



Arborist Associates Ltd

94 Ballybawn Cottages, Enniskerry, Co. Wicklow

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Ref: PPD8965675

15th December 2021

For the Attention of Mr. James Bushell

Mission Critical
GFS
London

Dear Mr. Bushell,

Re: An Arboricultural Assessment for the Site Area at 'Falcon Avenue', Profile Park, Clondalkin, Dublin 22.

I have carried out my assessment of the proposed development on the above site area as requested and have reviewed the proposed development layout drawings including the services and am pleased to submit my Arboricultural report and drawing. The following documents have been prepared by us to form part of the response to the additional information request under 'Item 5' of planning reference **SD21A/0241**:

Title	DWG No.	Page Size	Scale
Tree Protection Plan	PFP002	A0 (Colour)	1:500
Arboriculture Report	--	A4	--

At an earlier stage, a condition tree and hedgerow assessment and a tree constraints plan were prepared by us in accordance with BS5837 2012.

Recommendations and comments made in this report are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the assessment and their understanding of the proposed development works.

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

Yours sincerely,
For Arborist Associates Ltd.

Felim Sheridan

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

Arborist Associates Ltd.

An Arboricultural Assessment for the Site Area at 'Falcon Avenue', Profile Park, Clondalkin, Dublin 22.

Prepared for: Vantage Data Centre Dub 11 Ltd.

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

Date: 15th December 2021

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1.0 Instructions

1.1 I have been instructed by Vantage Data Centre Dub11 Ltd. (planning applicant) to assess the proposed development for the site area at 'Falcon Avenue', Profile Park, Clondalkin, Dublin 22 and to report on the following to address 'Item 5' of additional information requested under planning reference SD21A/0241:

- A:** To assess the impact of the proposed development layout on the tree vegetation indicating on a drawing those for removal and retention. See 'Section 3' of our report and drawing No.PFP002 for detail.
- B:** To show on this drawing the line of protective fencing to be erected around the vegetation being retained along with other mitigation measures to aid in their successful retention. See 'Section 4' of our report and drawing No.PFP002 for detail.

2.0 Introduction

2.1 As part of the initial planning application, we carried out a condition assessment of the tree and hedge vegetation within the site area in accordance with BS5837 2012. Please refer to this document for detail on the tree and hedge vegetation within and adjoining the site area.

2.2 This site area is made up of lands that are in agricultural use managed in grass land for grazing along with a small area of ground around one derelict house. The site area is adjoined to its north by the 'New Nangor Road', to the south by the existing entrance road into 'Profile Park', to the east by a private residential house and other fields in agricultural use and to the west by a commercial premises/yard and some waste ground.



Image shows the site area outlined in red.

2.3 The site area was initially broken into a number of fields by typical agricultural type hedgerows for this area and a stream which runs north- south before turning to run in an east-west direction through this site area. The main central

hedgerows have been removed as part of previous site development and clearance works including a central dog legged hedgerow which ran east-west across the site area leaving a few isolated trees.

- 2.4 The main hedgerow species include Hawthorn, Blackthorn, Elder and Goat Willow with an understory of Bramble and Dogrose which have encroached out on the lands due to lapsed management up until recent times when the site sides of the hedgerows had been trimmed back in order to contain.
- 2.5 Within the hedgerows forming part of the upper canopy formation are some trees predominantly Ash with a number of Goat Willow. These range from young to mature and their condition and quality range from fair/good to poor with most being in fair condition and quality. The impact of removing the surrounding hedgerows from around some trees particularly Tree Nos.0801-0811 & 0826-0834 has resulted in soil and root damage which is impacting on their condition and their long-term potential.
- 2.6 Around the grounds of the existing derelict house on the site area, there are two short lines of Monterey Cypress trees of a mature age class. These would possibly have been planted as hedges to provide screening but have been allowed to grow into tree lines where they are of some prominence within the treescape of this area due to their size.
- 2.7 Within the overall site area, 59No.trees were tagged individually with two trees, two tree lines and seven hedges identified numerically.

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

Category Grade	No. of Trees
Category U 4 Trees	Tree Nos. 0813, 0825, 0827, & 0831
Category A 5 Trees	Tree Nos. 0781, 0782, 0783, 0784 & 0785
Category B 17 Trees	Tree Nos. 0793, 0794, 0795, 0797, 0798, 0799, 0800, 0500, 0814, 0815, 0816, 0817, 0818, 0819, 0820, Tree No.1 & 0836
Category C 35 Trees + 2 Tree Lines + 7 Hedges	Tree Nos. 0786, 0787, 0788, 0789, 0790, 0791, 0792, 0796, 0801, 0802, 0803, 0804, 0805, 0806, 0807, 0808, 0809, 0810, 0811, 0499, 0812, 0821, 0822, 0823, 0824, 0826, 0828, 0829, 0830, 0832, 0833, 0834, 0835, Tree No.2 & 0837 Tree Line Nos. 1 & 2 Hedge Nos. 1, 2, 3, 4, 5, 6 & 7
Total	61 Trees + 2 Tree Lines + 7 Hedges.

