Development Arboricultural Scenario

4.1 Broadly speaking, the tree population reviewed can be regarded as being in good health and offering substantial sustainability.

4.2 Notwithstanding the above, the review population can be distinctly divided between historical and planted and what appears to comprise natural regeneration. To the north and north-west of the proposed build area, we find a tree population dominated by large lime and a Sycamore, 5 of which are of notable age. To the north-east of the build area, the population is dominated by substantially younger and smaller Sycamore with some ash and planted ornamentals. The former location of these trees provides no suggestion of deliberate planting and therefore are more likely to consist of natural regeneration.

4.3 Overall, most of the trees reviewed offer substantial sustainability. This may be slightly curtailed to the north east of the build area in light of the density of arising trees, there canopy coalescence and the degree of suppression already apparent to date. Accordingly, it is likely that with time, some of these trees will be lost to competition.

4.4 As noted above, the population age profile includes 3 distinct elements. Overall, the tree population is dominated by approximately 5 particularly large (4 lime and 1 Sycamore) trees. These are complemented by additional limes to the north-west that appear likely to have been installed to augment a previous population, possibly during the early mid 20th century. To the north-west, a clear majority of trees would be less then 30 years of age and likely relate to a hiatus in management resulting in natural regeneration.

4.5 The above suspicions tend to be borne out by species breakdown. To the north-west, the tree population is dominated by relatively large limes in a belt like formation. To the north east, the predominant species is Sycamore and typically young age. The only exception to this relates to Sycamore "J" is of such a site is to integrate substantial age and possibly relating to the 19th century.

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.

5.8 Notwithstanding the general tree related interests related above, it is note that the current development plan indicated no specific "Tree Preservation Orders" for the subject site, but does note that the site area directly adjoins a "Special Amenity Area Order" associated with eh Liffey valley. Additionally, the trees associated with the

protected structure of "The Hermitage Club House (RPS REF 002) may be afforded increased levels of protection.

6 Other Legislative and Legal Constraints

6.1 Under the Forestry Act 2014, the felling of a tree standing in a county area requires a felling license unless the trees are exempted under Section 19 of the Act. Section 19(1)(M)(ii), where "the removal of which is specified in a grant of planning permission".

6.2 Other non-specific exemptions may also be applicable, including-

- Trees standing in an urban area.
- Trees within 30 metres of a building (other than a wall or temporary structure), but excluding any building built after the trees were planted.
- Trees removed by a public authority in the performance of its statutory functions.
- A tree that is, in the opinion of the planning authority, dangerous on account of its age, condition or location.
- A tree within 10 metres of a public road and which, in the opinion of the owner (being an opinion formed on reasonable grounds), is dangerous to persons using the public road on account of its age or condition.

6.3 The above derogations do not apply where-

- The tree is within the curtilage or attendant grounds of a protected structure under Chapter 1 of Part IV of the Act of 2000.
- The tree is within an area subject to a special amenity area order
- The tree is within a landscape conservation area under section 204 of the Act of 2000.
- The tree is within a monument or place recorded under section 12 of the National Monuments (Amendment) Act 1994, a historic monument or archaeological area entered in the Register of Historic Monuments under section 5 of the National Monuments (Amendment) Act 1987, or a national monument in the ownership or guardianship of the Minister for the Arts, Heritage and the Gaeltacht under the National Monuments Acts 1930 to 1994 or is within a European Site or a natural heritage area within the meaning of Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)

6.4 For further clarification, contact should be made with Forest Service (Department of Agriculture, Fisheries and Food). The Felling Section of the Forest Service is based in Johnstown Castle, Co. Wexford

6.5 Other legislation may affect tree cutting and felling. Particular note should be made of the "Wildlife Act 1976 (as amended), as well as the EU Habitats Directive. These offer protection to animals, including Bats that often roost or even breed in trees. The protection afforded by the above legislation means that particular care must be taken in

the pruning or felling of trees that may contain Bats. For this reason, specific specialist advice should be sought.

7 Construction Activities and their Effect on Trees

7.1 Retaining trees takes up space. There is a big difference between physically preserving a tree and ensuring its future survival. Sustainable tree retention often depends on the extent and nature of construction protection.

7.2 Like all living things, trees are highly dependent on their environment in which the exist. A tree continuity in supplies of water and nutrients from the soil. Any long-term change in ground conditions can easily affect a tree's metabolism, health, and sustainability.

7.3 Particularly, development and construction activities can easily damage the soil environment. Removing, disturbing or denaturing soil can irreparably damage tree roots and can render the soil incapable of supporting plant root function. Most modern construction requires large plants, equipment, and vehicles. Such machinery causes soil profile destruction and compaction that denatures the soil.