3.0 Arboricultural Impact Assessment

- 3.1 It is proposed to develop this site area for a new 'Data Centre' and it will be necessary to allow for infrastructural works such as services.
- 3.2 On drawing No.PFP002, I have shown the tree vegetation for removal due to the proposed development and condition/management with 'Red Hatched' crown spreads and those to be retained with a 'Green Hatched' crown spread.
- 3.3 On this drawing (No.PFP002), I have also shown the position of any necessary tree protection measures in order to protect the root zone of the vegetation being retained within the vicinity of where the construction works will occur. These work exclusion zones are shown on this drawing using 'Orange Hatching' and these areas will need to be cordoned off by the erection of fencing or other means at the start of the works and this will need to be maintained in place until all works are completed. This fencing is to protect the root zones of the tree vegetation and to ensure their successful integration into the development of this site area.
- 3.4 The comments made within this impact assessment study are based on my understanding of the proposed development and what is required to allow for its construction.

3.5.0 Design Rational

- 3.5.1 A collaborative approach has been adopted by the design team with regard to the development of the proposed scheme including the protection and reinforcement of the site's existing 'Green Infrastructure'. It is proposed to retain the peripheral hedgerows to create a strong and reinforced boundary to the scheme, to improve linkages of the green infrastructure and to ensure connectivity of habitats with the surrounding countryside. These perimeter hedgerows will be retained and enhanced with native planting as part of the landscaping of the completed development.

3.6.0 Impact

3.6.1 Tree Loss

To facilitate the proposed development, it will be necessary to remove the following tree and hedge vegetation from this site area: (See 'Appendix 2' for the schedule of tree works required).

Category Grade	Trees for Removal
Category U 4No. Trees	Tree Nos. 0813, 0825, 0827 & 0831. Due to the physiological and structural condition of these trees, they are being recommended for removal as part of management either now or in the short-term, irrespective of the development of these lands.
Category B 13No. Trees	Tree Nos. 0793, 0794, 0795, 0796, 0797, 0798, 0799, 0800, 0814, 0815, 0816, 0819 & 0820.
Category C 23No. Trees + 2No. Tree Lines + 2 No. Hedges	Tree Nos. 0786, 0787, 0788, 0789, 0790, 0791, 0792, 0801, 0802, 0803, 0804, 0805, 0806, 0807, 0808, 0809, 0810, 0811, 0812, 0821, 0828, 0829 & 0835. Tree Line Nos. 1 & 2 Hedge Nos. 1 (c.50m) & 3 (c.38m)

3.6.2 **So in summary**, 40No. of the 61 individually surveyed trees included within this assessment area or 65.5% along with the two tree lines of Monterey Cypress and c.95m of hedging out of a total of c.864 linear meters (11%) within the sites redline boundary are required to be removed to facilitate the proposed development works or as part of management.

The trees for removal are made up of the following categories:

- 4 category 'U' trees
- 13 category 'B' trees
- 23 category 'C' trees + two tree lines & c.95m of hedging.

3.6.3 The loss of the above tree and hedge vegetation is to be mitigated against within the landscaping of this completed development with the use of trees, shrubs, herbaceous plants, bulbs and hedging.

The following are some of the main elements of these mitigation measures:

- The planting of native hedgerows linking to outward boundary hedgerows being retained.
- Infilling and augmenting of existing hedgerows.
- Developing new compensatory wetland planting and 'native' woodland areas where space allows and merging these with the existing hedgerow runs.

- Planting of semi-mature trees, with many flowering varieties which are beneficial for pollinators. Refer to detailed planting plans provided by the project landscape architects for numbers and species proposed.
- Planting diverse meadow mixes and including naturalized bulb planting as meadows and habitat areas.

This planting as part of the landscaping will complement the development and its incorporation into the surrounding area. It will also help to provide good quality and sustainable long-term tree cover and as it establishes and grows in size, it will be continuously mitigating any negative impacts created with the loss of the existing hedgerow and tree vegetation to facilitate the proposed development. This planting will also help strengthen the existing field network of hedgerows around the perimeter of this site area which are being retained and will ensure good connectivity through the finished landscaped development. See landscape architects drawings and schedules for detail.

3.6.4 Tree Retention

The remaining tree & hedge vegetation shown with 'Hatched Green' crown spreads are proposed for retention and incorporation into this completed development. This will involve some trimming/maintenance works to deal with structural issues and to create a satisfactory juxtaposition within the completed development. A preliminary list of these works is included within the schedule of tree works within 'Appendix 2' of this report and this will need to be reviewed on site once the development is laid out to include any other additional works required.

The hedges being retained are to be incorporated into the completed landscaped development. This will involve tidying up the vegetation and cutting them back to facilitate boundary treatment works and to create tidier hedges. Poor structured sections of hedging will need to be pruned back to address stability and poor quality or weak sections of hedging are to be augmented with native hedge planting in order to bulk them up and to create good structured hedges for the long-term.

To minimize impact during the construction works, protective fencing and other mitigation measures will need to be put in place at the start of the works and will need to be maintained in place until all works are complete. See drawing No.PFP002 for detail and position of fencing.

The following trees and hedges are proposed for retention:

Tree Nos. 0781-0785 consisting of a short line of planted Lime trees are being retained and incorporated into the completed landscaped development. The existing soil berm on which they are growing is to be retained and the routing of services along these trees on the road side which are shown indicatively are to be reviewed at the detail design stage and they are to be located outside their root zones.

Hedge No.2 is being retained and incorporated into the completed landscaped development. The hedge vegetation on the site side of the ditch/ stream is to be tidied up in order to incorporate it into the completed landscaped area.

Hedge No.4 and **Tree Nos.0499 & 0500** are being retained and incorporated into the completed landscaped development. The hedge vegetation is to be tidied up and large size dead/unstable growth made safe. Where the proposed boundary fence and the fence around the compound run through the root zones of the hedge and trees within, the holes for the fence uprights will need to be dug manually or with the aid of an augur with all machinery working from outside the root zones. Where there are changes in levels along its length, these are to be dealt with; without a need to encroach into the root zone of the hedge and trees within.

Hedge No.5 and **Tree Nos.0817, 0818 & Tree No.1** which are located on the adjoining property side of the drainage ditch and **Tree No.0822** are to be retained and incorporated into the completed landscaped development. The hedge vegetation is to be tidied up and large size dead/unstable growth made safe. It will be necessary on the site side of the hedge to cut back this side of the hedge to create and maintain a clearance corridor with the perimeter fence at all times, so as part of routine maintenance, the side vegetation on this hedge will need regular trimming back. The holes for the fence uprights will need to be dug manually or with the aid of an augur with all machinery working from outside the root zones. Where there are changes in levels along its length, these are to be dealt with without encroaching into the root zone of the hedge and trees within.

Hedge No.6 is being retained and incorporated into the completed landscaped development. The hedge vegetation is to be tidied up and augmented where necessary with new hedge planting to bulk it up and create a more structured hedge. The proposed boundary treatment along this boundary is a fence which is located on the inside of the hedge outside its root zone, so no impacts are expected from the installation of this fence.

Tree Nos. 0826, 0830, 0832, 0833 & 0834 which are located along the existing minor stream/ditch are being retained. These trees are to be incorporated into the completed landscaped development. Impacts have already occurred on these trees from past site clearance works and I don't expect that the proposed development works around these trees will have any further impact on their health, but their retention will need to be managed, and it is likely in the short term that some or all these trees will need removal as part of management due to the damage caused by the previous site clearance works. At this time, the new landscape planting will be establishing and will help to mitigate their removal.

Hedge No.7 and **Tree No. 0836, Tree No.2 & Tree No.0837** are being retained and incorporated into the completed landscaped development. The hedge vegetation on the site side is to be tidied up and the boundary treatment within this area is to be a fence which is located outside the root zone of the hedge and trees within, so no impacts are expected with its installation.