7.4 Where the above issues occur within the minimum "root protection area" as defined by "BS5837-2012", the tree's sustainability and safety may be compromised.

7.5 Sustainable tree retention must accept changing contexts and increased management in the future. Where rates of occupation and use increase, then any retained trees have a potential to cause harm or damage. This issue may be exacerbated where shelter-loss and exposure occur regarding the retention of individual trees.

7.6 Retained trees should be considered in respect of shadow-cast, light admission, and view-blocking. Wind patterns can affect leaf shedding, causing drifts and accumulations creating management issues around drains and gullies, or the creation of slippery surfaces.

8 Nature of Project Works

8.1 The intention is to create a new gym facility in a position close to the northern edge of the existing car park.

8.2 An earlier design iteration intended to incorporate standard construction methodologies including the use of a 'is normal 'is foundation type.

8.3 The current iteration has omitted this potentially damaging feature, in favour of the use of screw pile foundations, and at the same time, includes a minor relocation pf the proposed structure to the south..

8.4 The proposed development work is positioned such that much of the completed structure will exist above the existing tarmacadam car park surface. Only a small

proportion of the proposed structure (circa 19 m²) will exist in a position overhanging the car park edge onto the adjoining soft landscape.

8.5 This factor, combined with the suspended floor, based upon a screw pile type foundation means that the proposed works, if carried out under the auspices of a suitable method statement, can be achieved with little if any adverse impact to the adjoining trees. The premise of this work would be that limited and temporary access onto the soft, unprotected landscape area to the north of the car park would be achieved by the use of temporary ground protection systems.

9 Development Related Issues and Arboricultural Concerns

9.1 The initial primary concern related to the undertaking of potentially damaging construction works within the root protection areas associated with trees whose retention is considered highly desirable. This issue has been mitigated substantially in two ways. The 1st being the fact that the existing root protection area includes areas of existing durable surface structures that will allow both current and ongoing and construction stage access to positions close to some trees but without the risk of damage. It should be noted that such areas are in reality considered unlikely to support high levels of root activity because of the typically hostile ground environments found beneath such hard surfaces.

9.2 The second benefit relates to the form of construction. The original standard foundation type has now been omitted in favour of the use of screw pile type foundations thus allowing for the creation of an effectively suspended structure. In this respect, the completed structure will impose little if any threat of harm to the trees.

9.3 Notwithstanding the above, and appreciating the minimal impact of completed structures, careful methodologies and tree protection will be required during the construction period. Particularly this will be orientated towards the provision of ground protection so that the preconstruction ground environment can be maintained, protected and preserved through the construction period. In effect, this will require the use of temporary ground protection systems such as vehicle grade ground maths.

10 Design Iterations and Arboricultural Considerations

10.1 As noted above, the primary advantage with the current design iteration has been the omission of standard building foundations. The use of screw piles effectively avoids the excavation and trenching associated with standard foundation types and their by avoids standard excavation related root damage risks. This particular iteration means that the proposed building will have a suspended form, its weight being born on localised screw pile foundations only.

10.2 The undertaking of the works has been considered and if carried out in accordance with the provided Arboricultural method statement and with the provision of suitable ground protection then it is believed that the project can be achieved both without tree loss or without long-term tree injury.

11 Identification of Development Impacts to Trees

11.1 Though listed in this report, the expected tree impacts have also been represented graphically on the tree impacts drawing "**Hermitage Tree Impacts Plan**". This drawing combines the tree constraints plan information (survey data) with the development details, including the architectural and services layouts below, thereby allowing for simple and direct comparisons between the existing site context and the development proposals regarding new structures.

11.2 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.

11.3 Detail of the development proposals were gained from project drawings provided by J.E Keating and Associates Architects - Architectural Design.

11.4 The assessment attempts to consider both direct and indirect consequences. Estimated construction requirements and a tree's likely interaction with the development are considered. In addition to growth, the assessment considers changes in the context and their impact on tree amenity value.

12 Tree Retention and Loss

12.1 With the provision of suitable tree protection and construction methodologies, the proposed development can be achieved without the loss of or damage to any of the review trees.

12.2 Notwithstanding the above, it is likely that minor, localised "access facilitation pruning" will be required.

13 Tree Protection within the Scope of a Development

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

13.2 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".

13.3 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.

13.4 In effect, the tree protection scenario will incorporate two parts. The first will be the separation of the main works zone from the majority of site trees, by the provision of tree protection hoarding. This is defined by the "bold orange" line on the tree protection plan. The second element appreciates that local vehicular/machinery access will be required to areas beyond the existing edge of the carpark, and onto what comprises soft landscape areas. This will require the use of proprietary "ground Protection Systems" such as the use of modular ground protection mats that will spread vehicle loads and prevent damage to the underlying ground environment.