3.7.0 Main items for consideration during the proposed construction process:

Item	Comments
Tree Pruning	<p>As part of the initiating works, the crowns of some of the trees being retained are to be pruned to remove dead/unstable growth, the pruning of individual limbs/branches or entire crowns to reduce size due to structural weaknesses or to improve their juxtaposition within the built environment. A preliminary list of these works is given within the work schedule within 'Appendix 2' of this report and these are to be reviewed on site prior to being carried out.</p> <p>The hedges being retained in most instances will require trimming, particularly of their sides to contain their width and encroachment out onto the surrounding areas and to better incorporate them into the completed landscaped area.</p> <p>All tree felling and pruning works need to be carried out by qualified and experienced tree surgeons <i>before</i> any construction work commences; all tree work should be in accordance with <i>BS3998 (2010) Tree Work – Recommendations</i>.</p> <p>All trees for removal will need to be felled to stumps and all stumps in particular those which are located within the root zone of trees being retained are to be ground out using a mechanical stump grinder taking care not to cause root damage to the trees being retained.</p>
Tree Protection	<p>Tree and hedge vegetation being retained will need to be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff.</p> <p>Ground protected by the fencing will be known as the 'Work Exclusion Zone' and sturdy protective fencing will need to be erected along the points identified in the Tree Protection Plan (DWG No.PFP002) prior to any soil disturbance and excavation work starting on site. This is essential to prevent any root or branch damage to the vegetation being retained.</p> <p>The British Standard BS5837: <i>Trees in relation to design, demolition and construction (2012)</i> specifies appropriate fencing, see 'Appendix 1' for details. All weather notices should be erected on the fences with words such as: "Tree Protection Fence — Keep Out".</p> <p>When the fencing has been erected, the construction work can commence. The fencing should be inspected on a regular basis during the duration of the construction process and shall remain in place until heavy building and landscaping work have finished and its removal is authorised by the project Arboriculturist.</p>

Item	Comments
Construction	<p>It will be important that good housekeeping is in place at all times so that the site does not become congested.</p> <p>All construction works are to be well planned in advance so as not to put pressure on the protective zone around the trees. All works are to occur from outside the protective zones.</p> <p>Where work space between the building lines and the protective fence lines is limited/ restricted, alternative work methods will need to be looked at so as to keep the work areas to their minimum in order to reduce the extent of soil and root damage occurring to the trees proposed for retention. See 'Section 6.2.3' of BS5837 2012 for detail on working within the RPA and ground protection. For light access works within the work exclusion zone, the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable. These are to be reviewed with the project Arboriculturist and installed to their recommendations. See detail in 'Appendix 1' of this report for sample.</p> <p>Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible.</p> <p>Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of a tree stem.</p> <p>Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.</p> <p>Notice boards, wires and such like should not be attached to any trees. Site offices, materials storage and contractor parking should all be outside the work exclusion zone.</p>
Services	<p>See project engineer's drawings for detail for service routes.</p> <p>Prior to the installation of any services routed near trees or hedges, they are to be marked out on site for review by the project Arboriculturist and a detailed method statement is to be prepared by the installation contractor in conjunction with the project Arboriculturist on how these services are to be installed while providing protection to the tree vegetation shown for retention.</p>
Landscaping	<p>The existing ground levels within the RPA of the trees are to be retained and incorporated into the finished landscaped</p>

Item	Comments
	<p>development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.</p> <p>All soft and hard landscaping within the RPA of the trees to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA's of these trees.</p>

3.8.0 Monitoring

- 3.8.1 Any construction works within close proximity to retained trees are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist is recommended to be retained by the principal contractor or site manager to monitor and advice on any works within the RPA of retained trees to ensure successful tree retention and planning compliance.
- 3.8.2 It is advised that tree protection fencing, any required special engineering and supervision works must be included in the main tender documents, including responsibility for the installation, cost and maintenance of tree protection measures throughout all construction phases.
- 3.8.3 Copies of the tree retention and protection plan (DWG No. PFP002) a copy of BS 5837(2012) and NJUG 4 (2007) should all be kept available on site during the construction works and all works are to be in accordance with these documents.
- 3.8.4 On the completion of the construction works, all trees retained are to be reviewed by the project Arboriculturist and any necessary remedial tree surgery works required to promote the health of the trees and safety are to be implemented.

4.0 Arboricultural Method Statement/Tree Protection Strategy

- 4.1 The objective of this arboricultural method statement/tree protection strategy is to provide information for the main building contractor/site manager on how trees need to be protected during a construction project and so that they can prepare their own site specific detailed method statement for their works.
- 4.2 It is necessary for tree protective fencing to be erected and all other mitigation measures required to be put in place prior to the development works commencing on site and these are to enclose and protect the root zone of the tree vegetation proposed for retention. See drawing 'DWG No.PFP002', for the position of the protective fencing and other mitigation measures.
- 4.3 The protection of the tree vegetation shown for retention is divided into three main sections starting with the preconstruction stage right through to post construction and the reassessment of the retained trees.

Stage 1:

4.4.0 Pre-Construction Works

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

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

4.5.0 Site Meeting

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

4.6.0 Tree Works

4.6.1 The developer or the main contractor is to appoint a tree surgery company competent of carrying out the remedial tree surgery works and tree felling that are required on this site. The tree surgery contractor is to produce a method statement detailing how he plans to undertake the works and informing the site foreman of the process so the necessary steps can be taken to ensure the works are carried out safely and efficiently. The works are to be carried out by appropriately trained personnel taking account of the recommendations of BS3998 2010.

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

4.6.3 **Remedial tree surgery works** - The necessary remedial tree surgery works required to promote health and safety of the trees to be retained is to be carried out. A schedule of these works has been produced by us (see 'Appendix 2' for details) taking into consideration the trees within their new built environment and prior to these works being carried out; they are to be agreed with the local authority.

4.7.0 **Erection of the protective fencing**

4.7.1 Once the trees have been removed, the line of the protective fencing that is required around the trees being retained **must be** erected as per 'DWG. No. PFP002'.

4.7.2 The fencing needs to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail on drawing 'No.PFP002 & Appendix 1) using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.

4.7.3 Signs need to be attached to these fences warning people to 'keep out'. (See detail within drawing No.PFP002 & Appendix 1).

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

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

Stage 2:

4.8.0 The Construction Works Stage

- 4.8.1 **Protective fencing** - During the course of the works, special attention must be paid to ensure that these tree protection measures are kept in place, in good order and remain upright, rigid and complete at all times. They must be checked daily by the main contractor/foreman and any damage noted must be fixed immediately.

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

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

- 4.8.2 **Excavations** - The excavation works are only to commence once the protective fence line and all other protection measures are in place.

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

No roots are to be severed by the construction works without prior approval by the project Arboriculturist. Where roots are encountered, the project Arboriculturist is to assess these prior to cutting and these are to be pruned back to appropriate pruning points beyond the excavation line. Where roots cannot be cut; alternative methods of construction will need to be considered. The excavated face is then to be covered with soil or with Hessian sacking to prevent further drying out and the death of root material. Where the Hessian sacking is used, it will be necessary to keep this moist especially during dry periods.

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

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

- 4.8.4 **Finished ground levels/Landscaping** - The existing ground levels within the RPA of trees must be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.

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

4.9.0 Other items

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

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

Stage 3:

4.10.0 Post Construction Works

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

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

Signed *Felim Sheridan*

Date 15th December 2021

Felim Sheridan

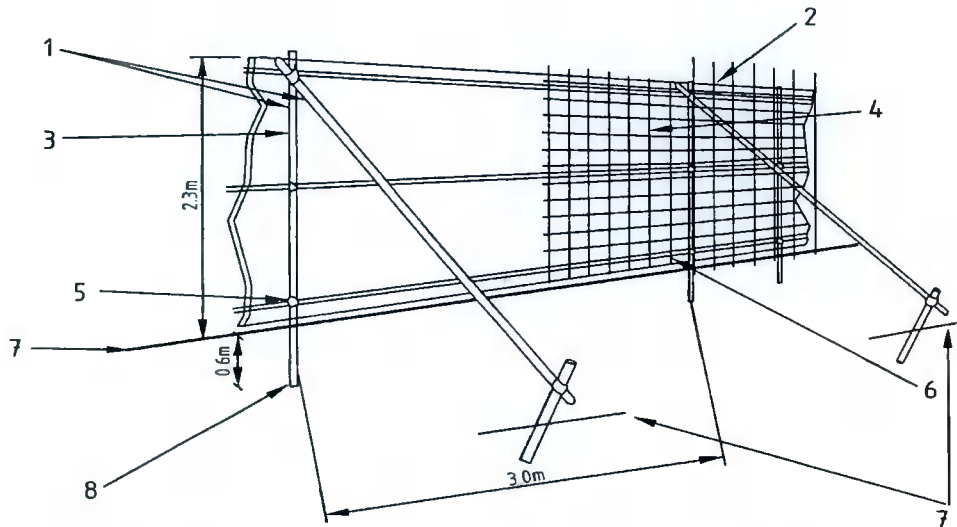
F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture

Felim Sheridan's qualifications:

Fellow of the Arboricultural Association (F. Arbor. A), Professional diploma Arboriculture (RFS), National diploma Arboriculture (ND) and National certificate Horticulture (NCH).

Appendix 1

Sample of Temporary Tree Protection Fencing Detail.