14 Preliminary Management Recommendations

14.1 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.

14.2 For the most part, no specific recommendation have been made at this time, however, in some instances, it is recommended that monitoring be maintained into the future.

14.3 As the proposed works have some potential for minor, localised damage to twigs and branches of some trees, and additionally there is some potential for localised "access facilitation pruning", then an Arborist should be in attendance at site set-up to coordinate such works.

14.4 All retained trees should be review on the completion of construction works so that any need for repair type pruning can be identified and arranged for.

15 Bibliography

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15.9 Woodland Trust (2021) Ash Dieback, https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/tree-pests-and-diseases/key-tree-pests-and-diseases/ash-dieback/

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, "Hermitage 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 "Hermitage 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

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 "Hermitage 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 "Hermitage 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 An earlier survey was updated in March 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 tree assessment (Mattheck and Breloer 1994) 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 Various surveys have been completed during different seasons. 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 generalised 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
A	Lime *(Tilia europea)*	M	G/F	19.00	1.00	4.00	3.50	3.50	3.50	1	844	10.12	Typically columnar and maintaining reasonable vigour and vitality.		L	B2
B	Lime *(Tilia europea)*	M	G/F	24.00	1.25	8.00	7.00	4.00	5.00	1	739	8.86	A large specimen with distorted crown shape and minor imbalance to north. General vigour and vitality remains good.		L	A1-2
C	Lime *(Tilia europea)*	E/M	G/F	14.00	2.50	2.50	3.00	3.50	3.00	1	548	6.57	A smaller specimen suffering minor suppression as result proximity to near neighbour. Nonetheless, general vigour and vitality is good.		L	B2
D	Lime *(Tilia europea)*	M	G/F	24.00	2.25	7.00	10.00	5.00	5.00	1	751	9.01	A large, slightly distorted specimen with notable imbalance to east. Vigour and vitality remains good.		L	B1-2
E	Lime *(Tilia europea)*	M	G/F	16.00	1.00	4.00	3.50	3.50	4.00	1	694	8.33	Slightly suppressed as result proximity to near neighbours but is maintaining good general vigour and vitality.		L	B2
F	Lime *(Tilia europea)*	M	G/F	15.00	1.00	4.00	4.00	3.50	4.00	1	602	7.22	A relatively young and still vigorous specimen.		L	A2
G	Lime *(Tilia europea)*	M	G/F	15.00	1.00	4.00	3.50	4.00	4.00	1	624	7.49	A relatively young and still vigorous specimen.		L	A2
H	Lime *(Tilia europea)*	M	G/F	13.00	4.50	4.00	3.50	4.00	4.00	1	598	7.18	A relatively young and still vigorous specimen.		L	A2
I	Lime *(Tilia europea)*	M	G/F	26.00	5.00	7.00	7.00	6.00	7.00	1	748	8.98	A particularly large specimen. General vigour and vitality is broadly good with only minor twiggy decline in evidence. Review annually.		L	B1-2

No.	Species	Age	Con	Ht.	CH	N	E	S	W	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
J	Sycamore *(Acer pseudoplatanus)*	M	G/F	21.00	7.00	10.00	13.00	12.00	8.00	1	1038	12.45	A particularly large, multi-stem specimen. General vigour and vitality is good with minimal deadwood carriage.		L	A1-2
K	Sycamore *(Acer pseudoplatanus)*	S	F	8.00	1.50	3.00	3.00	2.00	3.00	1	220	2.64	A young, naturally arising specimen of good general vigour and vitality, but slightly suppressed by larger adjoining trees.		L	C2
L	Sycamore *(Acer pseudoplatanus)*	S/M	G/F	12.00	2.50	1.50	4.50	5.00	2.00	1	325	3.90	A young, vigorous but heavily suppressed specimen having developed notable imbalance to south east.	Review regularly.	L	C2
M	Sycamore *(Acer pseudoplatanus)*	S	F	7.00	3.00	0.00	2.50	2.50	0.50	1	156	1.87	A naturally arising and whip like specimen of good vigour. Prognosis for future is limited because of degree of suppression.	Review regularly.	M	C2
N	Sycamore *(Acer pseudoplatanus)*	S	F	6.00	3.00	1.00	1.00	4.00	0.50	1	131	1.57	Heavily suppressed whip of dubious long term viability.	Review regularly.	M	C2
O	Ash *(Fraxinus excelsior)*	E/M	F	14.00	9.00	4.00	4.00	3.00	3.00	1	325	3.90	Tall and drawn up with limited high canopy only. Current vigour and vitality remains good though tree is at risk of attack by Ash Dieback disease.	Review regularly.	M	B2
P	Sycamore Group *(Acer pseudoplatanus)*	E/M	F	13.00	2.50	2.50	3.00	5.00	3.00	2	175	2.10	Two adjoining stems combined to create singular crown form. Is of drawn up nature and supports multiple developing compression fork.	Review regularly.	M	C2
Q	Sycamore *(Acer pseudoplatanus)*	E/M	F	13.00	3.00	4.00	4.00	1.00	1.00	1	325	3.90	Comprises part of a broader group. Is somewhat suppressed having developed notable imbalance to east. General vigour and vitality remains good.		M	C2