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

Figure 2. – Protective fencing for RPA

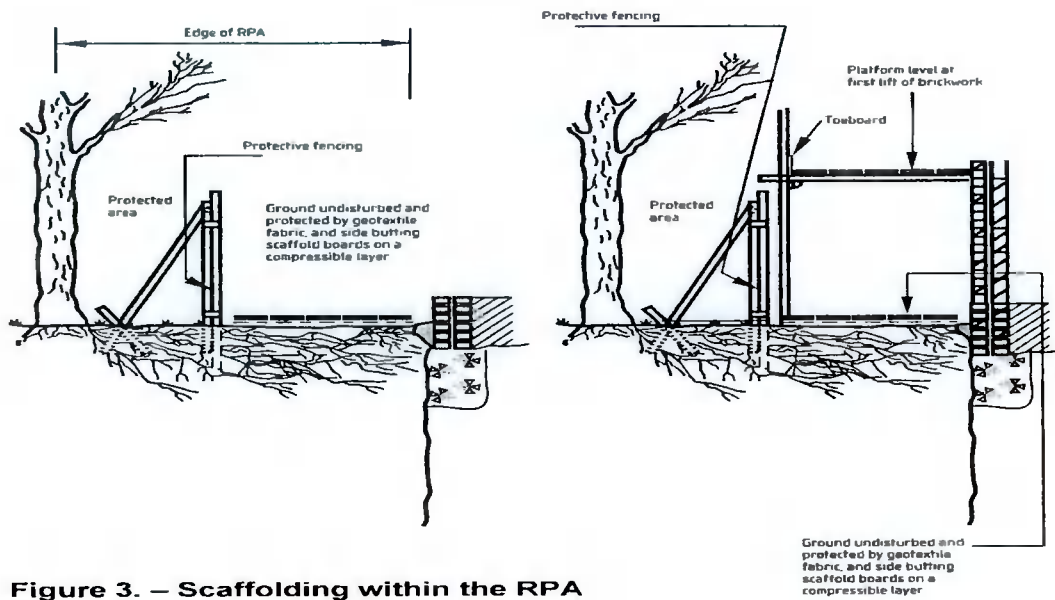


Figure 3. – Scaffolding within the RPA

Appendix 2

Schedule of Tree Works.

On the Site Area at 'Falcon Avenue', Profile Park, Dublin 22.

Date: 15th December 2021

Summary of General Terms and Standards

1. The contractor shall:

- a. Perform all works detailed in the enclosed schedule in accordance with BS 3998 unless otherwise specified by the supervising officer/s and in the time stated. No variation of work will be allowed without prior agreement in writing with the employer.
- b. Employ a competent site foreman familiar with the work schedule who can liaise with the employer's supervising officer/s.
- c. Have visited the site and satisfied him/her as to conditions and schedule of work requirements before tendering, and that his/her tender is adequate to fulfil the tender.
- d. Be responsible for all measures necessary to safeguard the public and property while the contract is in progress.
- e. Be responsible, with assistance from the employer, for taking all adequate precaution to prevent damage to services and structures.
- f. Make copies of his insurance policies and current receipts available to the employer upon request.
- g. Not carry out any work without written authorisation or direction from the employer.
- h. Not sub-contract any or the entire contract without prior written permission from the employer. The contractor shall be responsible for maintenance of required standards and conditions of work where sub-contracting takes place.
- i. Be responsible for making good at his own cost any damage caused as a result of his work. On completion leave the site clean and tidy from his own work.

2. Variables

- a. Identification of trees: Numbered with metal tags corresponding with numbers in report and schedule of works.
- b. Access: By prior agreement with the employer or supervising officer.
- c. Liaison with employer/supervisor: The contractor will be required to contact the employer/supervisor before works commence on site, should any queries arise and upon completion of the contract.
- d. The contractor is required to protect existing trees from damage during works.
- e. The work area is to be kept tidy at all times, cordoned off during works and signed.

- f. Working hours and storage of vehicles on site to be agreed with the employer prior to works commencing on site.

3. Safety and Standards of Work

- a. Unless otherwise stated, all work is to be carried out to a minimum of British Standard 3998 (2010) and AFAG (Arboricultural and Forestry Advisory Group) guides currently applicable.
- b. The contractors attention is drawn to regulations such as 'The Provision & Use of Work Equipment Regulations 1998' (PUWER), 'The Lifting Operations and Lifting Equipment Regulations 1998' (LOLER) and 'The Working at Heights Regulations 2005' (WAHR).
- c. All plant and equipment shall be appropriate for the task and in a well maintained order and be used only by staff trained and certified for its use.

Pruning

All tree works are to be performed to BS3998 and ANSI A300 pruning guidelines may also be referred to.

Pruning is defined as the selective removal of branches from the tree for specific results. All pruning is to be as specified in the schedule and all pruning cuts are to be made in accordance with 'natural target pruning' methods. All final cuts to be made outside the branch collar and at an angle equal but opposite to that of the branch bark ridge.

If during climbing works, a climber (tree surgeon) discovers any defects not noted in the Arborist report, he should inform and consult the Arborist in question. If it is a minor defect, it would be expected that the tree surgeon would deal with it as part of his contract. If it is deemed a serious problem, then there will be a need to consult with the client/owner and to carry out the agreed works at an additional cost. This problem may arise for example as a result of additional storm damage since the last inspection and it must be borne in mind that the survey is a visual inspection from ground level only and problems in the aerial part of the tree may not be visible from ground level or be hidden under Ivy.

Terms used in explaining this work;

Deadwooding

This is the removal of deadwood (>5cm) without attempting to remove it from the branch tips or green foliage areas as in conifers.

It is expected that major deadwood is removed from all trees that are climbed, even if it is not stated on the survey.

Crown Clean

This includes the removal of deadwood, diseased and dying wood, broken or split branches, epicormic growth, and basal suckers if requested and crossing or rubbing branches.

Crown Thinning (%)

This includes cleaning out the crown as described above and the thinning out of the crown in order to allow the wind to travel more freely through the crown and to reduce its wind sail. This mainly involves the removal of secondary branches in the inner crown. This is normally expressed as a percentage of the whole crown volume, which should be considered as an approximate guideline.

Reduction (m)

This includes cleaning out the crown as described above and the reduction (careful shortening) of the entire crown or an individual limb in length in all directions to leave a balance branch structure. The finished pruning cuts should not exceed one-third the size of the branch or stem that it is located on. The reduction works are normally expressed in meters (m) measuring in from the outer extremities of the crown or branch and should be considered as an approximate guideline.

Lightening

This technique is a combination of selective thinning together with moderate length reduction of a section or entire crown. The main objective is to reduce the end weight on potentially hazardous crown sections, individual limbs or individual branches. Crown appearance should not be altered greatly by this pruning.

Crown raising

The removal of the lowest branches that effectively increase the height of the main crown above ground level.

Bracing and Propping

Both bracing and propping are to be carried out in accordance with the technical standards published in BS3998 2010: Recommendations for Tree Work.

d. **Felling**

Trees to be felled shall be cut as low as possible to ground level, unless otherwise specified.

Trees for felling should be dismantled (section-felled) wherever necessary using appropriate rigging techniques to avoid damage to adjacent trees/ structures and other potentially vulnerable landscape features.

e. **Stumps**

Generally, stumps of felled trees may be left cut level above ground level. Any stumps in areas of access shall be left at a height that does not present a trip hazard. Conifer stumps are to be treated with urea in accordance with the forestry commission guidelines.

Alternatively, if requested, the stumps are to be ground out using a mechanical stump grinder taking care not to cause damage to neighbouring trees.

f. **Debris Clearance**

Unless otherwise requested, all arising timber and wood chips from chipped brash to be removed from site or transported to designated site areas for composting and future use on site as agreed and/or as specified by the supervising officer.

Tree No.	Tree Species	Works
Schedule of Tree Works on the Site Area at 'Falcon Avenue', Profile Park, Dublin 22.		
Tree Line 0781-0785	Lime <i>Tilia sp.</i> (5 in total)	These trees are being retained and incorporated into the site area. <ul style="list-style-type: none"> ○ They require no pruning work at the present time, but may require some pruning of lower branches to raise up their crowns to incorporate them into the finished landscaped area. This will need to be reviewed on the completion of the works.
Hedge No. 1	Mixed Species	This hedge is to be removed to facilitate the proposed development.
0786	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0787	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0788	Goat Willow <i>Salix caprea</i>	This tree is to be removed to facilitate the proposed development.
0789	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0790	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0791	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
Hedge No. 2	Mixed Species	This hedge is to be retained. <ul style="list-style-type: none"> ○ Trim in site side to facilitate boundary fence. ○ Make safe any large size dead/unstable growth and prune/reduce poor structured plants to address stability and risk of wind throw/storm damage. ○ Cut Ivy at ground level on plants where it is causing suppression.
Hedge No. 3	Mixed Species	This hedge is to be removed to facilitate the proposed development.
0792	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0793	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0794	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0795	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0796	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0797	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0798	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0799	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0800	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0801	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0802	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0803	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0804	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.