No.	Species	Age	Con	Ht.	CH	N	E	S	W	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
TG1	Sycamore Ash Group *(Acer pseudoplatanus) (Fraxinus excelsior)*	E/M	F	13.00-14.00	2.00	N/A Group				1	325	3.90	Effectively a continuation of the group comprising trees N, O, P and Q but extending to east. These trees effectively comprises a multi-stemmed community combining to create a singular crown form. General vigour and vitality is good. These trees appear likely to comprise an element of natural regeneration as opposed to any part of a historical planting.		L	C2
TG2	Thuja "Brabant"	S/M	G	5.00-6.00	0.00	0.75	0.75	0.75	0.75	1	175	2.10	A young group presumably planted for screening purposes. Canopy coalescence has effectively created a hedge like structure.		L	B2

For Planning Purposes Only - Do Not Scale

Hermitage Tree Constraints Plan 1/1 _ Scale 1:500 @ A3

This is a colour coded drawing that will be difficult or impossible to interpret if reproduced in black and white

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The Tree File
Consulting Arborists

Category "A" Trees (Green Button)

Category "B" Trees (Blue Button)

Category "C" Trees (Gray Button)

Category "U" Trees (Red Button)

Graphic Representation of Tree and Protection Zone

Canopy Extent
Cardinal Radii
Category Code
Stem Circumference
Root Protection Area (RPA)

Canopy is drawn to account for any natural asymetry or imbalance. Crown Representation is scaled to account for north, east, west and south radii.

Root Protection Area (RPA)
This area relates the "RPA" radius as defined in the Tree Survey Table and is measured from the tree centre.
This area defines the preliminary Construction Exclusion Zone (CEZ) that must be protected by fencing from the potentially damaging affects of construction activity.

Client: Hermitage Golf Club

Scale: 1:250 Date: July 2022

Project: Tree Survey, Hermitage Golf Club, Ballydowd, Lucan, Co Dublin

Description: Tree Constraints Plan

Drawing Title: Hermitage Tree Constraints Plan

For Planning Purposes Only - Do Not Scale

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Hermitage Tree Constraints Plan 1/1 _ Scale 1:500 @ A3

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Tree Retention or Removal

- Trees Intended for Retention - Solid Green Crown Outline
- Trees Intended for Removal In Conjunction With Development Works- Broken Red Crown Outline

Note: This Project Can Be Achieved Without Tree Removal

Graphic Representation of Tree Categories

- Category "A" Trees (Green Button)
- Category "B" Trees (Blue Button)
- Category "C" Trees (Gray Button)
- Category "U" Trees (Red Button)

Graphic Representation of Tree and Protection Zone

Canopy Extent
Cardinal Radii
Category Code
Stem Circumference
Root Protection Area (RPA)

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Client: Hermitage Golf Club

Scale: 1:250 Date: July 2022

Project: Tree Survey, Hermitage Golf Club, Ballydowd, Lucan, Co Dublin

Description: Tree Constraints Plan

Drawing Title: Hermitage Tree Constraints Plan

For Planning Purposes Only - Do Not Scale

Hermitage Tree Constraints Plan 1/1 _ Scale 1:500 @ A3

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Tree Retention or Removal

- Location Of Primary Construction Exclusion Fencing
- Area Of Primary Construction Exclusion Fencing
- Location And Extent Of Ground Protection Sytems

Graphic Representation of Tree Categories

- Category "A" Trees (Green Button)
- Category "B" Trees (Blue Button)
- Category "C" Trees (Gray Button)
- Category "U" Trees (Red Button)

Graphic Representation of Tree and Protection Zone

Canopy Extent
Cardinal Radii
Category Code
Stem Circumference
Root Protection Area (RPA)

Canopy is drawn to account for any natural asymetry or imbalance. Crown Representation is scaled to account for north, east, west and south radii.

Root Protection Area (RPA)
This area relates the "RPA" radius as defined in the Tree Survey Table and is measured from the tree centre.
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Scale: 1:250 Date: July 2022

Project: Tree Survey, Hermitage Golf Club, Ballydowd, Lucan, Co Dublin

Description: Tree Constraints Plan

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