Tree No.	Tree Species	Works
Schedule of Tree Works on the Site Area at 'Falcon Avenue', Profile Park, Dublin 22.		
0805	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0806	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0807	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0808	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0809	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0810	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0811	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
Hedge No. 4	Mixed Species	<p>This hedge is to be retained.</p> <ul style="list-style-type: none"> ○ Trim in site side to facilitate boundary fence. ○ Make safe any large size dead/unstable growth and prune/reduce poor structured plants to address stability and risk of wind throw/storm damage. ○ Cut Ivy at ground level on plants where it is causing suppression.
0499	Ash <i>Fraxinus excelsior</i>	<p>This tree is to be retained.</p> <ul style="list-style-type: none"> ○ Cut Ivy at ground level at the present time. ○ Monitor its condition on a twelve monthly basis.
0500	Ash <i>Fraxinus excelsior</i>	<p>This tree is to be retained.</p> <ul style="list-style-type: none"> ○ Make safe dead/ unstable growth. ○ Cut Ivy at ground level.
Hedge No. 5	Mixed Species	<p>This hedge is to be retained.</p> <ul style="list-style-type: none"> ○ Trim in site side to facilitate boundary fence. ○ Make safe any large size dead/unstable growth and prune/reduce poor structured plants to address stability and risk of wind throw/storm damage. ○ Cut Ivy at ground level on plants where it is causing suppression.
0812	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0813	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
0814	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
0815	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
0816	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
0817	Ash <i>Fraxinus excelsior</i>	<p>This tree is to be retained.</p> <p>It is located outside the sites red line boundary.</p> <ul style="list-style-type: none"> ○ It would benefit from Ivy management.
0818	Ash <i>Fraxinus excelsior</i>	<p>This tree is to be retained.</p> <p>It is located outside the sites red line boundary.</p>

Tree No.	Tree Species	Works
Schedule of Tree Works on the Site Area at 'Falcon Avenue', Profile Park, Dublin 22.		
○ Requires no work at the present time.		
0819	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
0820	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
0821	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development. Cut down to a 1m high stump and retain as part of the hedge bulking.
Tree No. 1	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. ○ It is located outside the sites red line boundary. ○ Requires no work at the present time.
0822	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. ○ Carry out general tidying works, clean up the area around its base and remove lvy to a height of c. 2m to allow a more detailed assessment of its base and lower trunk. ○ It is likely to require pruning works to address safety issues, in particular the removal of large size dead/ unstable growth.
0823	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. ○ Requires no work at the present time.
0824	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. ○ Remove dead / unstable growth from within its crown. ○ Tidy up the area around its base and cut lvy at ground level.
Hedge No. 6	Mixed Species	This hedge is to be retained. ○ Make safe all large size dead/ unstable growth and trim in all encroaching hedge species.
Tree Line No. 1	Monterey Cypress <i>Cupressus macrocarpa</i>	This tree line is to be removed to facilitate the proposed development.
0825	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
Tree Line No. 2	Monterey Cypress <i>Cupressus macrocarpa</i>	This tree line is to be removed to facilitate the proposed development.
0826	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. ○ Remove dead / unstable growth from within its crown. ○ Tidy up the area around its base and cut lvy at ground level. ○ Monitor its condition on a twelve monthly basis.
0827	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0828	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0829	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
0830	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. ○ Cut lvy at ground level at the present time. ○ Monitor its condition on a twelve monthly basis.
0831	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development and due to its current condition.

Tree No.	Tree Species	Works
		Schedule of Tree Works on the Site Area at 'Falcon Avenue', Profile Park, Dublin 22.
0832	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. <ul style="list-style-type: none"> ○ Make safe dead/ unstable growth. ○ Cut Ivy at ground level.
0833	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. <ul style="list-style-type: none"> ○ Monitor its condition on a twelve monthly basis.
0834	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. <ul style="list-style-type: none"> ○ Cut Ivy at ground level and tidy up the area around its base to allow a more detailed assessment of its base and lower trunk.
0835	Ash <i>Fraxinus excelsior</i>	This tree is to be removed to facilitate the proposed development.
Hedge No. 7	Mixed Species	This hedge is to be retained. <ul style="list-style-type: none"> ○ It would benefit from general tidying works.
0836	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. <ul style="list-style-type: none"> ○ Cut Ivy at ground level at the present time. ○ It would benefit from general tidying works.
Tree No. 2	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. <ul style="list-style-type: none"> ○ It would benefit from general tidying works and the cutting of Ivy at ground level in order to improve the windsail of its crown and to open up this area to allow a more detailed assessment.
0837	Ash <i>Fraxinus excelsior</i>	This tree is to be retained. <ul style="list-style-type: none"> ○ Requires no work at the present time.
Notes:		

